



गुरुकुल महिला महाविद्यालय

उत्तीसगढ़ शासन तथा पंडित रविशंकर शुक्ल विश्वविद्यालय रावपुर से संबंध
गुरुकुल परिसर, कालीबाड़ी रोड, रावपुर (उ.ग.) ई-मेल : info@gurukulraipur.com

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संचालित भातखण्डे ललितकला शिक्षा समिति, गांधी चौक, रावपुर (उत्तीसगढ़) पंजीवन क्रं. 16/51-52

1.3.1 - Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

S. N.	PROGRAMME	CODE	NAME OF THE COURSE	G/ES/ HV/ PE	DESCRIPTION
1.	ALL UG PROGRAMME	Paper code-0828 BS1ES01	Environmental Studies	Environmental Sustainability (ES)	To provide basic understanding of environments and its important components and their role in environmental sustainability.
2.	ALL UG PROGRAMME	BS 1,2,3 HL 01 Paper code 0101/0171/0891	Hindi Language	Human Values (HV), Professional Ethics (PE)	To provide basic knowledge of Hindi language in special connection to communication skills needed for professional field and vocabulary required for professional correspondence. Along with this short story of renowned writers are incorporated in syllabus to teach human values of life. Use of Hindi in computer is to understand digital platform.
3.	ALL UG PROGRAMME	BS3 EL03 Paper code-0853	English Language	Human Values (HV) and professional ethics (PE)	To develop proficiency in writing skills and vocabulary for professional field. The textbook contains short stories and poems that explain human values and environmental sustainability.
4.	BCA I	BCA 101	Fundamental of Computer PC Software & multimedia, Programming Language	Professional Ethics (PE) & Human Values (HV)	It makes students understand computer peripherals and software, it provides knowledge about Web Designing, Graphics & Online Marketing.
5.	BCA II	BCA 201	DBMS & Networking	Professional Ethics (PE) & Human Values (HV)	It helps us to designed, store, retrieve, define, and manage data in a database. the exchange of information and ideas among people
6.	BCA III	BCA 301	Software-Engineering, Programming Concept & Projects	Professional Ethics (PE) & Human Values (HV)	It helps us to develop of software product using well-defined scientific principles, methods and procedures and the other part about Language that is used by programmers, developers to communicate with computers. It is a set of instructions. Its help to create logics

S. N.	PROGRAMME	CODE	NAME OF THE COURSE	G/ES/ HV/ PE	DESCRIPTION
7.	PGDCA I & II SEM	PGDCA101 PGDCA 106	Fundamental of Computer PC Software & DBMS, Programming Language, Tally	Professional Ethics (PE) & Human Values (HV)	To make students understand computer peripherals and software, it provides knowledge about Web Designing & Accounting. It also helps in designing store, retrieve, define, and manage data in a database
8.	DCA I & II SEM	DCA 101 DCA 105	Fundamental of Computer, Office Automation & Online Marketing, Concept Programming Language	Human Values (HV) and Professional Ethics (PE)	To make students understand computer peripherals and software, it provides knowledge about Online Marketing, Very Well understanding about Documentation.
9.	B.Sc. COMPUTER SCIENCE	BS1CS01	Fundamental of Computer	Professional Ethics (PE), Human Values (HV)	To make students understand computer peripherals and software. Generations of systems needed for professional ethics of computer fields.
10.	B. Com		All Subjects	Professional Ethics (PE), Human Values (HV)	To make students understand fundamentals of commerce trade, banking, finance, accounting and their use in commercial and professional fields.
11.	M.Com		All Subjects	Professional Ethics (PE), Human Values (HV)	To make students understand fundamentals of commerce trade, banking, finance, accounting and their use in commercial and professional fields.
12.	B.Sc. CHEMISTRY	BS1CHE03-PC:0797 BS3CHE03 PC:0896	Science, Methodology and fundamentals of Chemistry	Professional Ethics (PE)	To make students understand the chemical properties of matter and their use in industrial environment.
13.	B.Sc. BOTANY	BS2BOT02 BS3BOT01 BS3BOT01&02	<ul style="list-style-type: none"> a. Ecology and Plant Physiology, b. Ecology and Utilization of Plant c. Environmental Pollution and Conservation, 	Environmental Sustainability (ES), Human Values (HV) and Professional Ethics (PE)	To make students understand about microbes and their effect in biodiversity. Environmental sustainability is also incorporated in many topics of syllabus of botany. Biotechnology and biochemistry explain use of technology for human life and human values.

S. N.	PROGRAMME	CODE	NAME OF THE COURSE	G/ES/ HV/ PE	DESCRIPTION
			Genetics, Molecular Biology, Biotechnology and Biochemistry		
14.	B.Sc. ZOOLOGY	BS1ZOO01 BS2ZOO01&02 BS3ZOO01&02	d. Cell Biology and Non -Chordate Anatomy and Physiology & Applied Zoology. Environmental Biology, Genetics, Cell Physiology, Biochemistry and Biotechnology	Human Values (HV) and ProfessionalEthics (PE)	To provide knowledge of ecologytypes of pollution global warming acid rain for understanding environmentalsustainability and human values.

SYLLABUS FOR ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

(Paper code-0828)

MM. 75

इन्वारमेंटल साईसेस के पाठ्यक्रम को स्नातक स्तर भाग-एक की कक्षाओं में विश्वविद्यालय अनुदान आयोग के निर्देशानुसार अनिवार्य रूप से शिक्षा सत्र 2003-2004 (परीक्षा 2004) से प्रभावशील किया गया है। स्वशासी महाविद्यालयों द्वारा भी अनिवार्य रूप से अंगीकृत किया जाएगा।

भाग 1, 2 एवं 3 में से किसी भी वर्ष में पर्यावरण प्रश्न-पत्र उत्तीर्ण करना अनिवार्य है। तभी उपाधि प्रदाय योग्य होगी।

पाठ्यक्रम 100 अंकों का होगा, जिसमें से 75 अंक सैद्धांतिक प्रश्नों पर होंगे एवं 25 अंक क्षेत्रीय कार्य (Field Work) पर्यावरण पर होंगे।

सैद्धांतिक प्रश्नों पर अंक - 75 (सभी प्रश्न इकाई आधार पर रहेंगे जिसमें विकल्प रहेगा)

- (अ) लघु प्रश्नोंत्तर - 25 अंक
(ब) निबंधात्मक - 50 अंक

Field Work - 25 अंकों का मूल्यांकन आंतरिक मूल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रायोगिक उत्तर पुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेंगे।

उपरोक्त पाठ्यक्रम से संबंधित परीक्षा का आयोजन वार्षिक परीक्षा के साथ किया जाएगा।

पर्यावरण विज्ञान विषय अनिवार्य विषय है, जिसमें अनुत्तीर्ण होने पर स्नातक स्तर भाग-एक के छात्र/छात्राओं को एक अन्य विषय के साथ पूरक की पात्रता होगी। पर्यावरण विज्ञान के

सैद्धांतिक एवं फील्ड वर्क के संयुक्त रूप से 33% (तैंतीस प्रतिशत) अंक उत्तीर्ण होने के लिए अनिवार्य होंगे।

स्नातक स्तर भाग-एक के समस्त नियमित/भूतपूर्व/अमहाविद्यालयीन छात्र/छात्राओं को अपना फील्ड वर्क सैद्धांतिक परीक्षा की समाप्ति के पश्चात् 10 (दस) दिनों के भीतर संबंधित महाविद्यालय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधिकक, परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेंगे।

UNIT-I THE MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance

Natural Resources:

Renewable and Nonrenewable Resources

- (a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people and relevant forest Act.
- (b) Water resources: Use and over-utilization of surface and ground water, floods drought, conflicts over water, dams benefits and problems and relevant Act.
- (c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.
- (d) food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging , salinity.
- (e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.
- (f) Land resources: Land as a resource, land degradation, man induced landslides soil erosion and desertification.

(12 Lecture)

UNIT-II ECOSYSTEM

(a) Concept, Structure and Function of and ecosystem

- Producers, consumers and decomposers.
- Energy flow in the ecosystem

- Ecological succession
- Food chains, food webs and ecological pyramids.
- Introduction, Types, Characteristics Features, Structure and Function of Forest, Grass, Desert and Aquatic Ecosystem.

(b) Biodiversity and Its Conservation

- Introduction - Definition: genetic, species and ecosystem diversity
- Bio-geographical classification of India.
- Value of biodiversity: Consumptive use, productive use, social ethics, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as mega-diversity nation.
- Hot spots of biodiversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wild life conflict.
- Endangered and endemic species of India.
- Conservation of biodiversity: In situ and Ex-situ conservation of biodiversity.

(12 Lecture)

UNIT- III

(a) Causes, effect and control measures of

- Air water, soil, marine, noise, nuclear pollution and Human population.
- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Disaster Management : floods, earthquake, cyclone and landslides.

(12 Lecture)

(b) Environmental Management

- From Unsustainable to sustainable development.
- Urban problems related to energy.

- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people, its problems and concerns.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- Wasteland reclamation
- Environment protection Act: Issues involved in enforcement of environmental legislation.
- **Role of Information Technology in Environment and Human Health.**

UNIT- IV

General background and historical perspective- Historical development and concept of Human Rights, Meaning and definition of Human Rights, Kind and Classification of Human Rights.

Protection of Human Rights under the UNO Charter, protection of Human Rights under the Universal Declaration of Human Rights, 1948.

Convention on the Elimination of all forms of Discrimination against women.

Convention on the Rights of the Child, 1989.

UNIT- V

Impact of Human Rights norms in India, Human Rights under the Constitution of India, Fundamental Rights under the Constitution of India, Directive Principles of State policy under the Constitution of India, Enforcement of Human Rights in India.

Protection of Human Rights under the Human Rights Act, 1993- National Human Rights Commission, State Human Rights Commission and Human Rights court in India.

Fundamental Duties under the Constitution of India.

Reference/ Books Recommended

1. SK Kapoor- Human rights under International Law and Indian Law.
2. HO Agrawal- Internation Law and Human Rights
3. एस.के. कपूर - मानव अधिकार
4. जे.एन. पान्डेय - भारत का संविधान
5. एम.डी. चतुर्वेदी - भारत का संविधान
6. J.N.Pandey - Constitutional Law of India
7. Agarwal K.C. 2001 Environmental Biology, Nidi pub. Ltd. Bikaner

8. Bharucha Erach, the Biodiversity of India, Mapin pub. Ltd. Ahmedabad 380013, India, Email: mapin@icenet.net(R)
9. Bruinner R.C. 1989, Hazardous Waste Incineration. McGraw Hill Inc.480p
10. Clark R.S. Marine pollution, Clanderson press Oxford (TB)
11. Cuningham, W.P.Cooper. T.H.Gorhani, E & Hepworth. M.T,200
12. Dr. A.K.- Environmental Chemistry. Wiley Eastern Ltd.
13. Down to Earth, Center for Science and Environment (R)
14. Gloick, H.P. 1993 Water in crisis. pacific institute for studies in Deve. Environment & Security. Stockholm Eng. Institute. Oxford University, Press. m 473p.
15. Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Mumbai (R)
16. Heywood, V.H. & Watson, T.T.1995 Global Biodiversity Assessment, Cambridge Univ. Press 1140p
17. Jadhav H. & Bhosale, V.H. 1995 Environmental Protection and Law. Himalaya pub. House, Delhi 284p
18. Mckinney M.L.& School R.M.1996, environmental Science systems & solutions, web enhanced edition, 639p
19. Mhadkar A.K. Matter Hazardous, Techno-Science publication(TB)
20. Miller T.G.Jr. Environment Science, Wadsworth publication co. (TB)
21. Odum E.P.1971, Fundamentals of Ecology, W.B. Saunders Co. USA,574p
22. Rao M.N. & Datta, A.K. 1987, Waste water treatment. Oxford & IBH pub.co.pvt. Ltd 345p
23. Sharma B.K. 2001, Environmental chemistry, Goel pub. House, Meerut
24. Survey of the Environment, The Hidu(M)
25. Townsend C. Harper J. And Michael Begon, Essentials of Ecology, Blackwell Science(TB)
26. Trivedi R.K.Handbook of Environment Laws, Rules, Guidelines, Compliances and Standards, Vol land II, Environment Media(R)
27. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science publication (TB)
28. Wanger K.D.1998, Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p


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 Gurukul Mahila Mahavidhyataya
 Kalibadi Road, RAIPUR (C.G.)

आधार पाठ्यक्रम

हिन्दी भाषा

(पेपर कोड-0891)

प्रथम प्रश्न पत्र

पूर्णांक - 75

(बी.ए., बी.एस.सी., बी.एच.एस.-सी., बी.काय., तृतीय वर्ष के पुनरीक्षित एकीकृत आधार पाठ्यक्रम एवं पाठ्य सामग्री का संयोजन 2000-2001 से लागू है)

॥ सम्प्रेषण कौशल, हिन्दी भाषा और सामान्य ज्ञान ॥

आधार पाठ्यक्रम की संरचना और अनिवार्य पाठ्य पुस्तक- हिन्दी भाषा एवं सप्तसाप्ताहिकी- का संयोजन इस तरह किया गया है कि सामान्य ज्ञान की विषय वस्तु- विकासशील देशों की समस्याओं- के माध्यम और साथ-साथ हिन्दी भाषा का ज्ञान और उसमें सम्प्रेषण कौशल अर्जित किया जा सके। इसी प्रयोजन से व्याकरण की अन्तर्बस्तु को विविध विधाओं की संकलित रचनाओं और सामान्य ज्ञान की पाठ्य सामग्री के साथ अन्तर्गुम्फित किया गया है। अध्ययन-अध्यापन के लिए पूरी पुस्तक की पाठ्य सामग्री है और अभ्यास के लिये विस्तृत प्रश्नावली है। यह प्रश्नपत्र भाषा का है अतः पाठ्य सामग्री का व्याख्यात्मक या आलोचनात्मक अध्ययन अपेक्षित नहीं है। पाठ्यक्रम और पाठ्य सामग्री का संयोजन निम्नलिखित पाँच इकाइयों में किया जाता है। प्रत्येक इकाई को दो भागों में विभक्त किया गया है।

इकाई - 1 (क) भाला यात्रा : सुमित्रानंदन पंत, परशुराम की प्रतीक्षा : रामधारी सिंह दिनकर, बहुत बड़ा सवाल : मोहन राकेश, संस्कृति और राष्ट्रीय एकीकरण : योगेश अटल।

(ख) कथन की शैलियाँ : रचनागत उदाहरण और प्रयोग।

इकाई - 2 (क) विकासशील देशों की समस्यायें, विकासवात्मक पुनर्विचार, और प्रौद्योगिकी एवं नगरीकरण।

(ख) विभिन्न संरचनाएँ।

इकाई - 3 (क) आधुनिक तकनीकी सभ्यता, पर्यावरण प्रदूषण तथा धातवीय विकास।

(ख) कार्यालयीन पत्र और आलेख।

इकाई - 4 (क) जनसंख्या : भारत के संदर्भ में और गरीबी तथा बेरोजगारी।

(ख) अनुवाद।

इकाई - 5 (क) ऊर्जा और शक्तिमानता का अर्थशास्त्र।

(ख) भट्टनों, सप्ताहों आदि का प्रतिवेदन और विभिन्न प्रकार के नियंत्रण-पत्र।

मूल्यांकन योजना : प्रत्येक इकाई से एक-एक प्रश्न पूछा जायेगा। प्रत्येक प्रश्न में आंतरिक विकल्प होगा। प्रत्येक प्रश्न के 15 अंक होंगे। प्रत्येक इकाई दो-दो खंड (क्रमशः 'क' और 'ख' में) विभक्त है, इसलिए प्रत्येक प्रश्न के भी दो भाग, (क्रमशः 'क' और 'ख') होंगे। 'क' अर्थात् पाठ एवं सामान्य ज्ञान से संबद्ध प्रश्न के अंक 8 एवं 'ख' अर्थात् भाषा एवं सम्प्रेषण कौशल से संबद्ध प्रश्न के अंक 7 होंगे। इस प्रकार पूरे प्रश्न पत्र के पूर्णांक 75 होंगे।

संशोधित पाठ्यक्रम
बी.ए./बी.एस-सी./बी.कॉम./बी.एच.एस.-सी.
भाग - दो, आधार पाठ्यक्रम
प्रश्न पत्र - प्रथम (हिन्दी भाषा) (पेपर कोड - 0171)

पूर्णांक- 75

खण्ड - क निम्नलिखित 5 लेखकों के पाठ शामिल होंगे -

अंक-35

- | | | |
|------------------------|---|--------------------------|
| 1. महात्मा गांधी | - | चोरी और प्रायश्चित |
| 2. आचार्य नरेंद्र देव | - | युवकों का समाज में स्थान |
| 3. वासुदेव शरण अग्रवाल | - | मातृभूमि |
| 4. हरि ठाकुर | - | डॉ. खूबचंद बघेल |
| 5. पं. माधवराव सप्रे | - | सम्भाषण-कुशलता |

खण्ड-ख हिन्दी भाषा और उसके विविध रूप

अंक-15

1. कार्यालयीन भाषा
2. मीडिया की भाषा
3. वित्त एवं वाणिज्य की भाषा
4. मशीनी भाषा

खण्ड-ग हिन्दी की व्याकरणिक कोटियों

अंक-24

संज्ञा, सर्वनाम, विशेषण, क्रिया विशेषण,
समास, संधि एवं संक्षिप्तियां


अनुवाद व्यवहार : अंग्रेजी से हिन्दी में अनुवाद

इकाई विभाजन-

- इकाई- 1 चोरी और प्रायश्चित : महात्मा गांधी / कार्यालयीन भाषा, मीडिया की भाषा
- इकाई- 2 युवकों का समाज में स्थान : आचार्य नरेंद्र देव / वित्त एवं वाणिज्य की भाषा, मशीनी भाषा
- इकाई- 3 मातृभूमि: वासुदेवशरण अग्रवाल / संज्ञा सर्वनाम, विशेषण, क्रिया विशेषण
- इकाई- 4 डॉ. खूबचंद बघेल : हरि ठाकुर/समास, संधि,
- इकाई- 5 सम्भाषण-कुशलता : पं. माधवराव सप्रे, / अनुवाद - अंग्रेजी से हिन्दी में अनुवाद, संक्षिप्तियां


मूल्यांकन योजना -

प्रत्येक इकाई से एक-एक प्रश्न पूछे जाएंगे। प्रत्येक प्रश्न में आंतरिक विकल्प होगा। प्रत्येक प्रश्न के 15 अंक होंगे। प्रत्येक इकाई को दो-दो खण्डों (क्रमशः 'क' और 'ख' में) विभक्त करते हुए निर्धारित पाठ से 8 एवं शेष पाठ्य सामग्री से 7 अंक के प्रश्न होंगे। इस प्रकार पूरे प्रश्न-पत्र के पूर्णांक 75 होंगे।


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पाठ्यक्रम संशोधन का औचित्य : विद्यार्थी चर्चित एवं सुप्रसिद्ध व्यक्तियों के लेख के माध्यम से समाज एवं राष्ट्रहित के साथ-साथ व्यक्तित्व विकास विषयक मुद्दों से परिचित हो सकें तथा व्याकरणक एवं भाषा विषयक प्रस्तावित पाठ्यक्रम के माध्यम से हिन्दी भाषा संबंधित प्रयोग पक्ष से परिचित होते हुए प्रतियोगी परीक्षाओं की दृष्टि से ज्ञानार्जन कर सकें।

अध्यक्ष- हिंदी अध्ययन मंडल


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संशोधित पाठ्यक्रम
बी.ए./बी.एस-सी./बी.कॉम./बी.एच.एस.-सी.
भाग - एक (अन्तार पाठ्यक्रम),
प्रश्न पत्र- प्रथम (हिन्दी भाषा)
(पेपर कोड -0101)

पूर्णांक- 75

नोट :-

1. प्रश्न पत्र 75 अंक का होगा।
2. प्रश्न पत्र अनिवार्य होगा।
3. इसके अंक श्रेणी निर्धारण के लिए जोड़े जायेंगे।
4. प्रत्येक इकाई के अंक समान होंगे।

पाठ्य विषय :-

इकाई-1

- क. भक्तवन्दन, पत्राचार, अनुवाद, पारिभाषिक शब्दावली एवं हिंदी में चवनाम
- ख. ईदगाह (कहानी) - मुंशी प्रेमचंद

इकाई-2

- क. शब्द शुद्धि, वाक्य शुद्धि, शब्द ज्ञान-पर्यायवाची शब्द, विलोम शब्द, अनेकार्थी शब्द, समभूत शब्द, अनेक शब्दों के लिए एक शब्द एवं मुहावरे-लोकोक्तियौं
- ख. भारत बंदना (कविता)- सूर्यकान्त त्रिपाठी निराला

इकाई-3

- क. देवनागरी लिपि - नामकरण, स्वरूप एवं देवनागरी लिपि की विशेषताएँ, हिंदी अपठित गद्यांश, संक्षेपण, हिंदी में सक्षिप्तीकरण
- ख. भोलाराम का जीव (व्यंग्य) - हरिशंकर परसाई

इकाई-4

- क. कम्प्यूटर का परिचय एवं कम्प्यूटर में हिंदी का अनुप्रयोग
- ख. शिकागो से स्वामी विवेकानंद का पत्र

इकाई-5

- क. मानक हिन्दी भाषा का अर्थ, स्वरूप, विशेषताएँ, मानक, उपमानक, अमानक भाषा
- ख. सांस्कृतिक गतिशीलता - प्राचीन काल, मध्यकाल, आधुनिक काल

मूल्यांकन योजना :-

प्रत्येक इकाई से एक-एक प्रश्न पूछा जाएगा। प्रत्येक प्रश्न में आंतरिक विकल्प होगा। प्रत्येक प्रश्न के 15 अंक होंगे। प्रत्येक प्रश्न के दो भाग 'क' और 'ख' होंगे एवं अंक क्रमशः 8 एवं 7 होंगे। प्रश्न-पत्र का पूर्णांक 75 निर्धारित है।

पाठ्यक्रम संशोधन का औचित्य :-

व्याकरण के बुनियादी ज्ञान, संप्रेषण, कौशल, सामाजिक संदेश एवं भाषायी दक्षता को ध्यान में रखते हुए यह पाठ्यक्रम प्रस्तावित है।

अध्यक्ष- हिंदी अध्ययन मंडल


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UNIT - II

(Paper Code-0682)

ENGLISH LANGUAGE

M.M. 75

The question paper for B.A./B.Sc./B.Com./B.H.Sc. III Foundation course, English Language and General Answers shall comprise the following items :

Five question to be attempted, each carrying 3 marks.

UNIT-I	Essay type answer in about 200 words. 3 essay type question to be asked three to be attempted.	15
UNIT-II	Essay writing	10
UNIT-III	Precis writing	10
UNIT-IV	(a) Reading comprehension of an unseen passage	05
	(b) Vocabulary based on text	10
UNIT-V	Grammar Advanced Exercises	25

Note : Question on unit I and IV (b) shall be asked from the prescribed text. Which will comprise of popular create writing and the following items. Minimum needs housing and transport Geo-economic profile of M.P. communication Educate and culture. **Women and Women in Empowerment Development**, management of change, physical quality of life. War and human survival, the question of human social value survival, the question of human social value, new Economic Philosophy Recent Diberalisation Method) Demozation decentralisation (with reference to 73, 74 constitutional Amendment.

Books Prescribed :

Aspects of English Language And Development - Published by N.P. Hindi Granth Academy, Bhopal.


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आधारपाठ्यक्रम

FOUNDATION COURSE

PAPER - II

ENGLISH LANGUAGE (Paper Code-0102)

M.M. 75

UNIT-1. BASIC Language Skills : Grammar and Usage.

Grammar and Vocabulary based on the prescribed text.
To be assessed by objective / multiple choice tests.

(Grammar - 20 Marks
Vocabulary - 15 Marks)

UNIT-2. Comprehension of an unseen passage.

05

This should imply not only (a) an understanding of the passage in question, but also (b) a grasp of general language skills and issues with reference to words and usage within the passage and (c) the power of short independent composition based on themes and issues raised in the passage.

To be assessed by both objective multiple choice and short answer type tests.

UNIT-3. Composition : Paragraph writing

10

UNIT-4. Letter writing (The formal and one Informal)

10

Two letters to be attempted of 5 marks each. One formal and one informal.

UNIT-5. Texts :

15

Short prose pieces (Fiction and non-fiction) short poems, the pieces should cover a range of authors, subjects and contexts. With poetry if may sometimes be advisable to include pieces from earlier periods, which are often simpler than modern examples. In all cases, the language should be accessible (with a minimum of explanation and reference to standard dictionaries) to the general body of students schooled in the medium of an Indian language.

Students should be able to grasp the contents of each piece, explain specific words, phrases and allusions, and comment on general points of narrative or argument. Formal Principles of Literary criticism should not be taken up at this stage.

To be assessed by five short answers of three marks each.

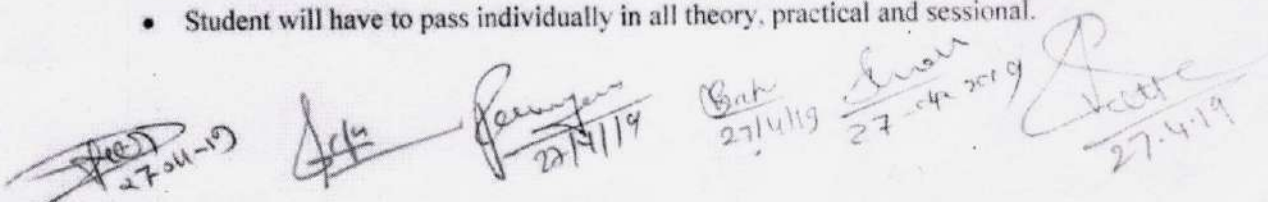
BOOKS PRESCRIBED :-

English Language and Indian Culture - Published by M.P. Hindi Granth Academy Bhopal.


SCHEME OF EXAMINATION 2019-2020
BCA PART-I

Subject Code	Subject Paper	Theory Marks		Internal Marks		Teaching Load per Week		
		Max. (A)	Min. (B)	Max. (C)	Min. (D)	L	T	P
BCA101	Discrete Mathematics	80	27	20	8	4	2	-
BCA102	Computer Fundamentals	80	27	20	8	4	2	-
BCA103	Programming in 'C' language	80	27	20	8	4	2	-
BCA104	PC Software and Multimedia	80	27	20	8	4	2	-
BCA105	Web Technology and E-Commerce	80	27	20	8	4	2	-
BCA106	Communication skills	80	27	20	8	4	2	-
BCA107	LAB I: Programming Lab in 'C'	100	50	40	16	-	-	3x2
BCA108	LAB II: PC Software Lab	100	50	40	16	-	-	2x2
BCA109	LAB III: Web Technology Lab	100	50	20	8	-	-	1x2
TOTAL		780	312	220	88			
GRAND TOTAL	(PAPER + INTERNAL)	(A+C) 1000		(B+D) 400				

- Student will have to pass individually in all theory, practical and sessional.



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BCA -101
Discrete Mathematics

Max Marks: 80

Min Marks: 27

NOTE :- The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculator is allowed no scientific calculator is allowed.

UNIT - I

Recall of statements and logical connectives, tautologies and contradictions, logical equivalence, algebra of propositions quantifiers, existential quantifiers and universal quantifiers.

UNIT - II

Boolean algebra and its properties, algebra of propositions as an example, De Morgan's Laws, partial order relations g.l.b., l.u.b. Algebra of electric circuits and its applications. Design of simple automatic control system.

UNIT - III

Boolean functions - disjunctive and conjugative normal forms. Boolean's expansion theorem, fundamental forms. Many terminal Networks.

UNIT - IV

Arbitrary Cartesian product of sets. Equivalence relations, partition of sets, injective, surjective, bijective maps, binary operations, countable, uncountable sets.

UNIT - V

Basic Concept of Graph Theory, Sub graphs, Trees and their properties, Binary Trees, Spanning Trees, Directed Trees, Planar graphs, Euler Circuit, Hamiltonian Graph. Chromatic number.

TEXT BOOKS:

1. Boolean Algebra and its Application, J.E. Whitesitt, Courier Corporation.
2. Concepts of Modern Mathematics, P.L. Bhatnagar.
3. Discrete Mathematics, B.R.Thakur
4. Graph theory and its applications, Narsingh Deo, Dover publication.
5. A TextBook of Discrete Mathematics, Swapan Kumar Sarkar, S.chand.
6. Discrete Maths, C.L.Liu, T M Hill.

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BCA - 102
Computer Fundamentals

Max Marks: 80

Min Marks: 27

NOTE:- The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Unit-I Introduction to Computers

Computer system: characteristics and capabilities. **Computer Hardware and Software:** Block Diagram of a Computer, Different Data Processing: Data, Data Processing System, Storing Data, Processing Data. **Types of Computers:** Analogue, Digital, Hybrid, General and Special Purpose Computers. Generations of Computers. Computer Systems: Micros, Minis & Main-frames. Limitations of Micro Computer. **Number systems-** Decimal Number system, Binary number system, Octal & Hexadecimal number system, 1's&2's complement **Codes-** ASCII, EBCDI Codes, Gray code & BCD. **Logic Gates -** AND, OR, NOT GATES and their Truth tables, NOR, NAND & XOR gates

Unit-II Computer Peripherals:

Introduction to Input Devices : Categorizing Input Hardware, Keyboard, Direct Entry – Card Readers, Scanning Devices – O.M.R., Character Readers, Thumb Scanner, MICR, Smart Cards, Voice Input Devices, Pointing Devices – Mouse, Light Pen, Touch Screen. **Computer Output :** Output Fundamentals, Hardcopy Output Devices, Impact Printers, Non-Impact Printers, Plotters, Computer output Microfilm/Microfiche(COM) systems, Softcopy Output Devices, Cathode Ray Tube, Flat Screen Technologies, Projectors, Speakers.

Unit-III Basic Components and Storage:

Central Processing Unit : The Microprocessor, control unit, A.L.U., Registers, Buses, Main Memory, Main Memory (RAM) for microcomputers, Read Only Memory(ROM). **Storage Devices :** Storage Fundamentals, Primary and Secondary Storage, Data Storage and Retrieval Methods – Sequential, Direct & Indexed Sequential, Tape Storage and Retrieval Methods Tape storage Devices, characteristics and limitations, Direct access Storage and Microcomputers - Hard Disks, Disk Cartridges, Direct Access Storage Devices for large Computer systems, Mass storage systems and Optical Disks, CD ROM.

Unit-IV Computer Software and Languages:

System Software: System software Vs. Application Software, Types of System Software. Introduction and Types of Operating Systems. Boot Loader, Diagnostic Programs, BIOS, Utility Programs. **Application Software:** Microcomputer Software, Interacting with the System. Trends in PC software, Types of Application Software, Difference between Program and Packages. **Computer Languages:** Definition, Generations of computer languages, Types of Languages. Language Processors: Assembler, Interpreter, Compiler, Linker and Loader. Programming constructs. Algorithm & flowchart.

Unit-V Introduction to MS DOS and Windows

Introduction to DOS: history and versions of DOS. Fundamentals of DOS: Physical Structure of the Disk, Compatibility of drives, Disks & DOS versions, Preparing Disks for use, Device Names. Getting Started with DOS: Booting Process (DOS, Windows, Unix), System Files and Command.com, Internal DOS Files & Directories, Elementary External DOS Commands, Creating a Batch Files, Additional Commands.

Microsoft Windows: **Operating system-Definition** & functions, basics of Windows. Basic components of windows, icons, types of icons, taskbar, activating windows, using desktop, title bar, running applications, exploring computer, **managing files and folders, copying and moving files and folders.** Control panel–display properties, adding and removing software and hardware, setting date and time, screen saver and appearance. Using windows accessories, Overview of LINUX/UNIX.

TEXT BOOKS:

1. Introduction to Information Technology, V. Rajaraman, PHI, Second Edition.
2. Computer Fundamentals, P. K. Sinha, BPB Publications, Sixth Edition.
3. Fundamental of Information Technology: Chetan Shrivastava, Kalyani Publishers
4. Computers Today: Suresh K Basandra, Galgotia Publicat

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BCA-103
Programming in 'C' Language

Max Marks: 80

Min Marks: 27

NOTE :- The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT-I Fundamental of C

Overview of C : History of 'C', Structure of 'C' program, Keywords, Tokens, Data types, Constants, Literals and Variables, Operators and Expressions : Arithmetic operators, Relational operator, Logical operators, Expressions, Operator : operator precedence and associativity, Type casting, Console I/O formatting, Unformatted I/O functions: getch(), getchar, getche(), getc(), putc(), putchar().

UNIT- II Control Constructs

IF-else, conditional operators, switch and break, nested conditional branching statements, loops: do..while, while, for, Nested loops, break and continue, goto and label, exit function.

Functions: definition, function components: Function arguments, return value, function call statement, function prototype. Types of function, Scope and lifetime of variable. Call by value and call by reference. Function using arrays, function with command line argument, User defined function: maths and character functions, recursive function.

UNIT-III Array, String Union and Structure

Array: Array declaration, One and Two dimensional numeric and character arrays. Multidimensional arrays.

String: String declaration, initialization, string manipulation with/without using library function.

Structure, Union and Enum- Structure: basics, declaring structure and structure variable, typedef statement, array of structure, array within structure, Nested structure; passing structure to function, function returning structure. **Union:** basics, declaring union and union variable, **Enum:** declaring enum and enum variable.

UNIT- IV Pointer

Definition of pointer, **pointer declaration,** using & and * operators. Void pointer, pointer to pointer, Pointer in math expression, pointer arithmetic, pointer comparison, dynamic memory allocation functions – malloc, calloc, realloc and free, pointer vs. Array, Array of pointer, pointer to array, pointers to function, function returning pointer, passing function as argument to function, pointer to structure, dynamic array of structure through pointer to structure.

UNIT-V File Handling and Preprocessor

File handling: file pointer, file accessing functions: fopen, fclose, fputc, fgetc, fprintf, fscanf, fread, fwrite, fflush, rewind, fseek, ferror. File handling through command line argument.

Introductio preprocessor: #include, #define, conditional compilation directives: #if, #else, #elif, #endif, #ifndef etc.

TEXT BOOKS:

1. Programming in ANSI C, E Balagurusamy, Tata McGraw-Hill, Third Edition.
2. Let Us C, YashwantKanetkar, Infinity Science Press, Eighth Edition.
3. Mastering C, K R Venugopal, Tata McGraw-Hill.
4. The C Programming Language. Brian W. Kernighan, Dennis M. Ritchie, Prentice Hall, Second Edition.
5. Applications Programming in ANSI C. R. Johnsonbaugh, Martin Kalin, Macmillan, Second edition.
6. The Spirit of C, Mullish Cooper, Jaico publishing House.
7. How to solve it by Computer, R.G.Dromey, Pearson Education.

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BCA-104
PC Software and Multimedia

Max Marks: 80

Min Marks: 27

NOTE: - The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Unit - I MS-Word

Introduction to word processing software and its features, creating new document, saving documents, opening and printing documents. **Home Tab:** setting fonts, paragraph settings, various styles (normal, no spacing, heading1, heading2, title, strong), find & replace, format painter, copy paste and paste special. **Insert Tab:** Pages, tables, pictures, clipart, shapes, header & footer, word art, equation and symbols. **Page Layout Tab:** Page setup, page background, paragraph (indent and spacing). **Mailing Tab:** create envelopes and labels, mail merge. **Review Tab:** spelling and grammar check, new comment, Protect document, **View Tab:** document views, zoom, window (new window, split, switch window).

UNIT - II MS-Excel

Introducing Excel, use of excel sheet, creating new sheet, saving, opening, and printing workbook. **Home Tab:** Font, alignment, number, styles and cells and editing, conditional formatting. **Insert Tab:** Table, charts (column chart, pie chart, bar chart, line chart) and texts (header & footer, word art, signature line). **Page Layout Tab:** page setup options, scale to fit (width, height, scale). **Formulas Tab:** Autosum (sum, average, min, max), logical (IF, and, or, not, true, false), math & trig (sin, cos, tan, ceiling, floor, fact, mod, log), watch window. **Data Tab:** get external data from MS Access, sort and filter options, Data validation, group and ungroup. **Review Tab:** protect sheet, protect workbook, share workbook. **View Tab:** page breaks, page layout, freezing panes, split and hide.

UNIT - III MS-PowerPoint

Introducing power point, use of power point presentation, creating new slides saving, opening, and printing. **Home Tab:** new slide, layout, reset, delete, setting text direction, align text, convert to smart art, drawing options. **Insert Tab:** Table, picture, clipart, photo album, smart art, shapes and chart, movie and sound, hyperlink and action, text box, word art, object. **Design Tab:** page setup options, slide orientation, applying various themes, selecting background style and formatting it. **Animations Tab:** custom animation for entrance, exit and emphasis, applying slide transition, setting transition speed and sound, animation on rehearsing timing. **slide show & view Tab:** start slid show options, setup options. view tab: presentation views, colours and window option.

UNIT - IV MS-Access

Front end and back end of application, introduction to dbms, features of dbms, Creating blank databases, saving it in accdb format, defining data types in ms access. **Home Tab:** datasheet view, design view, pivot chart view, pivot table view, sort and filter options. **Create Tab:** creating tables, creating reports, query wizard. **External Data Tab:** importing data from access and excel sheet, exporting data to excel and ms word. **Datasheet Tab:** Relationships, fields and columns options, datatype and formatting options.

UNIT - V Animations and Graphics

Definition of multimedia, application of Multimedia, Basic Concept of 2D/3D Animation, Principle of animation, Hardware and software resources requirement for animation, introduction of various file formats (.mpeg, .gif, .jpeg, .mp4, .tif, .flv). **Creating a new movie in flash:** Get set Up, Input Text, Animate Text, drawing and painting with tools, brush, create basic shapes like Oval, Rectangle & Polystar Tools, tools working with object & filing the object, Transformation, object properties dialog box, creating layers motion tweeing, shape tweeing, mask layers, basic action scripts, importing sound through Flash.

TEXT BOOKS:

1. Microsoft Office 2007 fundamentals, L Story, D Walls.
2. MS Office, S. S. Shrivastava, Firewall Media.
3. Office 2000 made easy, Alan Neibauer, Tata McGraw Hill.
4. FLASHMX Bible - Robert Reinhart
5. Sams Teach Yourself Macromedia Flash 8 in 24 Hours, Phillip Kerman.
6. How to do everything with Macromedia, Bonnie Blake, Doug Sahlin
7. Multimedia Making it works, Tay Vaughan, Tata McGraw Hills.

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BCA – 105
Web Technology and E-Commerce

Max Marks: 80

Min Marks: 27

NOTE :- The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT-I Basics of Internet

History, Evolution, Internet applications, Intranet, WWW, Emergence of Web, Web page, Web Site, client, Web Servers, Web Browser, Web concept, Search Engine, URL, DNS, Internet Connection, Internet Service Provider, Web Design Strategies, OSI and TCP/IP model, various protocols like HTTP, FTP, SMTP, TELNET. Internet services: Email concept, Sending and receiving secure Email, Voice and video Conferencing, web Based chat services, Chat Services, Internet Messaging, Internet Relay Chat, News Group.

UNIT-II HTML

Introduction, Html version, HTML tags, Creating headings on a web pages :Aligning the headings, creating list, Working with Links: Creating a Hyperlinks ,Setting the Hyperlink Colors, Linking Different sections of A web page, Creating Paragraph. Working with Images, using Images as Links, Working with Tables, Working with Frames: Creating a Frame, Creating Vertical and Horizontal Frames, Setting the Frame Border Thickness, Applying Hyperlink Targets to a Frame, Creating an HTML Form, Specifying the Action URL and Method to Send the Form, Using the HTML Controls.

UNIT-III DHTML and Java Script

DHTML: Introduction, Cascading style sheet (CSS), Inline Style sheet, External Style Sheet, Internal Style Sheets, DHTML document object model, Event handling.

Java Script: Introduction, Language elements, Variables, operators, control statement Array and function in JavaScript, Objects of Java script, Client-Side and server side Java script, Benefits of using JavaScript, Embedding JavaScript into HTML-Page, Handling Events, overview of VB Script.

UNIT-IV Introduction to PHP

Features, Advantages of PHP over other scripting languages, Installing, creating and running PHP script, working with variable, constant, operators in PHP, Control statements, Looping constructs, String function, Arrays, User defined function, Working with forms, Accessing database through PHP.

UNIT-V Introduction to E Commerce

Definition of E-commerce, The scope of E-commerce, Definition, Internet and its impact on traditional businesses, E-payment System, Security threats with E-commerce, Types of E-commerce: Business-to-Business (B2B), Business-to-Consumer (B2C), Business-to-Business-to-Consumer (B2B2C), Consumer-to-Consumer (C2C), E-market, Future of E-market.

TEXT BOOKS:

1. Web Technology, A developer's Perspective, N.P Gopalan and' J. Akilandeswari, PHI publication.
2. Web Technologies: HTML, JAVASCRIPT, PHP, JAVA, JSP, ASP.NET, XML and Ajax, Black Book by Dream Tech Press
3. Internet : The Complete Reference Millennium Edition Margaret Levine Young, Doug Muder.
4. The Complete Reference: HTML and CSS, Thomas A. Powell ,McGrawHill.
5. JavaScript The Complete Reference, Thomas Powell, Fritz Schenider, McGrawHill, Third Edition
6. Introduction To HTML, Kamlesh N. Agrawal ,O.p.Vyas .P.A. Agrawal.
7. Web Technology and Design, Xavier, C, New Age International.
8. HTML, DHTML, JavaScript, Perl and CGI, Ivan Bayros, BPB Publication.
9. Internet and Web Design, Ramesh Bangia ,New Age International.
10. Business on the net, Kamlesh N. Agarawala, Amit Lal & Deeksha Agarawal, Macmillan India Ltd.

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Bundel Mahila Mahavidhyalaya
Kalibadi Road, RAIPUR (C.G.)

BCA -106
Communication Skills

Max Marks: 80

Min Marks: 27

NOTE : - The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

OBJECTIVE

This course is designed to enable the students of computer education to speak and write English with a fair degree of grammatical correctness. The inputs in the course contents are designed to let the students develop their communication skills and effectively write and speak in business scenario.

UNIT - I

Structure of sentences- Simple, Complex and Compound.

Clauses: Co-ordinate and Subordinate Clause,

The tenses and aspects. Modal, Gerund, Participle: Non Finite and Finite, Infinitive.

UNIT - II

Transformation of sentences:-

1. Interchange of Active and Passive Voice.
2. Interchange of Affirmative and Negative Sentences.
3. Interchange of Explanative and Assertive Sentences.
4. Interchange of interrogative and Assertive Sentences.
5. Direct and Indirect Speech.

UNIT - III

Report writing.

Applications writing.

Letter writings: Formal (Enquiry letter, Order letter, Complaint letter Sales Letter) and Informal.

Description of events.

UNIT- IV

Precis Writing

Reading Comprehension

Summarising

Paraphrasing

Presentation Skills

UNIT-V

Official Communication- Notice, Circular, Minutes of meeting, Agenda of meeting, Memorandum

Modern media of communication- Email(Language of Emails, Format, E-mail writing Strategies,

Advantage, Characteristics, Formatting) Video conferencing, Fax

TEXT BOOKS:

1. Living English Structure by W.S. Allen.
2. A Practical English Grammar by Thomson and Martinet.
3. English Grammar and Composition by Wren & Martin
4. Advance Grammar in Use by Martin Hewings
5. Essentials of Business Communication by Rajendra Pal and J.S. Korlahalli
6. Effective Technical Communication by M Ashraf Rizvi

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Bridge course for BCA (Only For Non mathematics Students)

Max Marks: 50

Min Marks: 17

Note : Fundamentals of the topics are to be dealt to enable the students to understand the topics. The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.. Only Simple calculator is allowed not scientific.

UNIT -I

Algebra

Partial fractions, Arithmetic Progression & Geometric Progression. Determinants and matrices, Inverse matrix.

UNIT-II

Permutation combination, method of induction, Binomial Theorem for positive integral index. And any index (without proof), Exponential and logarithmic series.

UNIT-III

Trigonometry

Measurement of angles, Trigonometric ratios, simple formula, compound angles, Trigonometric ratios of multiple and sub multiple angles. Height and Distance, Inverse Function.

UNIT-IV

Geometry

Locus, Cartesian coordinate system, Distance formula, Section formula, Slope of a straight line various forms, Angle between two lines, pair of straight lines, parabole, ellipse and hyperbola.

UNIT-V

Statistics

Frequency Distribution, Measures of central tendency. Mean. Median, Mode, G.M., H.M., Inter quartile range, Mean deviation, Standard deviation.

TEXT BOOKS:

Mathematic (class XI and XII), R.D.SHARMA
YOUNGBODH Mathematics, (class XI and XII)

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BCA-107 - LAB I: Programming Lab in 'C'

1 Scheme of Examination:-

Practical examination will be two programs and a project demonstration. It will be of 3 hours duration. All programs should be with flowchart & algorithms. The distribution of practical marks will be as follows

Program 1	-	20
Program 2	-	20
Program 3	-	20
Viva	-	25
[Practical Copy + Internal Record]	-	15
Total	-	100

- 2 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
- 3 In every program there should be comment for each coded line or block of code
- 4 All the following programs or a similar type of programs should be prepared

List of Practical

INPUT AND OUTPUT, FORMATTING

1. Write a program in which you declare variable of all data types supported by C language. Get input from user and print the value of each variable with alignment left, right and column width 10. For real numbers print their values with two digits right to the decimal.

LOOPS, DECISIONS

2. Write program to print all combination of 1 2 3.
3. Write program to generate following pattern

a) ABCDEFG c) *
 ABC EFG * *
 AB FG * * *
 A G

b) 1 d) 1
 1 2 1 2 1
 1 2 3 1 3 3 1
 1 2 3 4 1 4 6 4 1

4. Write main function using switch...case, if..else and loops which when called asks pattern type; if user enters 11 then first pattern is generated using for loop. If user enters 12 then first pattern is generated using while loop. If user enters 13 then first pattern is generated using do-while loop. If user enters 21 then a second pattern is generated using for loop and so on.
5. Write program to display number 1 to 10 in octal, decimal and hexadecimal system.

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6. Write program to display number from one number system to another number system. The program must ask for the number system in which you will input integer value then the program must ask the number system in which you will want output of the input number after that you have to input the number in specified number system and program will give the output according to number system for output you mentioned.
7. Write a program to perform following tasks using switch...case, loops, and conditional operator (as and when necessary).
 - a) Find factorial of a number
 - b) Print fibonacci series up to n terms and its sum.
 - c) Print sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
 - e) Print prime numbers up n terms.
 - f) Print whether a given year is leap or not.
8. Write program no. 6 but use library function to perform above tasks.

ARRAY

9. Create a single program to perform following tasks using switch, if..else, loop and single dimension character array without using library function:
 - a) To reverse the string.
 - b) To count the number of characters in string.
 - c) To copy the one string to other string.
 - d) To find whether a given string is palindrome or not.
 - e) To count no. of vowels, consonants in each word of a sentence and no. of punctuation in sentence.
 - f) To arrange the alphabets of a string in ascending order.
10. Create a single program to perform following tasks using switch, if..else, loop and single dimension integer array:
 - a) Sort the elements.
 - c) Search for presence of particular value in array element using linear search.
 - d) Search for presence of particular value in array element using binary search.
11. Write a program that read the afternoon day temperature for each day of the month and then report the month average temperature as well as the days on which hottest and coolest days occurred.
12. Create a single program to perform following tasks using switch, if..else, loop and double dimension integer array of size 3x3:
 - a) Addition of two matrix.
 - b) Subtraction of two matrix.
 - c) Multiplication of two matrix.
 - d) Inverse of matrix.
 - e) Transpose of matrix.
 - f) Sum of diagonal elements
13. Create a single program to perform following tasks using switch, if..else, loop and double dimension character array of size 5x40:
 - a) Sorting of string.
 - b) Finding the largest string.
 - c) Finding the smallest string.
 - c) Searching for presence of a string in array.

FUNCTIONS

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14. Write program using the function power (a, b) to calculate the value of a raised to b.
15. Write program to demonstrate difference between static and auto variable.
16. Write program to demonstrate difference between local and global variable.
17. Write a program to perform following tasks using switch...case, loops and function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
 - c) Print Sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
18. Write a program to perform following tasks using switch...case, loops and recursive function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
 - c) Print Sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
 - e) Print natural series up to n terms and its sum
19. Write a function to accept 10 characters and display whether each input character is digit, uppercase letter or lower case letter.

Array & Function

20. Create a single program to perform following tasks using switch, if..else, loop, function and double dimension integer array of size 3x3.
 - a) Addition of two matrix.
 - b) Subtraction of two matrix.
 - c) Multiplication of two matrix.
 - d) Inverse of matrix.
 - e) Transpose of matrix.
21. Create a single program to perform following tasks using switch, if..else, loop, user defined function and single dimension character array:
 - a) To reverse the string.
 - b) To count the number of characters in string.
 - c) To copy the one string to other string;
 - d) To find whether a given string is palindrome or not.
 - e) To count no. of vowels, consonant in each word of a sentence and no. of punctuations in sentence.
22. Create a single program to perform following tasks using switch, if..else, loop, function and single dimension integer array:
 - a) Sort the elements.
 - b) Find largest element and smallest element.
 - c) Search for presence of particular value in array element using linear search.
 - d) Search for presence of particular value in array element using binary search.
23. Create a single program to perform following tasks using switch, if..else, loop, function and double dimension character array of size 5x40:
 - a) Sorting of string
 - b) Finding the largest string, lexicographically.
 - c) Finding the smallest string, lexicographically.
 - c) Searching for presence of string in array.

STRUCTURE & UNION

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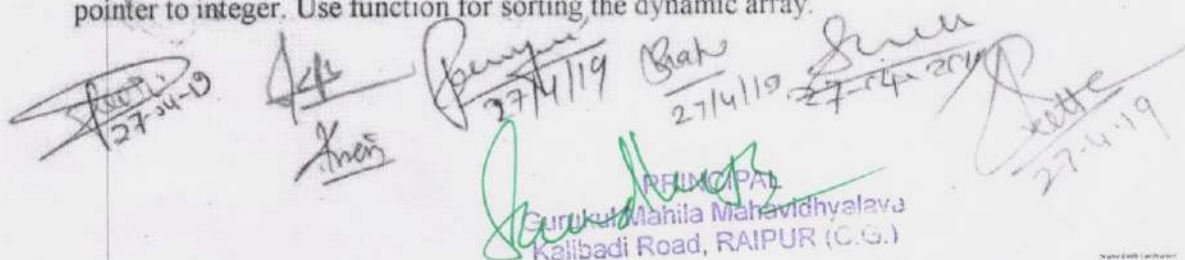
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24. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare a structure variable of student. Provide facilities to input data in data members and display result of student.
25. Create a structure Date with data member's dd, mm, yy (to store date). Create another structure Employee with data members to hold name of employee, employee id and date of joining (date of joining will be hold by variable of structure Date which appears as data member in Employee Structure). Store data of an employee and print the same.
26. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of structure to hold data of 3 students. Provide facilities to display result of all students. Provide facility to display result of specific student whose roll number is given.
27. Write program to create structure complex having data members to store real and imaginary part. Provide following facilities:
 - a) Add two complex nos. using structure variables.
 - b) Subtract two complex nos. using structure variables.
 - c) Multiply two complex nos. using structure variables.
 - d) Divide two complex nos. structure variables.

Use structure as argument to function and function returning structure.

POINTER

28. Define union Emp having data members:-one integer, one float and one single dimension character array. Declare a union variable in main and test the union variable.
29. Define an enum Days_of_Week members of which will be days' of week. Declare an enum variable in main and test it.
30. Write a program of swapping two numbers and demonstrates call by value and call by reference.
31. Write program to sort strings using pointer exchange.
32. Write a program in c using pointer and function to receive a string and a character as argument and return the no. of occurrences of this character in the string.
33. Create a program having pointer to void to store address of integer variable then print value of integer variable using pointer to void. Perform the same operation for float variable.
34. Write program to find biggest number among three numbers using pointer and function.
35. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to store data of employee and print the stored data-using pointer to structure.
36. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to simulate dynamic array of structure store data of n employees and print the stored data of n employees using pointer to structure.
37. Write a program to sort a single dimension array of integers of n elements simulated by pointer to integer. Use function for sorting the dynamic array.



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38. Write a program to sum elements of a double dimension array of integers of m rows and n columns simulated by pointer to pointer to integer. Use function for sum the elements of the dynamic array.
39. Write program to demonstrate difference between character array and pointer to character.
40. Write program to demonstrate difference between constant pointer and pointer to constant.
41. Write program to demonstrate pointer arithmetic.
42. Write program to demonstrate function-returning pointer.
43. Write program using self-referential pointer to structure to create and print the linked list, data structure.

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BCA-108 - LAB II: PC Software Lab

1. Scheme of Examination: -

Practical examination will be of 3 hours duration. The distribution of practical marks is as follows:

Program 1 (MS-Office)	-	15
Program 2 (MS-Office)	-	15
Program 3 (MS-Office)	-	15
Program 4 (Multimedia)	-	15
Viva-Voice	-	25
[Practical Copy + Internal Record]	-	15
Total	-	100

2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

4 All the following programs or a similar type of programs should be prepared.

List of Practical

MS- WORD

File New, Open, Save, Cut, Copy, Paste, Drag Drop, Bullets and Numbering, Undo, Redo, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

1. Open a document. Type the following text and perform the tasks as instructed below:-

Working with Word Processor

As already mentioned, a word processor is a package that processes textual matter and creates organized and flawless documents. In addition to it a word processor not only remote all the limitations of typewriter but also offers various useful features that cannot be even dreamt of with typewriter.

Also if same textual matter is to be reproduced with minor changes, retyping the only option in typewriters.

The word processing (and word processor) originated way back in 1964 when special typewriters. Magnetic Tape Selectric typewriters (MIST) were launched by IBM (International Business Machines).

- (i) Insert the following text after the first paragraph
The main components of a word processing system are listed below:
 - a. Computer
 - b. Printer
 - c. A word processing software
- (ii) Save the document as Word1.doc
- (iii) Move the second paragraph to the end of the document. Using darg & drop.
- (iv) Move the second paragraph in the end of the document using cut, paste operations.
- (v) Undo the above actions.

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- (vi) Now use Redo actions
- (vii) Go to the End of the document (in one step)
- (viii) Go to the Beginning of document (in one step)
- (ix) Insert page break before the third paragraph.
- (x) Search the word "computer: in your document with options Match case, find whole words only.
- (xi) Replace the word "typewriters" with "word processor"
- (xii) Undo the above action
- (xiii) Remove All page breaks from your document
- (xiv) Change the magnification of your document to different percentages using zoom features.
- (xv) Format the above written paragraphs and give the options as follows:
 - Alignment justified
 - Indentation: left 0.2 right:0.2
 - Spacing: before 6 pt. after:6 pt.
 - Special: first line by :0.4"
 - Line spacing 1.5 lines.
- (xvi) Set the default tab stop to 0.3"
- (xvii) Set the margins to 1.25
- (xviii) Format the page using
 - a. Left margin:0.5, right margin: 0.5
 - b. Top margin:1.5, bottom margin:0.5
 - c. Gutter Margin: 1 indentation: left 0.2 right:0.2
 - d. Header Margin:0.5
- (xix) Format the each occurrence of group of words 'Word Processor' as bold, italic, under line and small caps using find and replace with formatting options.
- (xx) Align the heading to Center and make it bold, underlined and italicized.

File New, Open, Save, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

2. Type the text as show below and perform the tasks as directed:

Computers

COMPUTER is an electronic device that processes data and gives meaningful information. Computers are being used in almost all the fields today

EXPERT SYSTEMS

HUMAN THINKING AND ARTIFICIAL INTELLIGENCE

Can computer think?

AI at work Today: Natural Language programs and Expert Systems.

THE IMPACT OF COMPUTERS ON PEOPLE

The Positive Impact

The Potential Dangers

THE IMPACT OF COMPUTERS ON ORGANIZATIONS

The information Processing Industry

The Positive impact on Using Organizations

The Potential Dangers for Using Organizations

1. Search for the word 'Computer' in the entire document. All the occurrences of the given word are to be searched irrespective of the case.

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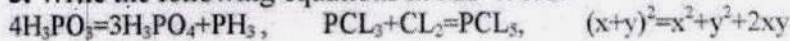
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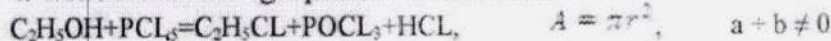
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Smt. Anis Matha Adhyataya
Kalibadi Road, RAIPUR (C.G.)

2. In the above question note that word also searches 'computerization and 'computerisations'. Now make sure that this time Word searches only for the word 'computer' in the entire document.
3. Change the entire uppercase letter to lowercase.
4. Give a heading to the above written text 'COMPUTERS IN TODAY'S WORLD'
5. Centre aligns the Heading text Computer that appears in first line.
6. Apply outside border to entire document.
7. Apply outside border to the just heading text.
8. Change page setup according to the following specifications
 Top margin: 1.5", bottom margin: 1.5"
 Gutter: 1", left margin: 1.5"
 Right margin: 1"
 Page width: 7.5", page height: 6.5 "
 Orientation: portrait
9. Give a header 'Creations' and footer 'The school of computing'. The footer should also consist of page no's.
10. Give appropriate commands for giving different header and footers for first page and odd & even pages.
11. Save and close the document.

3. Write the following equations in MS-Word:



4. Write the following equations in MS-Word:



5. Write the following in MS-Word:

1. Preheat the oven to 220°C.
2. Copyright ©
3. Registered ®
4. Trademark ™

6. Create the following table in MS-Word:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

7. Create a document in MS-Word. Set the watermark as Microsoft. Also write the following text as formatted below:

measuring programming progress by lines of code is like measuring aircraft building progress by weight.

--Bill Gates

8. Create the following:

Time is money

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9. Create the following:



10. Create the following table in MS-Word:

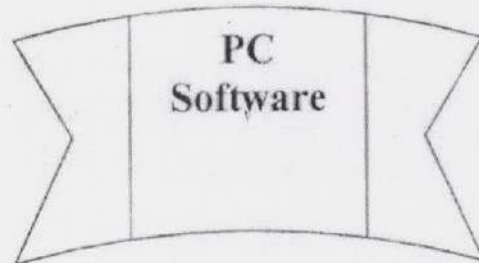
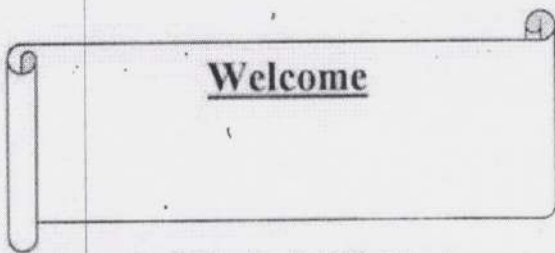
Admission 2011-2012

Course	OC	OB	MBC	SC/ST ^h	Total
Computer Science	9	18	5	5	37
Commerce	14	25	6	5	50
Mathematics	12	20	4	4	40

11. Create Table as shown

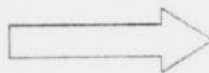
Car		Price
Maruti	Omni Van	200000
	Maruti 800	242000
Tata	Sumo	390000
	Sierra	447000


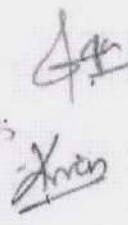
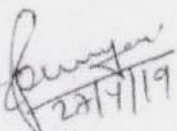
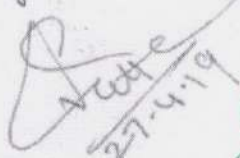
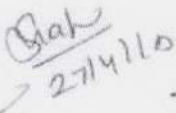
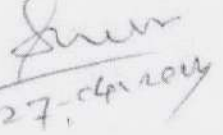
12. Insert the following in MS-Word.




13. Insert the following in MS-Word.

Rabbit




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14. Write the following in MS-Word.

- This is sentencecase.
- this is lowercase.
- THIS IS UPPERCASE.
- This Is Capitalise Each Word.
- tHIS IS tOGGLE cASE.

15. Create the following list in MS-Word:

1. Actors

1. Bruce Willis
2. Gerard Butler
3. Vin Diesel

2. Actress

1. Julia Roberts
2. Angelina Jolie
3. Kate Winslet
4. Cameron Diaz

16. Write the following in MS-Word:

1. Cricket Players

3. Batsman

1. Sachin Tendulkar
2. Rahul Dravid
3. Virendra Sehwag

4. Bowler

- a. Kumble
- b. Zaheer Khan
- c. Balaji

5. Spinner

a) Harbhajan

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b) Kumble

c) Kartik

17. Write a letter to send invitation to your friend inviting on your birthday.

18. Create labels for your friends' address.

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Asha 27/4/19
Bhav 27/4/19
Srujan 27-4-2019
Arun 27.4.19

Sudhakar
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MS – EXCEL

1. Create the following worksheet and save the worksheet as wages.xls
 PACE COMPUTERS (ATC CEDT), Govt. of India
 Payroll for Employee (Temporary)

Today's	Pay Rate :		
Worker's Name	Hired On	days Worked	Gross Wages
Kushagra	3-Mar-07		
Pradeep	4-Mar-07		
Puneet	5-Mar-07		
Rajeev	6-Mar-07		

- (I) Calculate days work and gross wages

2. Create the following worksheet and save the worksheet as wages.xls

Name	Basic (monthly) (Rs.)	HRA(% of basic)	DA (Rs.)	Total Salary (1997)	Bonus (Rs)	Total Salary (1998)	% (Increase)
Shirome	5000	10	450		1200		
Somya	9000	15	800		200		
Taniya	7000	12	900		1800		

- Calculate the total salary as sum of Basic salary, HRA ,DA, for each employee for 1997
- Calculate total salary for year 1998 as sum of salary of 1997 and bonus
- Calculate % increase in salary from 1997 to 1998

3. Create a worksheet as follows

Pace computer (ATC CEDT) Govt. Of India
 Payroll for employee (Permanent)

Empcode	name	doj	salary	bonus	net salary
E001	Meenu	3-Mar-95	5000		
E002	Manoj	4-Mar-06	4000		
E003	Preeti	3-Mar-95	4800		
E004	Sumita	6-Mar-07	7500		

- allow bonus 8000 to employee having service >2 year other wise allow bonus 3000
- find net salary as sum of bonus and salary

4. create the worksheet as follows

Roll No	Name	English	Maths	Total	Average	Division
101	Kushagra	95	99			
102	Ajay	92	95			
103	Vijay	70	69			

Class Average

- find Total of two subject for each student
- find average of two subject for each student
- find class as average of average column
- find division of student as first, second, third, assume percentage of division of your own and maximum marks in each student as 100
- Apply conditional formatting for division column, first division should be in bold, second division should be in italic and third division should be underline

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1. Create macro in excel to make selected cell, bold, italic outside bordered and center across select

2. create bar chart with given data

	2001	2002	2003
Tea	19	23	25
Coffee	22	24	22
Sugar	45	40	45

- (I) Provide heading production detail
- (II) Provide z axis title; lacks metric tone
- (III) Provide x axis title year

3. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- i. Sort the data according to Zone then by Department
- ii. Use group and outline feature to show & hide details

8. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- (I) Use filter command to show records having zone: West
- (II) Use filter command to show records having zone: West and salary less than 5000
- (III) Use filter command to show records having salary greater than 10000

9. Create pivot table using Data of exercise 8

1. Suppose a database exists in ms-access you are required to import the data. How will you?

11. Create a table using feature

Principle	1500
Rate	4%
Time	5

300	3	4	5
1%	45	60	75
2%	90	120	150
3%	135	180	225

12. Using goal seek feature find out the interest rate it must be to earn interest 500

Principle	1500
Rate	4%

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Kalibadi Road, PATIALA (G.G.)

Time 5
Interest 300

MS-Access

Q.1. Create the following table in MS-Access:

Field Name	Data Type	Description
ContactID	AutoNumber	Primary Key
ContactType	Text 50	Type of contact (Wholesale, dealer, other)
Name	Text 50	Contact's first name
Company	Text 50	The Contact's employer
Address	Text 50	Contact's address
City	Text 50	Contact's city
State	Text 50	Contact's state
ZipCode	Text 50	Contact's zip code
Phone	Text 50	Contact's phone
Fax	Text 50	Contact's fax
E-Mail	Text 100	Contact's e-mail address
WebSite	Text 100	Contact's Web address
LastSalesDate	Date/Time	The most recent date the contact purchased something
DiscountPercent	Number	The customary discount provided to the customer
Notes	Memo	Notes and observations regarding this customer
Active	Yes/No	Whether the customer is still buying or selling products

Q.2. Create the following tables in MS-Access with the referential integrity-foreign key:

1. tblProducts

Primary Key - ProductID

ProductID	Description	Category	Quantity	Cost	RetailPrice	ProductNumber	SalePrice	Taxable

2. tblSalesLineItems

Primary Key - SalesLineItemID

SalesLineItemID	InvoiceNumber	ProductID	ProductNumber	Quantity	Description	Price	Discount

3. tblSales

Primary Key - InvoiceNumber

InvoiceNumber	SaleDate	InvoiceDate	Buyer	PaymentMethod	TaxLocation	TaxRate

MS PowerPoint

Q 1 Create a PPT of Atleast 10 Slides with one slide for comparison, one slide displaying a chart with the table.

Q 2 Create a PPT presentation use rehearse timing for the slide show

Q 3 Create PPT presentation slide import sound and video clips.

Q 4 Create PPT presentation with hyperlinking.

Q 5 Create PPT presentation and apply themes and transitions.

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FLASH LIST OF PRACTICALS

Q.1. Draw the following shapes neatly in Flash and convert them in symbols. Also apply different transformations like scale, rotate, skew, skip etc.

1. Fish	2. Palm Tree
3. Swan	4. Teddy Bear
5. Tree	6. Santa Claus
7. House	8. Car
9. Ballon	10. Boat

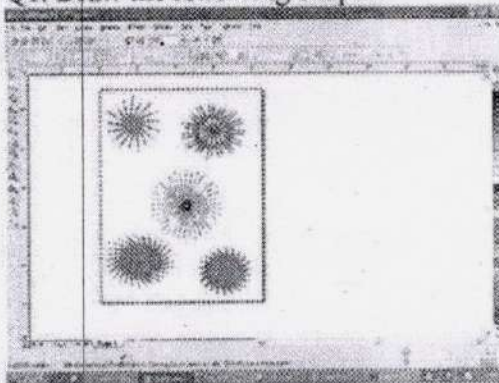
- Q.2. Create a Flash movie to draw the symbol of an animal and apply motion between.
 Q.3. Create a Flash movie to create a minimum of five layers (Water, fish, bubbles, plants etc) of an aquarium and apply motion between.
 Q.4. Create a Flash movie to create mask.
 Q.5. Create a Flash movie to create Fade In/Fade Out in four pictures.
 Q.6. Create a Flash movie to create the symbol of a wheel and scale and rotate it.
 Q.7. Create a flash movie to create growing circles.
 Q.8. Create hand writing in Flash.
 Q.9. Create a Flash movie of a moving car with rotating wheels.
 Q.10. Transform a circle into a square using shape tween.
 Q.11. Create a Flash movie to import text from MS-Word and apply different transformations.
 Q.12. Create a Flash movie to demonstrate onion skin markers.
 Q.13. Create a Flash movie to create ripple effect.
 Q.14. Create a Flash movie to demonstrate motion guide.
 Q.15. Create a Flash movie of a sheep climbing a mountain using layers. The scenery should contain mountain, river, trees, clouds, birds, sheep etc.

PHOTOSHOP LIST OF PRACTICALS

- Q.1. Import an image in Photoshop and change its background using marquee and lasso tools.
 Q.2. Import an image in Photoshop and copy it using heal brush tool.
 Q.3. Import an image in Photoshop and desaturate it and recolor it.
 Q.4. Use layers and filters to design an image in Photoshop. Use the flatten image as well.
 Q.5. Import an image in Photoshop and desaturate it and reveal selective portions.

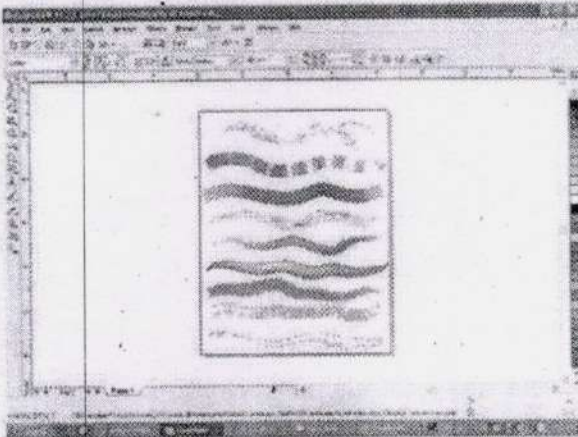
CORAL DRAW LIST OF PRACTICALS

Q1. Draw the following shapes:

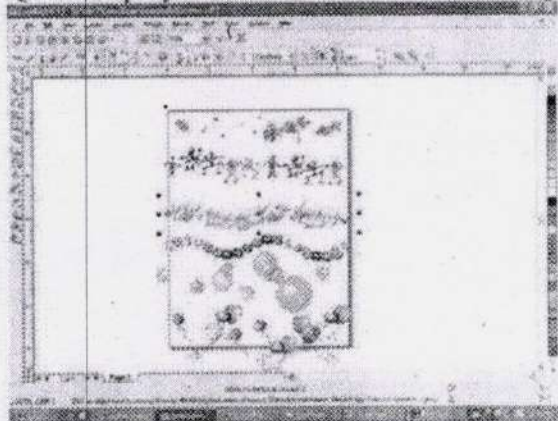


Q.2. Use artistico media brush tool to create different backgrounds.

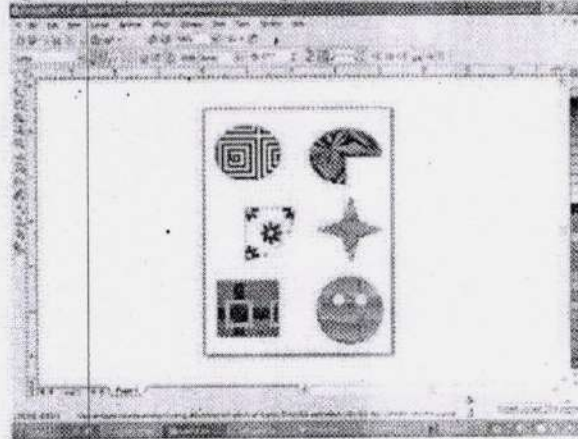
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Q3. Use sprayer tool to create different backgrounds.

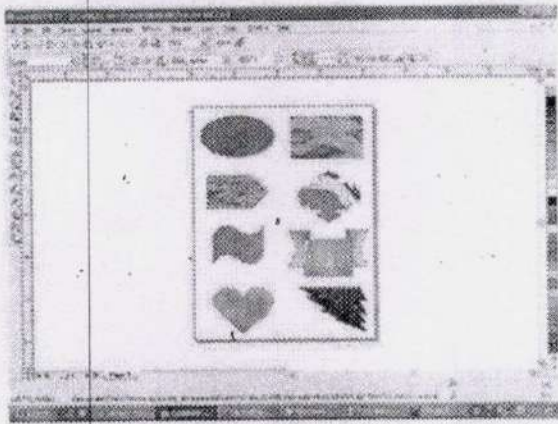


Q4. Draw different objects and fill them with different patterns.



Q5. Draw different objects and fill them with different textures.

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Gurukul Mahila Mahavidyalaya
Kalibadi Road, RAIPUR (C.G.)



1. Making a simple Video file (not using video file) with suitable sound file using Windows Movie Maker
2. Edit Video file, like - changing sound and adding starting and ending banner with title using Windows Movie Maker.
2. Create a .WAV file with the help of Windows sound recorder application.
3. With the help of Adobe Image Ready create attractive .GIF image.
4. Create & save MP4 files using appropriate software.
5. Create & save MP3 files using appropriate software
6. Insert sound clips in webpage using Front Page application Software.

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BCA-109 - LAB III: Web Technology Lab

1. Scheme of Examination:-

Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows

Program 1	-	20
Program 2	-	20
Program 3	-	20
Viva	-	25
[Practical Copy + Internal Record]	-	15
Total	-	100

- In every program there should be comment for each coded line or block of code
- Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
- All the following programs or a similar type of programs should be prepared

Q.1. Write an HTML program to create the following table:

Class	Subject1	Subject2	Subject3
BCA I	Visual Basic	PC Software	Electronics
BCA II	C++	DBMS	English
BCA III	Java	Multimedia	CSA

Q.2. Write an HTML program to create the following lists:

- C
- C++
- Fortran
- COBOL

Q.3. Write an HTML program to create the following lists:

- Java
- Visual Basic
- BASIC
- COBOL

Q.4. Write an HTML program to demonstrate hyperlinking between two web pages. Create a marquee and also insert an image in the page

Q.5. Write an HTML program to create frames in HTML with 3 columns (Width = 30%, 30%, 40%).

Q.6. Write an HTML program to create a web page with a blue background and the following text:

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New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

Q.7. Write an HTML program to create the following table:

Admission

Course	OC	BC	MBC	SC/ST	TOTAL
Computer science	9	18	5	5	37
Commerce	14	25	6	5	50
Grand total					87

Q.8. Write an HTML program to create the following table:

Car Price List

Maruti		Tata		Ford	
Model	Price	Model	Price	Model	Price
Maruti 800	2 Lac	Sumo	2 Lac	Ikon	5 Lac
Omni	3 Lac	Scorpio	3 Lac	Gen	2 Lac

Q.9. Write an HTML program to create the following table:

Students Records

Name	Subject	Marks
Arun	Java	70
	C	80
Ashish	Java	75
	C	69

Q.10. Create an HTML document and embed a flash movie in it.

Q.11. Write the HTML coding to display the following table. Also insert an image in the web page.

Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70
Operating System	100	33	68
C++	100	33	73

Q.12. Write the HTML coding to display the following table:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

Q.13. Write an HTML program to create a form as the following:

Enter Name:

Enter Roll No.:

Enter Age:

<input type="text"/>
<input type="text"/>
<input type="text"/>

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Enter DOB:

Q.14. Write an HTML program to create a web page with an image as background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

On the other side New Delhi, the imperial city built by British, reflect the fast paced present. The most fascinating of all is the character of Delhi which varies from the 13th present century mausoleum of the Lodi kings to ultra modern glass skyscrapers.

Q.15. Create the following HTML form.

USERNAME

PASSWORD

When user types characters in a password field, the browser displays asterisks or bullets instead of characters.

Done My Computer 100%

Q.16. Create the following HTML form.

FIRSTNAME:

LASTNAME:

GENDER:
Male Female

SUBJECTS:
Multimedia
Operating System
CSA

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Sukul Mahila Mahavidyalaya
Kalibadi Road, P... (U.G.)

- d. Kumble
- e. Zaheer Khan
- f. Balaji

3. Spinner

- d) Harbhajan
- e) Kumble
- f) Kartik

Note: At least 5 programs of CSS and Java Script to be done separately.

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SCHEME OF EXAMINATION 2019-2020

BCA PART-II

Subject Code	Subject Paper	Theory Marks		Internal Marks		Teaching Load per Week		
		Max. (A)	Min. (B)	Max. (C)	Min. (D)	L	T	P
BCA201	Calculus and Differential Equations	80	27	20	8	4	2	-
BCA202	Database Management System	80	27	20	8	4	2	-
BCA203	Programming in 'C++'	80	27	20	8	4	2	-
BCA204	Computer Networks	80	27	20	8	4	2	-
BCA205	Operating Systems with Linux	80	27	20	8	4	2	-
BCA206	Foundation Course	80	27	20	8	4	2	-
BCA207	LAB IV: Programming Lab in 'C++'	100	50	40	16	-	-	3x2
BCA208	LAB V: Database Management System Lab	100	50	40	16	-	-	2x2
BCA209	LAB VI: Operating System Lab	100	50	20	8	-	-	1x2
TOTAL		780	312	220	88			
GRAND TOTAL	(PAPER + INTERNAL)	(A+C) 1000		(B+D) 400				

- Student will have to pass individually in all theory, practical and sessional.

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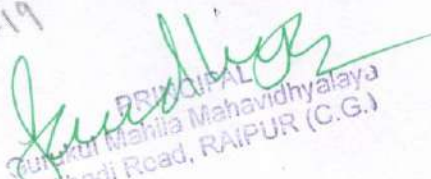
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Ramesh
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Calculus and Differential Equations
Subject Code - BCA-201

Max Marks : 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

Differentiation

UNIT - I

Limits -Definition of limits, Continuity of one variable, Types of continuity, Properties of continuous function: Borel's Theorem, Boundedness Theorem, Mostest Theorem, Intermediate value theorem, Differentiability of function(s) of one variable

UNIT - II

Differentiation of Functions, Differentiation of functions of functions, parametric functions, product of functions, function in Product and quotient form, Logarithmic differentiation, Differentiation of Parametric functions. Higher order derivative, Maxima and Minima

Integration

UNIT - III

Indefinite Integral- Basic integration Formulas, Trigonometric Integrals, Integration by Parts, Integration by substitution

UNIT - IV

Definite Integrals- Introduction, Properties of definite integrals, Problem based on properties of definite integrals

Differential Equation

UNIT - V

Introduction to differential equation: Definition, order and degree of differential equation, derivation of a differential equation, general and particular solution of differential equation, separation of variables.

TEXTBOOK:

1. Calculus and Statistical Analysis: H.K. Pathak
2. Calculus : B.R. Thakur
3. Differential Equation: H.K. Pathak

REFERENCE:

1. Differential Calculus : Gorakh Prasad
2. Differentiation & Integration : H.K Pathak
3. Integral Calculus: Gorakh Prasad
4. Differential Equation : Gorakh Prasad
5. Calculus: Rey & Sharma

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Gorakh Prasad
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Database Management System
Subject Code - BCA-202

Max Marks : 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT - I: Overview of Database Management

Data, Information and knowledge, Increasing use of data as a corporate resource, data processing verses data management, file oriented approach verses database oriented approach to data management, data independence, database administration roles, DBMS architecture, different kinds of DBMS users, importance of data dictionary, contents of data dictionary, types of database languages. Data models: network, hierarchical, relational.

UNIT - II: Relational Model & Relational Algebra

Entity-Relationship model as a tool for conceptual design-entities, attributes and relationships. ER diagrams; Concept of keys; Case studies of ER modeling Generalization; specialization and aggregation. Converting an ER model into relational schema. Extended ER features, Introduction to UML, Representation in UML diagram (Class Diagram etc.).

UNIT - III: Relational Database Design

Relational Algebra: select, project, cross product different types of joins (inner join, outer joins, self-join); set operations, Tuple relational calculus, Domain relational calculus, Simple and complex queries using relational algebra, stand alone and embedded query languages.

UNIT - IV: Structured Query Language (SQL)

Normalization concept in logical model; Pitfalls in database design, update anomalies: Functional dependencies, Join dependencies, Normal forms (1NF, 2NF, 3NF). Boyce Codd Normal form, Decomposition, Multi-Valued Dependencies, 4NF, 5NF. De-normalization.

UNIT - V: Query Processing and Security

Introduction to SQL constructs (SELECT...FROM, WHERE... GROUP BY... HAVING... ORDERBY...), INSERT, DELETE, UPDATE, DROP, VIEW definition and use, Temporary tables, Nested queries, and correlated nested queries, Integrity constraints: Not null, unique, check, primary key, foreign key, references, Inner and Outer Joins. Query Processing: Parsing, translation, optimization, evaluation and overview of Query Processing. Protecting the Data Base: Integrity, Security and Recovery. Domain Constraints, Referential Integrity, Assertion, Triggers, Security & Authorization in SQL.

BOOKS RECOMMENDED:

1. Database System Concept: A. Silberschatz, H.F. Korth and S. Sudarshan, TMH
2. Fundamentals of Database Systems: Elmasri & Navathe, Pearson Education
3. An Introduction to Database Systems: C. J. Date, AWL Publishing Company
4. SQL, PL/SQL: Ivan Bayross, BPB Publication
5. An Introduction to database systems: Bipin Desai, Galgotia Publication.
6. Database Management System: A. K. Majumdar & P. Bhattacharya, TMH

Anin
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Preranjana
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Rah
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Programming in "C++"
Subject Code - BCA-203

Max Marks : 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT - I: Language Fundamental

Overview of OOP: The Object Oriented paradigm, Basic concepts of OOP, Benefits of OOP, Object oriented languages, Application of OOP

Overview of C++: History of C++, **Data Types:** Built-in data types, User-defined data types, Derived data types. **Constants and Variables:** symbolic constants, Dynamic initialization of variable, Reference variable. Operators in C++. **Control Structures:** if-else, nested if-else, while, do-while, for, break, continue, switch, goto statement.

UNIT - II: Structure & Function

Structures: A Simple structure, defining a structure variable, Accessing structure's member, Enumeration data type.

Function: Function Declaration, Calling Function, Function Definition, Passing Arguments to function: Passing Constant, Passing Value, Reference Argument, Structure as argument, Default Argument.

Returning values from function: return statement, Returning structure variable, Return by reference, Overloaded Function, Inline Function.

UNIT - III: Object Classes and Inheritance

Object and Class, Defining the class and its member. Making an outside function inline, nesting of member function, array as class member, structure and classes.

Memory allocation: memory allocation for objects, new and delete operator, static data member, static member functions, object as function argument.

Constructor & Destructor: Null and default constructor. Parameterized constructor, Constructor with default argument, copy constructor, class destructors.

UNIT - IV: Pointers and Inheritance

Pointers: Introduction, & and * operator, pointer to object, this pointer, pointer to derived class.

Inheritance: Introduction to inheritance, Types of inheritance, function overriding, Constructor in Derived class. Access specifiers: public, private, protected.

UNIT - V: Polymorphism

Dynamic polymorphism: Virtual function, Pure Virtual Function, Abstract class.

Static Polymorphism: Operator keyword, overloading unary operators (++ (pre increment and post increment), --) using operator function, overloading binary operators (+, -, ==, >=, <=, +=, <, >, []). Friend function, Friend class, overloading binary operators using friend function.

RECOMMENDED BOOKS :

1. **Object Oriented Programming with C++** : E. Balagurusamy, The McGraw-Hill
2. **Let Us C++** : Yesvant Kanetkar, BPB Publications
3. **The C++ Programming Language** : Bjarne Stroustrup, Addison Wesley
4. **Object Oriented Programming in C++** : Robert Lafore, Galgotia Publications

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Principals
Gautam Institute of Technology
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Gautam Institute of Technology
(G.G.)

Computer Networks
Subject Code - BCA-204

Max Marks : 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT - I - Introduction to Computer Networking

Data Communication, Networks - Distributed Processing, Network Criteria, Applications; Protocols and Standards, Standard Organization, Line Configuration - Point to Point, Multi Point; Topology - Mesh, Star, Tree, Bus, Ring, Hybrid; Transmission mode, Categories of Network - LAN, MAN, WAN, Inter Networks.

UNIT - II - Transmission of Digital Data

Analog and Digital, digital data transmission - parallel transmission, serial transmission, DTE-DCE interface - data terminal equipment, data circuit terminating equipment, standards, modems- Transmission rate, Modem standards

UNIT - III - The OSI Model

ISO organization, The model - Layered architecture, functions of the layers -Physical layer, Data Link layer, Network layer, Transport layer, session layer, Presentation layer, Application layer

UNIT - IV TCP/IP Model & Protocols

The TCP/IP reference model, comparison of TCP/IP & OSI, Introduction to Internet - ARPANET, Architecture of Internet, Client server model, www, IP Address Classes, Protocols: IP, HTTP, TCP, FTP, ARP.

UNIT - V Network Security

Introduction of Network Security and it's importance. Cryptography: Definitions, Symmetric Key Cryptography: Traditional Ciphers, Simple modern Ciphers, Asymmetric Key Cryptography: RSA, Security Services, Digital Signatures.

BOOKS RECOMMENDED:

1. Introduction to Data communication & Networking - Behrouz & Forouzan
2. Computer Networking - Andres & Tanenbaum

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Kalibadi Road, RAIPUR (C.G.)

Operating Systems with Linux
Subject Code - BCA-205

Max. Marks: 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT - I: Introduction

Defining operating system, History and Evolution of operating system, **Basic Concepts:** batch processing, spooling, multiprogramming, multiprocessor system, time sharing, real time systems, Functions and Goals of operating system.

UNIT - II: Process Management

Process concept, Process Control Block, Process State, State Transition Diagram, Scheduling Queues, Queuing Diagram, Types of schedulers-context switching and dispatcher, various types of CPU scheduling algorithms and their evaluation, multilevel queues and multilevel feedback queues.

UNIT - III: Memory Management

Preliminaries of memory management, Contiguous memory allocation, fragmentation, partition allocation policies, compaction, Non-Contiguous memory allocation, Paging, Segmentation, Virtual Memory: Demand paging, Swapping, Page replacement policies: FIFO, Optimal, LRU, MRU.

UNIT - IV: Introduction to UNIX

Introduction to Multi-user System, Emergency and history of Unix, Feature and benefits, Versions of Unix. **System Structure:-**Hardware requirements, Kernel and its function, introduction to System calls and Shell.

File System : Feature of Unix File System, Concept of i-node table, links, commonly used commands like who, pwd, cd, mkdir, rm, ls, mv, lp, chmod, cp, grep, sed, awk, pr, lex, yacc, make, etc. Getting started (login / logout). **Vi Editor:-**Intro to text processing, command and edit mode. invoking vi, command structure, deleting and inserting line, deleting and replacing character, searching strings.

UNIT - V: Shell Programming

Introduction to shell feature, wild card characters, I/O redirections, standard error redirection, system and user created shell variables, profile files, pipes/tee, background processing, command line arguments, command substitution, read statement, conditional execution of commands, special shell variables \$ #, #?, \$* etc. Shift commands, loops and decision making- for, while and until, choice making using case... esac, decision making iffi, using test, string comparison, numerical comparison, logical operation, using expr.

BOOKS RECOMMENDED:

1. Operating System Concepts, Abraham Silberschatz, Peter B. Galvin and Greg Gagne (Wiley India Edition)
2. Modern Operating System, Andrew .S. Tanenbaum, (PHI)
3. UNIX Complete Reference

Kiran
27/4/19

Ramya
28/4/19

Tej
27-04-19

Roop
27-4-19

Brah
27/4/19

Srinu
27-04-19

Sandhya
SANDHYA
GURUKUL Mahila Mahavidhyalaya
KaliBadi Road, RAIPUR (C.G.)

Foundation Course
Subject Code - BCA - 206

Max. Marks: 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

OBJECTIVE

This course is designed to make the students acquainted with Indian History and Culture. To make students aware of their fundamental rights & duties and to have the knowledge of parliamentary form of Government. To groom students and develop their professional skills.

Unit I

Indian Art, meaning of art, features of indian art, elementary knowledge of paintings, music, dancing, sculpture archeology, iconography & other social arts.

Unit II

Indian Literature, Ancient Indian Literature, Elementary knowledge of Vedic Literature, Mahabharata, Ramayan and other main granthas.

Unit III

Indian Freedom Struggle : Freedom Struggle of 1857, National Consciousness, non-cooperation movements, Civil disobedient movement quit India movement, contribution of revolutionaries in freedom struggle.

Unit IV

Indian Constitution : Introduction, main features of constitution, fundamental rights.
Parliamentary Government: Meaning, Features, Rajya Sabha, Lok Sabha.

Unit V

Communication: Process, Channels, Barriers.
Listening: Types, Purpose, Barriers, Effective Listening Strategies.
Job Interviews: Résumé Writing, Group Discussion, Job Application Writing, Interview Preparation.

BOOKS RECOMENDED:

- Indian Culture the book sponsored by M.P. Hindi granth Academy
- Parliamentary Procedure in India by A.R. Mukherjea
- Effective Technical Communication by M Ashraf Rizvi

Man
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PRACTICAL WORK BCA II
BCA-207 - LAB IV: Programming Lab in 'C++'

1 Scheme of Examination:-

Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows

Program 1	-	20
Program 2	-	20
Program 3	-	20
Viva	-	25
[Practical Copy + Internal Record]	-	15
Tótal	-	100

- 2 In every program there should be comment for each coded line or block of code
- 3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
- 4 All the following programs or a similar type of programs should be prepared

List of Practical

LOOPS, DECISIONS, NESTED METHOD, MEMBER FUNCTION DEFINED OUTSIDE CLASS BODY:

1. Write program to generate following pattern

a) A B C D E F G
 A B C E F G
 A B F G
 A G

c) *
 * *
 * * *

b) 1
 1 2
 1 2 3
 1 2 3 4

d) 1
 1 2 1
 1 3 3 1
 1 4 6 4 1

2. Write member functions which when called asks pattern type. if user enters 11 then a member function is called which generates first pattern using for loop. If user enters 12 then a member function is called which generates first pattern using while loop. If user enters 13 then a member function is called which generates first pattern using do-while loop. If user enters 21 then a member function is called which generates second pattern using for loop and so on.
3. Write program to display number 1 to 10 in octal, decimal and hexa-decimal system.
4. Write program to display number from one number system to another number system. The program must ask for the number system in which you will input integer value then the program must ask the number system in which you will want, output of the input number after that you have to input the number in specified number system and program will give the output according to number system for output you mentioned earlier.

Array

5. Write a program using function to add, subtract and multiply two matrices of order 3x3. You have to create one function for addition, which accepts three array arguments. First two array arguments are matrices to add and third matrix is destination where the resultant of addition of first two matrixes is stored. In similar way create functions for matrix subtraction and multiplication.
6. Create a single program to perform following tasks without using library functions:
 - a) To reverse the string accepted as argument.
 - b) To count the number of characters in string passed as argument in form of character array.
 - c) To copy the one string to other string; passed as arguments in form of source character array and destination character array without using library function.
 - d) To count no. of vowels, consonants in each word of a sentence passed as argument in form of character array.

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Class, Object, Array of object, Object Using Array

7. Create a class Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare an object of class student. Provide facilities to input data in data members and display result of student.
8. Create a class Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of object to hold data of 3 students. Provide facilities to display result of all students. Provide also facility to display result of specific student whose roll number is given.
9. Create a class Sarray having an array of integers having 5 elements as data member provide following facilities:
 - a) Constructor to get number in array elements. b) Sort the elements. c) Find largest element
 - b) Search for presence of particular value in array element.

Static member function

10. Create a class Simple with static member functions for following tasks:
 - a) To find factorial by recursive member function.
 - b) To check whether a no. is prime or not.
 - c) To generate Fibonacci series up to requested terms.

Object as argument to function, function returning object

11. Write program-using class having class name Darray. Darray has pointer to pointer to integer as data member to implement double dimension dynamic array and provide following facilities:
 - a) Constructor to input values in array elements.
 - b) Input member function to get input in array element
 - c) Output member function to print element value
 - d) Add member function to perform matrix addition using objects.
 - e) Subtract member function to perform matrix subtraction using objects.
 - f) Multiply member function to perform matrix multiplication using objects
12. Write program to create class complex having data members to store real and imaginary part. Provide following facilities:
 - a) Add two complex no. using objects. b) Subtract two complexes no. using objects.
 - c) Multiply two complexes no. using objects. d) Divide two complex no. using objects.

Friend Function

13. Create class Polar having data members radius and angle. It contains member functions for taking input in data members and member function for displaying value of data members. Class Polar contains declaration of friend function add which accepts two objects of class Polar and returns object of class Polar after addition. Test the class using main function and objects of class Polar.
14. Write program to create class distance having data members feet and inch (A single object will store distance in form such as 5 feet 3 inch). It contains member functions for taking input in data members and member function for displaying value of data members. Class Distance contains declaration of friend function add which accepts two objects of class Distance and returns object of class Distance after addition. Class Distance contains declaration of another friend function Subtract that accepts two objects of class Distance and returns object of class Distance after subtraction. Test the class using main function and objects of class Distance.
15. Write a program to create class Mother having data member to store salary of Mother, create another class Father having data member to store salary of Father. Write a friend function, which accepts objects of class Mother, and Father and prints Sum of Salary of Mother and Father objects.

Friend Class

16. Write a program to create class Mother having data member to store salary of Mother, create another class Father having data member to store salary of Father. Declare class Father to be friend class of Mother. Write a member function in Father, which accepts object of class Mother and prints Sum of Salary of Mother and Father Objects. Create member function in each class to get input in data member and to display the value of data member.

Static Data Member

17. Create a class Counter having a static data member, which keeps track of no. of objects created of type Counter. One static member function must be created to increase value of static data member

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as the object is created. One static member function must be created to decrease value of static data member as the object is destroyed. One static member function must be created to display the current value of static data member. Use main function to test the class Counter.

STRUCTURE AND CLASS

18. Define structure student. Structure student has data members for storing name, rollno, name of three subjects and marks. Write member function to store and print data.

COPY CONSTRUCTOR, CONSTRUCTOR OVERLOADING, THIS POINTER, CONSTRUCTOR WITH DEFAULT ARGUMENT.

19. Write program to create a class Polar which has data member radius and angle, define overloaded constructor to initialize object and copy constructor to initialize one object by another existing object keep name of parameter of parameterized constructor same as data members. Test function of the program in main function.

20. Write program to create a class Polar which has data member radius and angle, use constructor with default arguments to avoid constructor overloading and copy constructor to initialize one object by another existing object keep name of parameter of parameterized constructor same as data members. Test functioning of the program in main function.

FUNCTION OVERLOAD, REFERENCE VARIABLE, PARAMETER PASSING BY ADDRESS, STATIC FUNCTION

21. Write a class having name Calculate that uses static overloaded function to calculate area of circle, area of rectangle and area of triangle.

22. Write a class ArraySort that uses static overloaded function to sort an array of floats, an array of integers.

23. Write a program using class, which uses static overloaded function to swap two integers, two floats methods use reference variable.

24. Write a program using class, which uses static overloaded function to swap two integers; two floats methods use parameter passing by address.

STRING, POINTER, AND OPERATOR OVERLOADING

25. Create class String having pointer to character as data member and provide following Facilities:

- Constructor for initialization and memory allocation.
- Destructor for memory release.
- Overloaded operators + to add two string object.
- Overloaded operator = to assign one string object to other string object.
- Overloaded operator == to compare whether the two string objects are equal or not.
- Overloaded operator < to compare whether first-string object is less than second-string object.
- Overloaded operator > to compare whether first-string object is greater than second-string object or not.
- Overloaded operator <= to compare whether first string object is less than or equal to second string object or not.
- Overloaded operator >= to compare whether first string object is greater than or equal to second string object.
- Overloaded operator != to compare whether first string object is not equal to second string object or not.
- Overloaded insertion and extraction operators for input in data member and display out put of data members.

26. Create a class Matrix having data member double dimension array of floats of size 3x3. Provide following facilities:

- Overloaded extraction operator for data input.
- Overloaded insertion operator for data output.
- Overloaded operator + for adding two matrix using objects.
- Overloaded operator - for subtracting two using matrix objects.
- Overloaded operator * for multiplying two using matrix objects.

OPERATOR OVERLOADING WITH FRIEND FUNCTION

27. Create a class Polar having radius and angle as data members. Provide following facilities:

- Overloaded insertion and extraction operators for data input and display.

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- b) Overloaded constructor for initialization of data members.
 - c) Overloaded operator + to add two polar co-ordinates using objects of class Polar.
28. Create class DegreeCelsius having a single data member to hold value of temperature in degree Celsius. Provide following facilities:
- a) Overloaded operator ++ which will increase value of data member by 1 (consider postfix and prefix operator overloading).
 - b) Overloaded operator -- which will decrease value of data member by 1 (consider postfix and prefix operator overloading).
 - c) Overloaded insertion and extraction operators for input in data member and display value of data member.

OPERATOR OVERLOADING AND DATA TYPE CONVERSION

29. Create a class Polar that contains data member radius and angle. Create another class Cartesian in the same program and provide following facilities:
- a) It should be possible to assign object of polar class to object of Cartesian class.
 - b) It should be possible to assign object of Cartesian class to object of polar class.
30. Create a class Fahrenheit that contains a data member to hold temperature in Fahrenheit. Create another class Celsius that contains a data member to hold temperature in Degree Celsius; in the same program and provide following facilities:
- a) It should be possible to assign object of Fahrenheit class to object of Celsius class.
 - b) It should be possible to assign object of Celsius class to object of Fahrenheit class.
 - c) It should be possible to compare objects of class Fahrenheit and Celsius to find out which object contains higher temperature.

VOID POINTER, POINTER AND POINTER TO OBJECT

31. Create a program having pointer to void to store address of integer variable then print value of integer variable using pointer to void. Perform the same operation for float variable.
32. Write program to find biggest number among three numbers using pointer and function.
33. Write swapping program to demonstrate call by value, call by address and call by reference in a single program.
34. Write program to Create a class Employee having data members to store name of employee, employee id, salary. Provide member function for data input, output. Use Pointer to object to simulate array of object to store information of 3 employees and test the program in function main.

INLINE FUNCTION.

35. Write a program using inline function to calculate area of circle.
36. Write a program using inline function to find minimum of two functions. The inline function should take two arguments and should return the minimum value.

INHERITANCE

37. Create a class account that stores customer name, account number and type of account. From this derive the classes cur_acct and sav_acct to make them more specific to their requirements. Include necessary member functions in order to achieve the following tasks:
- a) Accept deposit from customer.
 - b) Display the balance
 - c) Computer and deposit interest.
 - d) Permit withdrawal and update the balance.
 - e) Check for the minimum balance, impose penalty, necessary and update the balance.
38. Create a class circle with data member radius; provide member function to calculate area. Derive a class sphere from class circle; provide member function to calculate volume. Derive class cylinder from class sphere with additional data member for height and member function to calculate volume.
39. Consider an example of declaring the examination result. Design three classes:- student, exam and result. The student class has data members such as that representing roll number, name of student. Create the class exam, which contains data members representing name of subject, minimum

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marks, maximum marks, obtained marks for three subjects. Derive class result from both student and exam classes. Test the result class in main function.

VIRTUAL AND PURE VIRTUAL FUNCTION

40. Create a base class shape having two data members with two-member function getdata (pure virtual function) and printarea (not pure virtual function). Derive classes triangle and rectangle from class shape and redefine member function printarea in both classes triangle and rectangle and test the functioning of classes using pointer to base class objects and normal objects.

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Pranay
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Shubh
27-04-19

Shubh
Shubh

Bal
27/4/19

Rishi
27-04-2019

Principals
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PRACTICAL WORK
BCA-208 - LAB V: Database Management System Lab

1 Scheme of Examination:-

Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows

Program 1 (Oracle)	-	20
Program 2 (Oracle)	-	20
Program 3 (Oracle)	-	20
Viva	-	25
[Practical Copy + Practical Sessional]	-	15
Total	-	100

- 2 In every program there should be comment for each coded line or block of code
- 3 practical files should contain printed programs with name of author, date, path of program, unit no. and printed output.
- 4 All the following programs or a similar type of programs should be prepared

List of Practical

1. Using the following database,

Colleges (cname, city, address, phone, afdate)
 Staffs (sid, sname, saddress, contacts)
 StaffJoins (sid, cname, dept, DOJ, post, salary)
 Teachings (sid, class, paperid, fsession, tsession)
 Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following –

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. List the names of the teachers teaching computer subjects.
- d. List the names and cities of all staff working in your college.
- e. List the names and cities of all staff working in your college who earn more than 15,000
- f. Find the staffs whose names start with 'M' or 'R' and ends with 'A' and/or 7 characters long.
- g. Find the staffs whose date of joining is 2005.
- h. Modify the database so that staff N1 now works in C2 College.
- i. List the names of subjects, which T1 teaches in this session or all sessions.
- j. Find the classes that T1 do not teach at present session.
 - a. Find the colleges who have most number of staffs.
 - b. Find the staffs that earn a higher salary who earn greater than average salary of their college.
 - c. Find the colleges whose average salary is more than average salary of C2
 - d. Find the college that has the smallest payroll.
 - e. Find the colleges where the total salary is greater than the average salary of all colleges
 - f. List maximum, average, minimum salary of each college
- a. List the names of the teachers, departments teaching in more than one department
- b. Acquire details of staffs by name in a college or each college.
- c. Find the names of staff that earn more than each staff of C2 College.
- d. Give all principals a 10% rise in salary unless their salary becomes greater than 20,000 in such case give 5% rise.
- e. Find all staff that do not work in same cities as the colleges they work.

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- f. List names of employees in ascending order according to salary who are working in your college or all colleges.
 - a. Create a view having fields sname, cname, dept, DOJ, and post
 - b. Create a view consisting of cname, average salary and total salary of all staff in that college.
 - c. Select the colleges having highest and lowest average salary using above views.
 - d. List the staff names of a department using above views.

2. Create the following database,

Enrollment (enrollno, name, gender, DOB, address, phone)
 Admission (admno, enrollno, course, yearsem, date, cname)
 Colleges (cname, city, address, phone, afdate)
 FeeStructure (course, yearsem, fee)
 Payment (billno, admno, amount, pdate, purpose)

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. Get full detail of all students who took admission this year class wise
- d. Get detail of students who took admission in Bhilai colleges.
- e. Calculate the total amount of fees collected in this session
 - i) By your college ii) by each college iii) by all colleges
- a. List the students who have not payed full fee
 - i) in your college ii) in all colleges
- b. List the number of admissions in your class in every year.
- c. List the students in the session who are not in the colleges in the same city as they live in.
- d. List the students in colleges in your city and also live in your city.

3. Create the following database,

Subjects (paperid, subject, paper, papername)
 Test (paperid, date, time, max, min)
 Score (rollno, paperid, marks, attendance)
 Students (admno, rollno, class, yearsem)

- b. . Create the above tables with the given specifications and constraints.
- c. Insert about 10 rows as are appropriate to solve the following queries.
- d. List the students who were present in a paper of a subject.
- e. List all roll numbers who have passed in first division.
- f. List all students in BCA-II who have scored higher than average
 - i) in your college ii) in every college
- g. List the highest score, average and minimum score in BCA-II
 - i) in your college ii) in every college

4. Using the following database

Colleges (cname, city, address, phone, afdate)
 Staffs (sid, sname, address, contacts)
 StaffJoins (sid, cname, dept, DOJ, post, salary)
 Teachings (sid, class, paperid, fsession, tsession)
 Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following -

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. List the names of the teachers teaching computer subjects.
- d. List the names and cities of all staff working in your college.
- e. List the names and cities of all staff working in your college who earn more than 15,000

5. Using the following database

Date: 27/4/19
 Name: Praveen
 Date: 27/4/19
 Date: 27/4/19
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 Date: 27-04-19

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Colleges (cname, city, address, phone, afdate)
 Staffs (sid, sname, saddress, contacts)
 StaffJoins (sid, cname, dept, DOJ, post, salary)
 Teachings (sid, class, paperid, fsession, tsession)
 Subjects (paperid, subject, paperno, papername)

- Find the staffs whose names start with 'M' or 'R' and ends with 'A' and/or 7 characters long.
- Find the staffs whose date of joining is 2005.
- Modify the database so that staff N1 now works in C2 college.
- List the names of subjects which T1 teaches in this session or all sessions.

6. Using the following database

Colleges (cname, city, address, phone, afdate)
 Staffs (sid, sname, saddress, contacts)
 StaffJoins (sid, cname, dept, DOJ, post, salary)
 Teachings (sid, class, paperid, fsession, tsession)
 Subjects (paperid, subject, paperno, papername)

- Find the classes that T1 do not teach at present session.
- Find the college who have most number of staffs.
- Find the staffs who earn a higher salary who earn greater than average salary of their college.
- Find the colleges whose average salary is more than average salary of C2
- Find the college that has the smallest payroll.
- Find the colleges where the total salary is greater than the average salary of all colleges.
- List maximum, average, minimum salary of each college

7. Using the following database

Colleges (cname, city, address, phone, afdate)
 Staffs (sid, sname, saddress, contacts)
 StaffJoins (sid, cname, dept, DOJ, post, salary)
 Teachings (sid, class, paperid, fsession, tsession)
 Subjects (paperid, subject, paperno, papername)

- Find the classes that T1 do not teach at present session
- List the names of the teachers, departments teaching in more than one departments.
- Acquire details of staffs by name in a college or each college.
- Find the names of staff who earn more than each staff of C2 college.
- Give all principals a 10% rise in salary unless their salary becomes greater than 20,000 in such case give 5% rise.
- Find all staff who donot work in same cities as the colleges they work,
- List names of employees in ascending order according to salary who are working in your college or all colleges.

8. Using the following database

Colleges (cname, city, address, phone, afdate)
 Staffs (sid, sname, saddress, contacts)
 StaffJoins (sid, cname, dept, DOJ, post, salary)
 Teachings (sid, class, paperid, fsession, tsession)
 Subjects (paperid, subject, paperno, papername)

- Find the classes that T1 do not teach at present session
- Create a view having fields sname, cname, dept, DOJ, and post
- Create a view consisting of cname, average salary and total salary of all staff in that college
- Select the colleges having highest and lowest average salary using above views.
- List the staff names of a department using above views.

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PRACTICAL WORK
BCA-209 - LAB VI: Operating System Lab

Scheme of Examination:-

1. Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows
Program 1 - 20
Program 2 - 20
Program 3 - 20
Viva - 25
[Practical Copy + Internal Record] - 15

Total - 100
2. In every program there should be comment for each coded line or block of code
3. Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
4. All the following programs or a similar type of programs should be prepared

List of Practical

1. Change your shell environment – path, home, ifs, mail, ps1, ps2, term, logname
 - i) at commandline
 - ii) at shell level
 - iii) at login level
2. Change the wallpaper, screensaver in GNOME, KDE
3. Install Linux with following specifications – username, password, partitions for various directories such as /etc, /home, etc
4. Add a user and password, change the password
5. Add & remove a group
6. Create partitions on your disk.
7. Install and configure (i) printer (ii) scanner

Using vi editor do the following exercises

1. In a file
 - i) replace the words 'has' with 'has not'
 - ii) Locate nth character
 - iii) Sort lines 21 to 40
2. In a file copy/cut and paste following text-
 - i) At ith line, n lines to jth line
 - ii) Yank a few words
 - iii) Cut and paste n words to ith position in lth line
2. Open two files 'txtfile' and 'newfile' and copy/cut 5 lines from txtfile and paste them in newfile using vi editor.
3. Open 'txtfile' and copy/cut following and paste to the 'newfile'
 - i) ith to the last line in it
5. Create macro
 - ii) to paste your name at any position in the file.
 - iii) to map the Ist function key to search for "loop" and copy into the buffer 'a' all text following it up to but not including the string "end".
 - iv) to remove all leading spaces in a file
 - v) to save and quit vi editor in input mode

Write commands

- i. List all files that match a class

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- ii. List all files that do not match a class.
- iii. Change the file permissions
- iv. Configure or set characteristics of your terminal. Describe any 3.
- v. Display the lines in a file that contain a particular word.
- vi. Append the contents of two files in a file JABC.
- vii. Count the number of files in a directory.

Write shell programs

- i. Display all the users currently logged in detail with column headers.
- ii. List all files in current directory and save the list in a file ABC. Also save the contents of the files in ABC and display the contents in ABC in sorted order.
- iii. Sort the contents of a file ABC and save it in OABC.
- iv. Display all the users currently logged in detail with column headers.
- v. To save current date & time, number of files & directories in the current directory and contents of all the files to a single file NFL.
- vi. To input a number and test whether it is +ve, -ve or zero.
- vii. To test whether a filename is a regular file or a directory or of other type.
- viii. To list only the directories in current path.
- ix. To print the greatest of three numbers.
- x. To print 12 terms of Fibonacci series.
- xi. To display all users currently logged in & also check a particular user every 30 seconds until he logs in.
- xii. To save current date & time, number of files in the current directory and contents of all the files matching a pattern to a single file NPFL.
- xiii. To display particular messages depending on the weekday.
- xiv. To display common messages for following group of days-Monday & Wednesday, Tuesday & Thursday and Friday & Saturday and other day.
- xv. To accept a string from the terminal and echo a suitable message if it doesn't have at least 9 characters.
- xvi. Write a Shell Script to find the factorial of a number.
- xvii. Write a Shell Script to swap two numbers using third variable.
- xviii. Write a Shell Script to print prime numbers between 1 to 20.
- xix. Write a Shell Script to greatest of three numbers.
- xx. Write a Shell Script to sort the contents of a file XYZ and save it in BCAll
- xxi. Write a Shell Script to display mathematical table of any number in the format $E x : -3 * 1 = 3$.

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 Sate 27-4-19
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**SCHEME OF EXAMINATION 2020-2021
BCA PART- III**

Subject Code	Subject Paper	Theory Marks		Internal Marks		Teaching Load per Week		
		Max. (A)	Min. (B)	Max. (C)	Min. (D)	L	T	P
BCA301	Statistical Analysis	80	27	20	8	4	2	-
BCA302	Programming in Java	80	27	20	8	4	2	-
BCA303	Dot Net Technology	80	27	20	8	4	2	-
BCA304	Software Engineering	80	27	20	8	4	2	-
BCA305	Data Structure	80	27	20	8	4	2	-
BCA306	Computer System Architecture	80	27	20	8	4	2	-
BCA307	LAB VII: Programming Lab in Java	100	50	40	16	-	-	3x2
BCA308	LAB VIII: Dot Net Technology Lab	100	50	40	16	-	-	2x2
BCA309	Project	100	50	20	8	-	-	1x2
TOTAL		780	312	220	88			
GRAND TOTAL	(PAPER + INTERNAL)	(A+C) 1000		(B+D) 400				

- Student will have to pass individually in all theory, practical and sessional

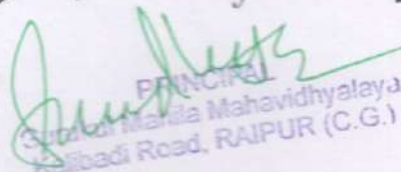
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Statistical Analysis
Subject Code - BCA-301

Max Marks : 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT-I

COMBINATORICS: Permutation and Combination, Repetition and Constrained Repetition, Binomial Coefficients, Binomial Theorem.

UNIT-II

Frequency distributions, Histograms and frequency polygons, Measures of central tendency: Mean, Mode, Median, Dispersion, Mean deviation and standard deviation. Moments, Skewness, kurtosis,

UNIT-III

Elementary probability theory: Definition, conditional probability, Probability distribution, mathematical expectation

Theoretical distribution: Binomial, Poisson and Normal distribution, Relation between the binomial, poisoned Normal distribution.

UNIT-IV

Correlation and Regression: Linear Correlation, Measure of Correlation, Least Square Regression lines.

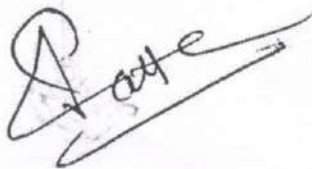
Curve fitting: Method of least square, least square line, least squares Parabola. Chi-square test: definition of chi-square; signification test: contingency test, coefficient of contingency.

UNIT-V

Basic of sampling theory: Sample mean and variance, students t-test, test of Hypotheses and significance, degree of freedom, Z-test, small and large sampling, Introduction to Monte Carlo method.

TEXT BOOKS:

1. Advanced Engineering Mathematics: H.K. Dass; S. Chand & Co., 9 Revised Edition, 2001.
2. Discrete Mathematics: S.K. Sarkar; S. Chand & Co., 2000.
3. Numerical Analysis: S.S. Sastry; Prentice Hall of India, 1998.
4. Mathematical Statistics: J.N. Kapoor and H.C. Saxena.
5. Mathematical Statistics: M. Ray and H. Sharma








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Programming in Java
Subject Code - BCA-302

Max Marks : 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT - I

Introduction: Genesis of java, importance to the Internet, overview of features. **OOP :** OOP features, data types, control structures, arrays, methods and classes, nested & inner classes, string and String Buffer class, Wrapper Class, vectors,

UNIT-II

Operators: Arithmetic Operators, Relational Operators, Logical Operators, Bit wise Operators, Conditional Operators, new operator, [] and instance of operator. **Control Statements:** Java's Selection statement, Iteration Statement, Jump Statement, **Array:** Declaring Array variables, Constructing an Array, Initializing an Array, Multidimensional Arrays, Anonymous Arrays.

UNIT - III

Introducing Classes: Class Fundamentals, Declaring Object, Assigning Object Reference Variables, Defining Methods, method overloading, Using objects as parameter, Constructors, Garbage collection, finalize () method. **Inheritance:** Inheritance basic, method overloading, object reference this and super, Chaining constructor using this () and super (), Member accessibility modifier: public, protected, default accessibility of member, private protected, private.

UNIT - IV

Package: Define package, CLASSPATH, importing package, **Interface:** Define an interface, implementing interface, extending interface, variable in interface, Overview of nested class: Top level nested class and interface, Non static inner class, Local class.
Exception Handling : Fundamental: exception types, using try and catch, throwing exceptions, defined exceptions.

UNIT-V

Multithreaded Programming : Java spread model, creating threads, and thread priorities, synchronization. Suspending resuming and stopping threads. **Input/Output:** Basic Streams, Byte and Character Stream, predefined streams, reading and writing from console and files. Using standard Java Packages (lang,util,io), **JDBC:** Setting the JDBC connectivity with backend database.

BOOKS RECOMMENDED :

1. The Complete Reference Java 2
2. A Programmer Guide to Java
3. Web Enabled Commercial Application Java 2
4. Java Primer
5. Java Programming

- Herbert Schildt, Publisher- TMH
- Khlid A. Mughal, R.W. Rasmussen.
- Ivan Bayross Publisher- B.P.B
- by E.Balaguruswami
- Khalid Mughal

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Anukul Mishra Mahavidyalaya
Kalibadi Road, RAIPUR (C.G.)

Dot Net Technology
BCA 303

Min Marks : 27

Max Marks : 80

Note : The Question Paper Setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT-I Inside the .Net Framework

Overview of .Net framework, Features of .Net, CLR, Common Language Specification, JIT compilation, MSIL, Namespace, FCL, Assemblies, Common Type System, Cross Language, Interoperability, Garbage Collection.

UNIT- II Programming with VB.Net

Data types, Variables, Constant, Type Conversions, Operators, Control Structure : Conditional Statement, loops(do loop, for loop, while loop, for Each...Next loop), arrays, Declaring arrays and dynamic arrays, Types, Structure, Enumeration, Sub Procedure, Functions.

Unit- III Windows Form:

Windows Form: Working with visual Studio IDE, Creating a .Net Solution, simple forms, MDI forms, windows forms: Control class, TextBox, Richtextboxes, Labels, Button, Checkbox, Radio Button, Panels, Group box, Listbox , Checked list box, Combobox , Picture box, Scrollbar, Timer, Trackbar, Progress bar. MsgBox Function, Message Box. Show Method, Input Box function, Creating MDI application. Menus, creating Menu, sub menu Items, Context Menu.

Unit- IV OOPS concept

Class and objects, creating classes, objects, creating data member, creating class shared data member, shared methods, shared properties, overloading methods and properties, with statement, constructor, Destructor(using finalize method), Inheritance, overriding base class member, inheriting constructor, overloading base class member.

Unit- V Database Programming

Database concept, ADO.net Architecture, .Net Data Provider(Connection class: OleDbConnection, SqlConnection, Command class : SqlCommand class, OleDbCommand class, DataAdapter class, DataReader class), Dataset Component, Creating Database application using windows forms(DB connectivity through ADO.Net), accessing data from database, navigate in data, working with Data Grid.

BOOKS RECOMENDED:

- MSDN online – By Microsoft.
- Visual Basic .NET Complete – BPB Publications, New Delhi.
- The Complete Reference VB. NET – Jeffery R. Shapiro, Tata McGraw Hill.
- Visual Basic .NET Programming Black Book – Steven Holzner by Dreamtech Press.

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Software Engineering
Subject Code - BCA-304

Max Marks : 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT - I

Software Engineering Fundamentals: Definition of software product; software development paradigms; software engineering; knowledge engineering and end user development approaches.
Software Analysis:

Abstraction; partitioning and projection; system specification; software requirements specification (SRS) standards; formal specification method; specification tools; flow based, data based and object orientated analysis.

UNIT - II

Systems Design: Idealised and constrained design; process oriented design (Gane and Sarson and Yourdon notations); data oriented design (Warnier - (Orr, E-r modeling); Object oriented design (Booch approach); Cohesion and coupling; Design metrics; design documentation standards.

UNIT - III

Role of Case Tools: Relevance of case tools; High-end and low-end case tools; Automated support for data dictionaries, data flow diagrams, entity relationship diagrams. **Coding And Programming:** Choice of programming languages; mixed language programming and call semantics; Re-engineering legacy systems; coding standard.

UNIT - IV

Software Quality And Testing: Software quality assurance; types of software testing (white box, black box, unit, integration, validation, system etc); debugging and reliability analysis; program complexity analysis; software quality and metrics; software maturity model and extensions. Software cost and Time estimation. Functions points; issues in software cost estimation; introduction to the Rayleigh curve³; algorithmic cost model (COCOMO, Putnam-slim, Watson and felix).

UNIT - V

Software Project Management: Planning software projects; work background structures; integrating software, software design and project planning; software project teams; project monitoring and controls.

RECOMENDED BOOKS:

1. Software Engineering: A Practitioner's Approach - by Essman Roger, Tata McGraw Hill
2. An Integrated approach to Software Engineering - by Jalote Pankaj, Narosa: New Delhi.

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Data Structure
Subject Code - BCA-305

Max Marks : 80

Min Marks : 27

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT - I INTRODUCTION -

Introduction, Basic terminology, Elementary data organization, Data structure, Data structure operation, Algorithms: complexity, time-space Tradeoff. Mathematical Notation and functions, Algorithmic Notation

UNIT - II
CONCEPTS OF ARRAYS, RECORDS AND POINTERS -

Basic Terminology, Linear Array; Single Dimensional Array, Multidimensional Array, Static Array, Dynamic Array; Pointers: Introduction of Pointer, Records: Record Structures.

UNIT - III
LINKED LISTS, STACKS, QUEUES, RECURSION -

Link lists, Traversing a linked list, searching a linked list; Insertion into a linked List, Deletion from a Linked List, Stacks, Array Representation of Stack; Queues.

UNIT - IV
TREES -

Binary Trees, Representing Binary Trees in Memory, Traversing binary tree, Traversal Algorithms using stacks, header nodes; threads, Binary Search Tree, Searching and Inserting in Binary Search Tree, Deleting in Binary Search tree

UNIT - V
SORTING AND SEARCHING -

Sorting: Bubble Sort, Quick Sort, Insertion Sort, Selection Sort, Merge Sort; Searching: Linear Search, Binary Search, Searching and data modification, Introduction to hashing.

BOOKS RECOMMENDED :

1. Data Structure
2. Data Structure & Program Design

- Seymour Lipschutz (Schaum's Series).
- Robert L. Kruse, 3rd Ed., Prentice Hall.

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Computer System Architecture
Subject Code - BCA-306

Min Marks : 27

Max Marks : 80

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT I

Data Representation – Data Types, Number System, Fixed Point Representation – 1's, 2's complements, Binary Fixed point representation, Arithmetic operation on Binary operation, Overflow & Underflow, Codes, ASCII, EBCDIC codes, Grey codes, Excess-3, BCD codes, Error detection & correcting codes.

UNIT II

Digital Logic Circuits – Logic Gates AND, OR, NOT, Gates & their truth tables, NOR, NAND & XOR Gates, Boolean algebra, Basic Boolean Law, Demorgan's theorem, Map Simplification, Minimizing technique, K Map, Sum of products, Product of sums, Combinational & sequential Circuits Half adder & Full adder, Full Subtractor, Flip Flop – RS, D, JK & T Flip Flop, Shift register, RAM & ROM.

UNIT III

CPU organization, ALU & control circuit, Idea about arithmetic circuits, Program control, Instruction sequencing, Introduction to Microprocessor, System buses, Registers, Program counter, Block diagram of a Macro computer system, Microprocessor control signals, Interfacing Devices, Introduction to Motherboard, SMPS

UNIT IV

Input output organization, I/O Interface, Properties of simple I/O devices and their Controller, Isolated versus Memory mapped I/O, Modes of Data transfer, Synchronous & Asynchronous Data Transfer, Handshaking, Asynchronous serial transfer, I/O processor

UNIT V

Auxiliary memory - Magnetic drum, Disk & Tape, Semi conductor memories, Memory Hierarchy, Associative memory, Virtual memory, address space & memory space, Address mapping, Page table, Page replacement, cache memory, Hit ratio, Mapping Techniques, Writing into cache.

REFERENCE:

1. Computer System architecture – M. Moris Mano
2. Computer Architecture and Organization – Nicholas P Carter, Schaum's Outlines
3. Computer Organization and Architecture – William Stallings

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Date

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PRACTICAL WORK BCA-307 Programming Lab in Java

1. **Scheme of Examination:-** Practical examination will be of 3 hours duration. The distribution of

practical marks will be as follows:

Programme 1	-20
Programme 2	-20
Programme 3	-20
Viva	-20
Practical Copy + Internal Record	-20
Total -100	

2. In every program there should be comment for each coded line or block of code
3. Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
4. All the following programs or a similar type of programs should be prepared

List of Practical

1. WAP that implements the Concept of Encapsulation.
2. WAP to demonstrate concept of function overloading of Polymorphism.
3. WAP to demonstrate concept of construction overloading of Polymorphism.
4. WAP the use boolean data type and print the Prime number Series up to 50.
5. WAP to print first 10 number of the following Series using Do-While Loops 0, 1, 1, 2, 3, 5, 8, 11...
6. WAP to check the given number is Armstrong or not.
7. WAP to find the factorial of any given number.
8. WAP to sort the element of One Dimensional Array in Ascending order.
9. WAP for matrix multiplication using input/output Stream.
10. WAP for matrix addition using input/output stream class.
11. WAP for matrix transposes using input/output stream class.
12. WAP to add the elements of Vector as arguments of main method (Run time) and rearrange them, and copy it into an Array.
13. WAP to check that the given String is palindrome or not.
14. WAP to arrange the String in alphabetical order.
15. WAP for StringBuffer class which perform the all methods of that class.
16. WAP to calculate Simple Interest using the Wrapper Class.
17. WAP to calculate Area of various geometrical figures using the abstract class.
18. WAP where Single class implements more than one interfaces and with help of interface reference variable user call the methods.
19. WAP that use the multiple catch statements within the try-catch mechanism.
20. WAP where user will create a self-Exception using the "throw" keyword.
21. WAP for multithread using the isAlive(), join() and synchronized() methods of Thread class.
22. WAP to create a package using command and one package will import another package.
23. WAP for JDBC to insert the values into the existing table by using prepared Statement.
24. WAP for JDBC to display the records from the existing table.
25. WAP for demonstration of switch statement, continue and break.

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BCA308- LAB VII: Dot Net Technology Lab

1. Scheme of Examination :-

Practical Examination will be of 3 hours duration. The distribution of practical marks is as follows:

Program1	-	20
Program2	-	20
Program3	-	20
Viva-20		
[Practical Record + Internal Record]	-	20
Total		100

List of Practical

1. Write a program to find maximum between three numbers.
2. Write a program to check whether a number is negative, positive or zero.
3. Write a program to check whether a year is leap year or not.
4. Write a program to check whether a character is alphabet or not.
5. Write a program to find all roots of a quadratic equation
6. Design an application to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:
Percentage $\geq 90\%$: Grade A
Percentage $\geq 80\%$: Grade B
Percentage $\geq 70\%$: Grade C
Percentage $\geq 60\%$: Grade D
Percentage $\geq 40\%$: Grade E
Percentage $< 40\%$: Grade F
7. Design an application to input basic salary of an employee and calculate its Gross salary according to following:
Basic Salary ≤ 10000 : HRA = 20%, DA = 80%
Basic Salary ≤ 20000 : HRA = 25%, DA = 90%
Basic Salary > 20000 : HRA = 30%, DA = 95%
8. Design an application to input electricity unit charges and calculate total electricity bill according to the given condition:
For first 50 units Rs. 0.50/unit
For next 100 units Rs. 0.75/unit
For next 100 units Rs. 1.20/unit
For unit above 250 Rs. 1.50/unit
An additional surcharge of 20% is added to the bill
9. Write a program to convert decimal to binary number system using bitwise operator.
10. Write a program to swap two numbers using bitwise operator
11. Write a program to create Simple Calculator using select case.
12. Write a program to find sum of all natural numbers between 1 to n
13. Write a program to find first and last digit of any number
14. Write a program to enter any number and print its reverse.

Arise

Arise

Arise

Arise

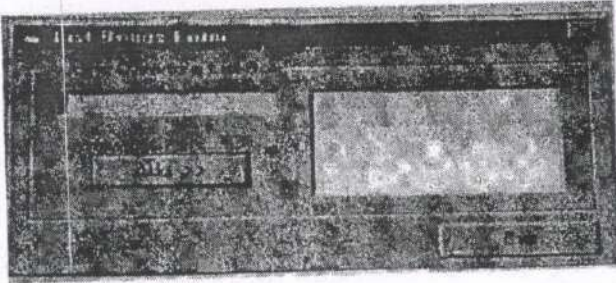
Arise

Practical Record
Dr. K. S. Mahapatra
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15. Write a program to enter any number and check whether the number is palindrome or not.
16. Write a program to check whether a number is Armstrong number or not.
17. Write a program to print Fibonacci series up to n terms.
18. Write a program to print Pascal triangle upto n rows.
19. Write a program to print all negative elements in an array.
20. Design a digital clock using timer control.



21. Design an application that accepts the item name from the user and add it to a listbox and combobox.



22. Create an application that offers various food items to select from check boxes and a mode of payment using radio button. It then display the total amount payable.
23. Create an application to implement the working of Context menu on textbox.
24. WAP to illustrate all functionalities of listbox and combobox.
25. WAP using checkboxes for the following font effects.
 - Bold
 - Italic
 - Underline
 - Increase Font size
 - Decrease Font size
 - Font Color
25. WAP for temperature conversion using radiobutton.
26. WAP to launch a rocket using PictureBox and Timer control.
27. WAP to change the back color of any control using scrollbar.
28. WAP to search an element for one dimensional array.

Dr. Anand

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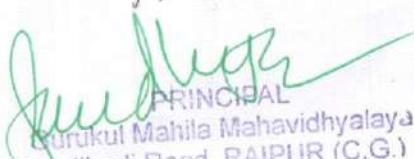
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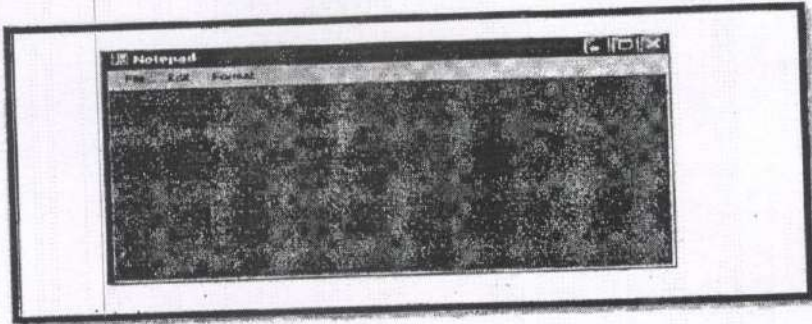
29. Design a menu such that it contain submenu such as Addition, Subtraction, Scalar Multiplication, Multiplication, Transpose of two metrics.
30. WAP to find greatest among three given number using user define procedures.
31. WAP to calculate factorial of a number using user define procedure.
32. WAP to check whether given number is neon or not using user define function.
33. WAP to check whether a given number is Niven or not using procedure.
34. WAP to check whether a given number is duck number or not.
35. WAP to check whether a given number is spy number or not.
36. WAP to check whether a given number .
37. Design the following application using radiobutton and checkbox :

38. Design an application to Create the Payroll form shown below. Number of hours must be entered as well as the appropriate rate.
 $Gross\ salary = rate * hours.$
 $Net\ salary = gross\ salary - deductions.$

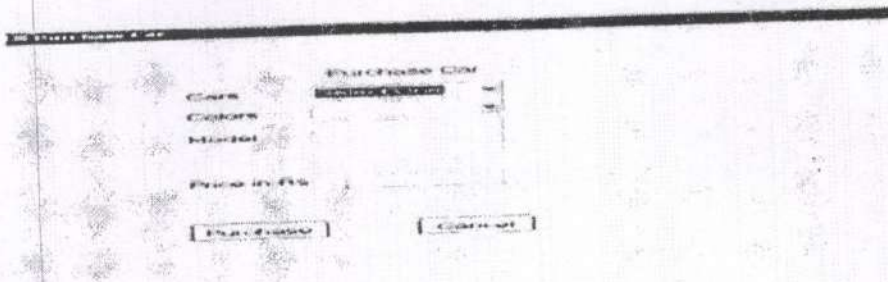
39. Develop an application which is similar to notepad using menus.

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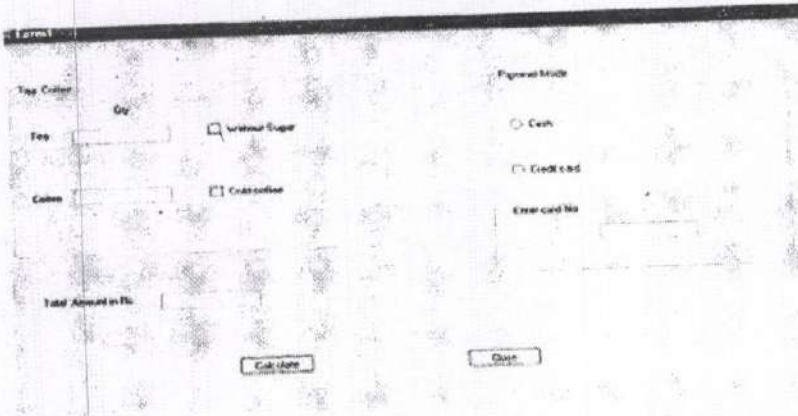

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40. Develop an application for facilitating purchasing order



41. Develop an application for billing system in coffee shop



42. Develop an application which is similar to login form

Dr. P. Datta

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Windows Explorer

User Name:

Password:

43. Define a Class 'ACCOUNT'. Include following Data members: Name of depositor, Account no, type of Account, balance amount. Member Functions: To Deposit an amount, to withdraw an amount after checking balance, to show balance. Also provide proper validations wherever necessary. Write a main program to test above class.
44. Develop a project which displays the student information in the relevant fields from the database which already exists.

Form1

ID:

Name:

Qualification:

Grade:

45. Define structure student. Structure student has data members for storing name, rollno, name of three subjects and marks. Write member function to store and print data.
46. Write a class having name Calculate that uses static overloaded function to calculate area of circle, area of rectangle and area of triangle.
47. Create a class account that stores customer name, account number and type of account. From this derive the classes cur_acct and sav_acct to make them more specific to their requirements. Include necessary member functions in order to achieve the following tasks:
- Accept deposit from customer.
 - Display the balance
 - Computer and deposit interest.

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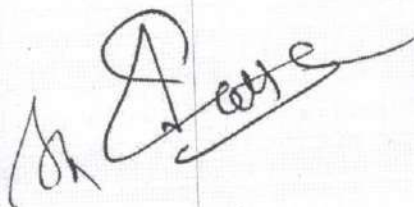
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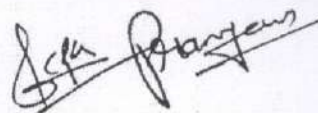
- d) Permit withdrawal and update the balance.
e) Check for the minimum balance, impose penalty, necessary and update the balance.
48. Create a class circle with data member radius; provide member function to calculate area. Derive a class sphere from class circle; provide member function to calculate volume. Derive class cylinder from class sphere with additional data member for height and member function to calculate volume.
49. Consider an example of declaring the examination result. Design three classes:- student, exam and result. The student class has data members such as that representing roll number, name of student. Create the class exam, which contains data members representing name of subject, minimum marks, maximum marks, obtained marks for three subjects. Derive class result from both student and exam classes. Test the result class in main function.
50. WAP that implements the Concept of Encapsulation.
51. WAP to demonstrate concept of Polymorphism (function Overloading and constructor Overloading).
52. Create a class Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare an object of class student. Provide facilities to input data in data members and display result of student.
53. Create a class Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of object to hold data of 3 students. Provide facilities to display result of all students. Provide also facility to display result of specific student whose roll number is given.
54. Create a class array having an array of integers having 5 elements as data member provide following facilities:
a) Constructor to get number in array elements.
b) Sort the elements.
c) Find largest element
d) Search for presence of particular value in array element.
55. WAP to display records of a table using dataadapter and code for buttons to move at first record, next record, previous record, last record in the table.
56. Create a table for employee and write a program using Dataset to add, delete, edit & navigate records.
57. WAP to access a database using ADO.net & display a key column in the combo box or list box when an item is selected in it, its corresponding records is shown in Datagridcontrol.













PPSC
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SCHEME OF TEACHING AND EXAMINATIONS
P.G.D.C.A. (Post Graduate Diploma in Computer Applications)

FIRST SEMESTER

Subject Code	SUBJECTS	Teaching Load Per Week			Examination Marks							
		L	T	P	Max. Marks				Min. Marks			
					Th	Ses	Pr	Total	Th	Ses	Pr	Total
PGDCA101	Fundamentals of Computers	3	2	-	80	20	-	100	20	13	-	33
PGDCA102	Office Automation and Tally	3	2	-	80	20	-	100	20	13	-	33
PGDCA103	Programming in C	3	2	-	80	20	-	100	20	13	-	33
PGDCA104	Practical based on PGDCA-102	-	-	3x2	-	-	100	100	-	-	40	40
PGDCA105	Practical based on PGDCA-103	-	-	3x2	-	-	100	100	-	-	40	40
	TOTAL	9	6	12	240	60	200	500	60	39	80	179

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Jogeshwar

PGDCA
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PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR (C.G.)

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION, 2020-2021
[DURATION – ONE YEAR – FULL TIME]

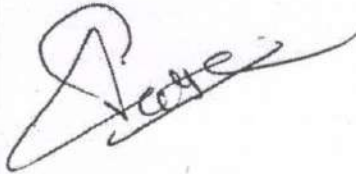
The duration of the course shall be one year consisting of two semesters. There shall be three theories and two practical courses in the each semester.

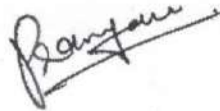
FIRST SEMESTER

- PGDCA-101 : Fundamentals of Computers.**
- PGDCA-102 : Office Automation and Tally.**
- PGDCA-103 : Programming in C**
- PGDCA-104 : Practical based on PGDCA-102.**
- PGDCA-105 : Practical based on PGDCA-103.**

Second Semester

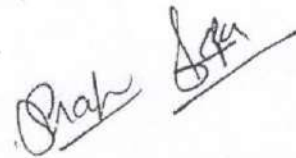
- PGDCA-106 : Programming in VB .Net**
- PGDCA-107 : Database Management Systems.**
- PGDCA-108 : Internet and Web Technology.**
- PGDCA-109 : Practical based on PGDCA106**
- PGDCA-110 : Practical based on PGDCA107 and PGDCA-108**












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FUNDAMENTALS OF COMPUTERS

UNIT - I Introduction to Computers

Computer system: characteristics and capabilities. **Computer Hardware and Software:** Block Diagram of a Computer, Different Data Processing: Data, Data Processing System, Storing Data, Processing Data. **Types of Computers:** Analogue, Digital, Hybrid, General and Special Purpose Computers. **Generation of Computers.**

UNIT - II Computer Peripherals

Introduction to Input Devices: Categorizing Input Hardware, Keyboard, Direct Entry - Card Readers, Scanning Devices - O.M.R., Character Readers, Thumb Scanner, MICR, Smart Cards, Voice Input Devices, Pointing Devices - Mouse, Light Pen, Touch Screen. **Computer Output:** Output Fundamentals, Hardcopy Output Devices, Impact Printers, Non-Impact Printers, Plotters, Computer output Microfilm/Microfiche (COM) systems, Softcopy Output Devices, Cathode Ray Tube, Flat Screen Technologies, Projectors, Speakers.

UNIT - III Basic Components & Storage

Central Processing Unit: The Microprocessor, control unit, A.L.U., Registers, Buses, Main Memory, Main Memory (RAM) for microcomputers, Read Only Memory(ROM). **Storage Devices:** Storage Fundamentals, Primary and Secondary Storage, Data Storage and Retrieval Methods - Sequential, Direct & Indexed Sequential, Tape Storage and Retrieval Methods Tape storage Devices, characteristics and limitations, Direct access Storage and Microcomputers - Hard Disks, Disk Cartridges, Direct Access Storage Devices for large Computer systems, Mass storage systems and Optical Disks, CD ROM.

UNIT - IV Computer Software & Languages

System Software: System software Vs. Application Software, Types of System Software, Introduction and Types of Operating Systems. Boot Loader, Diagnostic Programs, BIOS, Utility Programs. **Application Software:** Microcomputer Software, Interacting with the System, Trends in PC software, Types of Application Software, Difference between Program and Packages. **Computer Languages:** Definition, Generations of computer languages, Types of Languages, Language Processors: Assembler, Interpreter, Compiler.

UNIT - V: Operating System and Linux

Introduction, Uses of OS, Functions of OS, Booting process, Types of Reboot, Booting from different OS, Types of OS, DOS, Windows, Linux Open source Software concept and evolution of Linux; Features of Multi-User Operating System; Structure of Linux OS; Security Features of Linux, File System, Directory Structure and related commands. Linux Editors & editor commands, Linux commands cd, md, rm, mv, cp, ls, cat, find, grep.

Books Recommended:

1. Computer Fundamentals, P. K. Sinha, BPB Publications, Sixth Edition.
2. Introduction to Information Technology, V. Rajaraman, PHI, Second Edition.
3. Operating System Concepts, Silberchartz, Galvin and Gagne, Wiley India Edition
4. Unix Concepts and Applications, Sumitabha Das, McGraw hill

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OFFICE AUTOMATION AND TALLY

UNIT - I Using Office with MS-Word

Introduction to word processing software and its features, Creating new document, Saving documents, Opening and printing documents. **Home Tab:** Setting fonts, Paragraph settings, various styles (Normal, No spacing, Heading1, Heading2, Title, Strong), Find & replace, Format painter, Copy paste and paste special. **Insert Tab:** Pages, Tables, pictures, clipart, shapes, header & footer, word art, equation and symbols. **Page Layout Tab:** Page setup, page Background, Paragraph (indent and spacing). **Mailing Tab:** Create envelopes and Labels, Mail merge. **Review Tab:** Spelling and grammar check, New comment, Protect document, **View Tab:** Document views, Zoom, Window (New window, Split, Switch window).

UNIT - II Working with MS-Excel

Introducing Excel, Use of excel sheet, Creating new sheet, Saving, Opening, and printing workbook. **Home Tab:** Font, Alignment, Number, Styles and cells and editing, Conditional Formatting. **Insert Tab:** Table, Charts (column chart, Pie chart, Bar chart, Line chart) and Texts (header & footer, word art, signature line). **Page Layout Tab :** Page setup options, Scale to fit(width, height, scale). **Formulas Tab :** Autosum (sum, average, min, max), logical(IF, and ,or ,not ,true, false), Math & trig (sin, cos, tan, ceiling, floor, fact, mod, log), watch window. **Data Tab:** Get external data from MS Access, Sort and filter options , Data validation, Group and ungroup. **Review Tab:** Protect sheet, Protect workbook, Share workbook. **View Tab:** Page breaks, Page layout, Freezing panes, Split and hide.

UNIT - III Working with MS-PowerPoint

Introducing power point, Use of power point presentation, Creating new slides saving, Opening and printing. **Home Tab:** New slide, Layout, Reset, Delete, Setting text direction, Align text, Convert to smart art, Drawing options. **Insert Tab:** Table, picture, clipart, photo album, smart art, shapes and chart, movie and sound, hyperlink and action, text box , word art, object. **Design Tab:** Page setup options, slide orientation, applying various themes, selecting background style and formatting it. **Animations Tab:** Custom animation for entrance, exit and emphasis, applying slide transition, setting transition speed and sound, animation on rehears timing. **Slide show &view Tab:** Start slid show options, setup options. **View tab:** Presentation views, colours and window option.

UNIT - IV Working with MS-Access

Front end and back end of application, Introduction to DBMS, Features of DBMS, Creating blank databases, saving it in accdb format. Defining data types in ms access. **Home Tab:** Datasheet view, design vew, pivot chart view, pivot table view, sort and filter options. **Create Tab:** Creating tables, Creating reports, Query wizard. **External Data Tab:** importing data from access and excel sheet, exporting data to excel and ms word. **Datasheet Tab:** Relationships, Fields and columns options, Data type and formatting options.

UNIT - V Tally

Setting up Ledger & Groups. Study of recording of transactions in the 'Voucher'. (According to Golden rules). Study of 'Final A/C preparation & displaying in different mode/format'. Study of alteration & Deletion of ledger/Groups. Study of cash & fund flow, day book, sales register, purchase register, bills receivable/Payable etc. Study of data security & backing up data. Outline of entry for Income Tax, ED, VAT, ST/CST, PF, Gratuity, Bonus, Loans & Depreciation etc.

Books Recommended:

1. The Big Basics Book of MS-OFFICE by Fulton, et al.
2. Computerised Accounting - Tally ERP9 - by Prof. K.K.Tomy - MG University

Dr. P. K. Singh

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PROGRAMMING IN C

UNIT – I: Introduction:

Introduction Character set, Identifiers and Keywords, Variables, Displaying variables, Reading Variables, Character and Character String, Qualifiers, Type define Statements, Value initialized variables, Constants, Constant Qualifier, Operators and Expressions, Operator Precedence and Associativity, Basic input output: Single Character I/O, General Outputs, Types of Characters in format string, Scanf with specifiers, Searchset Arrangements and Suppression Character, Format Specifiers for scanf.

UNIT – II: Control Structures & Functions:

Control Structure: if-statement, if-else statement, multiple decisions, nested if statements, switch statement, for-loop, while-loop, do-while loop, break statement, continue statement, goto statement.

Functions: The main function, functions accepting more than one parameter, User defined and library functions, Concept associatively with functions, function parameter, Return value, recursion comparisons of Iteration and recursion variable length argument list.

UNIT – III: Arrays & Pointes:

Scope and Extent, Arrays, Strings, Multidimensional Arrays, Strings, Array of Strings, Function in String, Pointers: Definition and use of pointer, address operator, pointer variable, referencing pointer, void pointers, pointer arithmetic, pointer to pointer, pointer and arrays, passing arrays to functions, pointer and functions, accessing array inside functions, pointers and two dimensional arrays, array of pointers, pointers constants, pointer and strings.

UNIT – IV: Structure and Union:

Declaring and using Structure, Structure initialization, Structure within Structure, Operations on Structures, Array of Structure, Array within Structure, Creating user defined data type, pointer to Structure and function. Union, difference between Union and Structure, Operations on Union, Scope of Union.

UNIT – V: Dynamic Memory Allocation and File Handling:

Dynamic Memory Allocation: Library functions for Dynamic memory allocation, Dynamic Multi-Dimensional arrays.

File Handling: - Introduction, Structure, File handling, Functions file types, Un-buffered and buffered file, Error handling.

Recommended Books:

- | | |
|---------------------|----------------------|
| 1. Let Us C | - Yashwant Kanetkar. |
| 2. Programming in C | - E. Balagurusamy |

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PGDCA-104: Practical based on PGDCA-102

1. Scheme of Examination: -

Practical examination will be of 3 hours duration. The distribution of practical marks is as follows:

Program 1 (MS-Office)	-	15
Program 2 (MS-Office)	-	15
Program 3 (MS-Office)	-	15
Program 4 (Tally)	-	15
Viva-Voice	-	20
[Practical Copy + Internal Record]	-	20
Total	-	100

2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

4 All the following programs or a similar type of programs should be prepared.

List of Practical

MS- WORD

File New, Open, Save, Cut, Copy, Paste, Drag Drop, Bullets and Numbering, Undo, Redo, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

1. Open a document. Type the following text and perform the tasks as instructed below:-

Working with Word Processor

As already mentioned, a word processor is a package that processes textual matter and creates organized and flawless documents. In addition to it a word processor not only remove all the limitations of typewriter but also offers various useful features that cannot be even dreamt of with typewriter.

Also if same textual matter is to be reproduced with minor changes, retyping the only option in typewriters.

The word processing (and word processor) originated way back in 1964 when special typewriters. Magnetic Tape Selectric typewriters (MIST) were launched by IBM (International Business Machines).

(i) Insert the following text after the first paragraph

The main components of a word processing system are listed below:

a. Computer

b. Printer

c. A word processing software

(ii) Save the document as Word1.doc

(iii) Move the second paragraph to the end of the document. Using drag & drop.

(iv) Move the second paragraph in the end of the document using cut, paste operations.

(v) Undo the above actions.

(vi) Now use Redo actions

(vii) Go to the End of the document (in one step)

(viii) Go to the Beginning of document (in one step)

(ix) Insert page break before the third paragraph.

(x) Search the word "computer: in your document with options Match case, find

whole words only.

(xi) Replace the word "typewriters" with "word processor"

(xii) Undo the above action

(xiii) Remove All page breaks from your document

(xiv) Change the magnification of your document to different percentages using

zoom features.

Date

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- (xv) Format the above written paragraphs and give the options as follows:
- Alignment justified
 - Indentation: left 0.2 right:0.2
 - Spacing: before 6 pt. after:6 pt.
 - Special: first line by :0.4"
 - Line spacing 1.5 lines.
- (xvi) Set the default tab stop to 0.3"
- (xvii) Set the margins to 1.25
- (xviii) Format the page using
- a. Left margin:0.5, right margin: 0.5
 - b. Top margin:1.5, bottom margin:0.5
 - c. Gutter Margin: 1 indentation: left 0.2 right:0.2
 - d. Header Margin:0.5
- (xix) Format the each occurrence of group of words 'Word Processor' as bold, italic, under line and small caps using find and replace with formatting options.
- (xx) Align the heading to Center and make it bold, underlined and italicized.

File New, Open, Save, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

2. Type the text as show below and perform the tasks as directed:

Computers

COMPUTER is an electronic device that processes data and gives meaningful information. Computers are being used in almost all the fields today

EXPERT SYSTEMS

HUMAN THINKING AND ARTIFICIAL INTELLIGENCE

Can computer think?

AI at work Today: Natural Language programs and Expert Systems.

THE IMPACT OF COMPUTERS ON PEOPLE

The Positive Impact

The Potential Dangers

THE IMPACT OF COMPUTERS ON ORGANIZATIONS

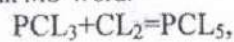
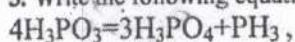
The information Processing Industry

The Positive impact on Using Organizations

The Potential Dangers for Using Organizations

1. Search for the word 'Computer' in the entire document. All the occurrences of the given word are to be searched irrespective of the case.
2. In the above question note that word also searches 'computerization and 'computerisations'. Now make sure that this time Word searches only for the word 'computer' in the entire document.
3. Change the entire uppercase letter to lowercase.
4. Give a heading to the above written text 'COMPUTERS IN TODAY'S WORLD'
5. Centre aligns the Heading text Computer that appears in first line.
6. Apply outside border to entire document.
7. Apply outside border to the just heading text.
8. Change page setup according to the following specifications
Top margin: 1.5", bottom margin: 1.5"
Gutter: 1", left margin: 1.5"
Right margin: 1"
Page width: 7.5", page height: 6.5 "
Orientation: portrait
9. Give a header 'Creations' and footer 'The school of computing'. The footer should also consist of page no's.
10. Give appropriate commands for giving different header and footers for first page and odd & even pages.
11. Save and close the document.

3. Write the following equations in MS-Word:



$(x+y)^2=x^2+y^2+2xy$

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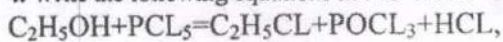
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4. Write the following equations in MS-Word:



$$A = \pi r^2,$$

$$a + b \neq 0$$

5. Write the following in MS-Word:

1. Preheat the oven to 220°C.
2. Copyright ©
3. Registered ®
4. Trademark ™

6. Create the following table in MS-Word:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

7. Create a document in MS-Word. Set the watermark as Microsoft. Also write the following text as formatted below:

measuring programming progress by lines of code is like measuring aircraft building progress by weight.
--Bill Gates

8. Create the following:



Time is money.

9. Create the following:

Multimedia

10. Create the following table in MS-Word:

Admission 2011-2012

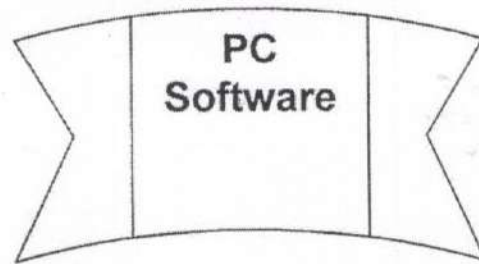
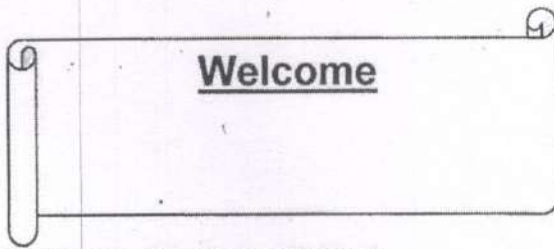
Course	OC	OB	MBC	SC/ST	Total
Computer Science	9	18	5	5	37
Commerce	14	25	6	5	50
Mathematics	12	20	4	4	40

11. Create Table as shown

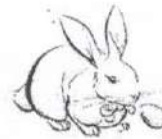
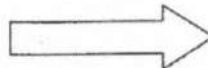
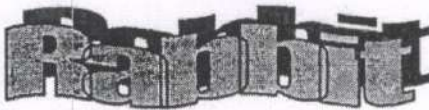
Car		Price
Maruti	Omni Van	200000
	Maruti 800	242000
Tata	Sumo	390000
	Sierra	447000

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12. Insert the following in MS-Word.



13. Insert the following in MS-Word.



14. Write the following in MS-Word.

- This is sentencecase.
- this is lowercase.
- THIS IS UPPERCASE.
- This Is Capitalise Each Word.
- tHIS IS tOGGLE cASE.

15. Create the following list in MS-Word:

1. Actors

1. Bruce Willis
2. Gerard Butler
3. Vin Diesel

2. Actress

1. Julia Roberts
2. Angelina Jolie
3. Kate Winslet
4. Cameron Diaz

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Julia Roberts

Angelina Jolie

Vin Diesel

Gerard Butler

Bruce Willis

Kundhara

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16. Write the following in MS-Word:

1. Cricket Players

3. Batsman

1. Sachin Tendulkar
2. Rahul Dravid
3. Virendra Sehwag

4. Bowler

- a. Kumble
- b. Zaheer Khan
- c. Balaji

5. Spinner

- a) Harbhajan
- b) Kumble
- c) Kartik

17. Write a letter to send invitation to your friend inviting on your birthday.

18. Create labels for your friends' address.

MS - EXCEL

1.

Create the following worksheet and save the worksheet as wages.xls
 PACE COMPUTERS (ATC CEDT), Govt. of India
 Payroll for Employee (Temporary)

Today's date :

Pay Rate :

Worker's Name	Hired On	days Worked	Gross Wages
Kushagra	3-Mar-07		
Pradeep	4-Mar-07		
Puneet	5-Mar-07		
Rajeev	6-Mar-07		

(I) Calculate days work and gross wages

2. Create the following worksheet and save the worksheet as wages.xls

Name	Basic (monthly) (Rs.)	HRA(% of basic)	DA (Rs.)	Total Salary (1997)	Bonus (Rs)	Total Salary (1998)	% (Increase)
Shirome	5000	10	450		1200		
Somya	9000	15	800		200		
Tanya	7000	12	900		1800		

- Calculate the total salary as sum of Basic salary, HRA, DA, for each employee for 1997

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- Calculate total salary for year 1998 as sum of salary of 1997 and bonus
- Calculate % increase in salary from 1997 to 1998

3. Create a worksheet as follows

Pace computer (ATC CEDT) Govt. Of India
Payroll for employee (Permanent)

Empcode	name	Doj	salary	bonus	net salary
E001	Meenu	3-Mar-95	5000		
E002	Manoj	4-Mar-06	4000		
E003	Preeti	3-Mar-95	4800		
E004	Sumita	6-Mar-07	7500		

- allow bonus 8000 to employee having service >2 year other wise allow bonus 3000
- find net salary as sum of bonus and salary

4. create the worksheet as follows

Roll No	Name	English	Maths	Total	Average	Division
101	Kushagra	95	99			
102	Ajay	92	95			
103	Vijay	70	69			

Class Average

- find Total of two subject for each student
- find average of two subject for each student
- find class as average of average column
- find division of student as first, second, third, assume percentage of division of your own and maximum marks in each student as 100
- Apply conditional formatting for division column, first division should be in bold, second division should be in italic and third division should be underline

1. Create macro in excel to make selected cell, bold, italic outside bordered and center across select

2. create bar chart with given data

	2001	2002	2003
Tea	19	23	25
Coffee	22	24	22
Sugar	45	40	45

- Provide heading production detail
- Provide z axis title; lacks metric tone
- Provide x axis title year

3. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000

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North	Sales	Ajay	8000
South	Marketing	Maresh	7500
West	Sales	Rajesh	4500

- i. Sort the data according to Zone then by Department
- ii. Use group and outline feature to show & hide details

8. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- (I) Use filter command to show records having zone: West
- (II) Use filter command to show records having zone: West and salary less than 5000
- (III) Use filter command to show records having salary greater than 10000

9. Create pivot table using Data of exercise 8

1. Suppose a database exists in ms-access you are required to import the data. How will you?

11. Create a table using feature

Principle 1500
Rate 4%
Time 5

300	3	4	5
1%	45	60	75
2%	90	120	150
3%	135	180	225

12. Using goal seek feature find out the interest rate it must be to earn interest 500

Principle 1500
Rate 4%
Time 5
Interest 500

MS-Access

Q.1. Create the following table in MS-Access:

Field Name	Data Type	Description
ContactID	AutoNumber	Primary Key
ContactType	Text 50	Type of contact (Wholesale, dealer, other)
Name	Text 50	Contact's first name
Company	Text 50	The Contact's employer
Address	Text 50	Contact's address
City	Text 50	Contact's city

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State	Text 50	Contact's state
ZipCode	Text 50	Contact's zip code
Phone	Text 50	Contact's phone
Fax	Text 50	Contact's fax
E-Mail	Text 100	Contact's e-mail address
WebSite	Text 100	Contact's Web address
LastSalesDate	Date/Time	The most recent date the contact purchased something
DiscountPercent	Number	The customary discount provided to the customer
Notes	Memo	Notes and observations regarding this customer
Active	Yes/No	Whether the customer is still buying or selling products

Q.2. Create the following tables in MS-Access with the referential integrity-foreign key:

1. tblProducts

Primary Key - ProductID

ProductID	Description	Category	Quantity	Cost	RetailPrice	Product Number	SalePrice	Taxable
-----------	-------------	----------	----------	------	-------------	----------------	-----------	---------

2. tblSalesLineItems

Primary Key - SalesLineItemID

SalesLineItemID	InvoiceNumber	ProductID	ProductNumber	Quantity	Description	Price	Disco
-----------------	---------------	-----------	---------------	----------	-------------	-------	-------

3. tblSales

Primary Key - InvoiceNumber

InvoiceNumber	SaleDate	InvoiceDate	Buyer	PaymentMethod	TaxLocation	TaxRate
---------------	----------	-------------	-------	---------------	-------------	---------

MS PowerPoint

Q 1 Create a PPT of Atleast 10 Slides with one slide for comparison, one slide displaying a chart with the table.

Q 2 Create a PPT presentation use rehearse timing for the slide show

Q 3 Create PPT presentation slide import sound and video clips.

Q 4 Create PPT presentation with hyperlinking.

Q 5 Create PPT presentation and apply themes and transitions.

Prateek *Arin* *Arka* *Pranshu*

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PGDCA-105 : Practical based on PGDCA-103

1 Scheme of Practical Examination:-

Practical examination will be of 3 hours duration. All programs should be with flowchart & algorithms. The distribution of practical marks is as follows and

Programme 1 (with flowchart & algorithms)	-	20
Programme 2 (with flowchart & algorithms)	-	20
Programme 3 (with flowchart & algorithms)	-	20
Viva-Voice	-	25
[Practical Copy + Internal Record]	-	15
Total	-	100

- 2 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
- 3 In every program there should be comment for each coded line or block of code.
- 4 All the programs or a similar type of programs should be prepared as per the practical list.

List of Practical

INPUT AND OUTPUT, FORMATTING

1. Write a program in which you declare variable of all data types supported by C language. Get input from user and print the value of each variable with alignment left, right and column width 10. For real numbers print their values with two digits right to the decimal.

LOOPS, DECISIONS

2. Write program to print all combination of 1 2 3.
3. Write program to generate following pattern

a) * * * * *
* * * * *
* * * *
* * *
* *
*

c) *
* *
* * *
* * * *
* * * * *

b) 1
2 3
4 5 6
7 8 9 10

d) 1
2 1 2
3 2 1 2 3
4 3 2 1 2 3 4

4. Write main function using switch...case, if..else and loops which when called asks pattern type; if user enters 11 then first pattern is generated using for loop. If user enters 12 then first pattern is generated using while loop. If user enters 13 then first pattern is generated using do-while loop. If user enters 21 then a second pattern is generated using for loop and so on.
5. Write program to display number 1 to 10 in octal, decimal and hexadecimal system.
6. Write program to display number from one number system to another number system. The program must ask for the number system in which you will input integer value then the program must ask the number system in which you will want output of the input number after that you have to input the number in specified number system and program will give the output according to number system for output you mentioned.
7. Write a program to perform following tasks using switch...case, loops, and conditional operator (as and when necessary).

a) Find factorial of a number

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- b) Print fibonacci series up to n terms and its sum.
 - c) Print sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
 - e) Print prime numbers up n terms.
 - f) Print whether a given year is leap or not.
8. Write program no. 6 but use library function to perform above tasks.

ARRAY

9. Create a single program to perform following tasks using switch, if..else, loop and single dimension character array without using library function:
- a) To reverse the string.
 - b) To count the number of characters in string.
 - c) To copy the one string to other string;
 - d) To find whether a given string is palindrome or not.
 - e) To count no. of vowels, consonants in each word of a sentence and no. of punctuation in sentence.
 - f) To arrange the alphabets of a string in ascending order.
10. Create a single program to perform following tasks using switch, if..else, loop and single dimension integer array:
- a) Sort the elements.
 - c) Search for presence of particular value in array element using linear search.
 - d) Search for presence of particular value in array element using binary search.
11. Write a program that read the afternoon day temperature for each day of the month and then report the month average temperature as well as the days on which hottest and coolest days occurred.
12. Create a single program to perform following tasks using switch, if..else, loop and double dimension integer array of size 3x3:
- a) Addition of two matrix.
 - b) Subtraction of two matrix.
 - c) Multiplication of two matrix.
 - d) Inverse of matrix.
 - e) Transpose of matrix.
 - f) Sum of diagonal elements
13. Create a single program to perform following tasks using switch, if..else, loop and double dimension character array of size 5x40:
- a) Sorting of string.
 - b) Finding the largest string.
 - c) Finding the smallest string.
 - c) Searching for presence of a string in array.

FUNCTIONS

14. Write program using the function power (a, b) to calculate the value of a raised to b.
15. Write program to demonstrate difference between static and auto variable.
16. Write program to demonstrate difference between local and global variable.
17. Write a program to perform following tasks using switch...case, loops and function.
- a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.

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- c) Print Sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
18. Write a program to perform following tasks using switch...case, loops and recursive function.
- a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
 - c) Print Sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
 - e) Print natural series up to n terms and its sum
19. Write a function to accept 10 characters and display whether each input character is digit, uppercase letter or lower case letter.

Array & Function

20. Create a single program to perform following tasks using switch, if..else, loop, function and double dimension integer array of size 3x3:
- a) Addition of two matrix.
 - b) Subtraction of two matrix.
 - c) Multiplication of two matrix.
 - d) Inverse of matrix.
 - e) Transpose of matrix.
21. Create a single program to perform following tasks using switch, if..else, loop, user defined function and single dimension character array:
- a) To reverse the string.
 - b) To count the number of characters in string.
 - c) To copy the one string to other string;
 - d) To find whether a given string is palindrome or not.
 - e) To count no. of vowels, consonant in each word of a sentence and no. of punctuations in sentence.
22. Create a single program to perform following tasks using switch, if..else., loop, function and single dimension integer array:
- a) Sort the elements.
 - b) Find largest element and smallest element.
 - c) Search for presence of particular value in array element using linear search.
 - d) Search for presence of particular value in array element using binary search.
23. Create a single program to perform following tasks using switch, if..else, loop, function and double dimension character array of size 5x40:
- a) Sorting of string
 - b) Finding the largest string, lexicographically.
 - c) Finding the smallest string, lexicographically.
 - c) Searching for presence of string in array.

STRUCTURE & UNION

24. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare a structure variable of student. Provide facilities to input data in data members and display result of student.

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25. Create a structure Date with data member's dd, mm, yy (to store date). Create another structure Employee with data members to hold name of employee, employee id and date of joining (date of joining will be hold by variable of structure Date which appears as data member in Employee Structure). Store data of an employee and print the same.
26. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of structure to hold data of 3 students. Provide facilities to display result of all students. Provide facility to display result of specific student whose roll number is given.
27. Write program to create structure complex having data members to store real and imaginary part. Provide following facilities:
 - a) Add two complex nos. using structure variables.
 - b) Subtract two complex nos. using structure variables.
 - c) Multiply two complex nos. using structure variables.
 - d) Divide two complex nos. structure variables.

Use structure as argument to function and function returning structure.

POINTER

28. Define union Emp having data members:-one integer, one float and one single dimension character array. Declare a union variable in main and test the union variable.
29. Define an enum Days_of_Week members of which will be days of week. Declare an enum variable in main and test it.
30. Write a program of swapping two numbers and demonstrates call by value and call by reference.
31. Write program to sort strings using pointer exchange.
32. Write a program in c,using pointer and function to receive a string and a character as argument and return the no. of occurrences of this character in the string.
33. Create a program having pointer to void to store address of integer variable then print value of integer variable using pointer to void. Perform the same operation for float variable.
34. Write program to find biggest number among three numbers using pointer and function.
35. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to store data of employee and print the stored data-using pointer to structure.
36. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to simulate dynamic array of structure store data of n employees and print the stored data of n employees using pointer to structure.
37. Write a program to sort a single dimension array of integers of n elements simulated by pointer to integer. Use function for sorting the dynamic array.
38. Write a program to sum elements of a double dimension array of integers of m rows and n columns simulated by pointer to pointer to integer. Use function for sum the elements of the dynamic array.
39. Write program to demonstrate difference between character array and pointer to character.
40. Write program to demonstrate difference between constant pointer and pointer to constant.
41. Write program to demonstrate pointer arithmetic.
42. Write program to demonstrate function-returning pointer.
43. Write program using self-referential pointer to structure to create and print the linked list, data structure.

Sh. Date

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FILE STREAMS

44. Write program to copy content of one file to other file removing extra space between words name of files should come from command line arguments.
45. Write program to create a file 'data' containing a series of integers and count all even numbers present in the file 'data'.
46. Write a program to count no. of tabs, new lines, character and space of a file.
47. Write a program to read item number, rate and quantity from an inventory file and print the followings:
 1. Items having quantity > 5.
 2. Total cost of inventory.

Page

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8

SCHEME OF TEACHING AND EXAMINATION
P.G.D.C.A. (Post Graduate Diploma in Computer Applications)

SECOND SEMESTER

Subject Code	SUBJECTS	Teaching Load Per Week			Examination Marks							
					Max. Marks				Min. Marks			
		L	T	P	Th	Ses	Pr	Total	Th	Ses	Pr	Total
PGDCA106	Programming in VB .Net	3	2	—	80	20	—	100	20	13	—	33
PGDCA107	Database Management Systems	3	2	—	80	20	—	100	20	13	—	33
PGDCA108	Internet and Web Technology	3	2	—	80	20	—	100	20	13	—	33
PGDCA109	Practical based on PGDCA106	—	—	3x2	—	—	100	100	—	—	40	40
PGDCA110	Practical based on PGDCA107 and PGDCA-108	—	—	3x2	—	—	100	100	—	—	40	40
	TOTAL	9	6	12	240	60	200	500	60	39	80	179

Suman

Prateek

Jyoti

Jyoti
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PL. RAVISHANKAR SHUKLA UNIVERSITY :: RAIPUR (C.G.)

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

[DURATION - ONE YEAR - FULL TIME]

The duration of the course shall be one year consisting of two semesters. There shall be three theory and two practical course in the each semester.

- Second Semester:** PGDCA-106 : Programming in VB .Net
PGDCA-107 : Database Management Systems.
PGDCA-108 : Internet and Web Technology.
PGDCA-109 : Practical based on PGDCA106
PGDCA-110 : Practical based on PGDCA107 and PGDCA-108

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PGDCA-106

PROGRAMMING IN VB .NET

UNIT - I : Introduction to .NET framework

Overview of .net framework features & architecture, Managed Execution process, CLR, common language specification, JIT Compilation, MSIL, Namespaces, Assemblies, metadata, Common Type System, Visual development & event driven programming, cross language, interoperability, Garbage collection.

UNIT - II : Programming with .NET Framework

Windows form: working with Visual Studio IDE, creating a .NET solution, MDI application, components and controls, Data types, variables, Type conversions, Operators, Methods and events, Scope and life time of variables, Creating Enumerations.

UNIT - III Control Structures

Control Structures: conditional statements, loops, arrays, types of methods, method data, creating Sub Procedures and Functions, MsgBox, Inputbox, Introduction to exception handling- try catch statement, finally statement, throw, user define Exception.

UNIT - IV GUI Programming

GUI Programming with window forms, Showing & hiding forms, Textbox, RichText box, Label, Button, Listbox, Combobox, Checkbox, PictureBox, Radio button, Toggle Button, Panel, Groupbox, Scrollbar, Timer, Dialog boxes, OpenFileDialog, SaveFile dialog, Print dialog, Font dialog, Color dialog, Designing menus and sub menus.

UNIT - V Database programming with ADO.net

ADO .NET Architecture, .NET data provider, dataset components, creating database applications using Window forms (Database connectivity through ADO .NET), Accessing data using server explorer, Data Adapters & Data sets, Command & Data reader, data bind control, displaying data in data grid.

BOOKS RECOMMENDED

- ✓ MSDN online - by Microsoft
- ✓ Visual Basic .NET Complete - By BPB Publications, New Delhi.
- ✓ The Complete Reference VB .NET - By Jeffery R. Shapiro, Tata Mcgraw Hill.
- ✓ Professional VB .NET 2003 - by bill Evjen & others, Wiley Dreamtech India (P) Ltd. New Delhi.

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PGDCA-107
Database Management Systems

UNIT – I: Introduction to DBMS

Purpose of database systems, views of data, Data Modeling, Database Languages, Transaction Management, Storage Management, Database Administrator and User, Database System Structure.

UNIT – II: E-R Model

Entity - Relationship model as a tool for conceptual design-entities, attributes and relationships. ER diagrams; Concept of keys; Case studies of ER modeling Generalization; specialization and aggregation. Converting an ER model into relational Schema

UNIT – III: Relational Model

Structure to Relational Database, select, project, cross product different types of joins (inner join, outer joins, self-join); set operations, Tuple relational calculus, Domain relational calculus, Simple and complex queries using relational algebra, stand alone and embedded query languages.

UNIT – IV: Relational Database Design

Normalization concept in logical model; Pitfalls in database design, update anomalies: Functional dependencies, Join dependencies, Normal forms (1NF, 2NF, 3NF). Boyce Codd Normal form, Decomposition, Multi-Valued Dependencies, 4NF, 5NF, De-Normalization.

UNIT – V: Introduction to RDBMS Software – SQL/Oracle

Introduction to personnel and Enterprises Oracle, Data Types, Commercial Query Language, SQL, SQL* PLUS. DDL and DML: Creating Table, Specify Integrity Constraint, Modifying Existing Table, Dropping Table, Inserting, Deleting and Updating Rows in as Table, Where Clause, Operators, ORDER BY, GROUP Function, SQL Function, JOIN, Set Operation, SQL Sub Queries. Views: What is Views, Create, Drop and Retrieving data from views. Security: - Management of Roles, Changing Password, Granting Roles & Privilege, with drawing privileges.

Recommended Books:

- | | |
|--|-------------------------|
| 1. Data Base Systems | : Silberschatz & Korth. |
| 2. An Introduction to Data base System | : C.J. Date |
| 3. Data Base Management System | : Raghu Ramakrishnan. |
| 4. Data Base Management System | : Elmasri & Nawathe. |
| 5. Data Base Management System | : Alexies & Mathews |

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PGDCA-108
INTERNET AND WEB TECHNOLOGY

UNIT - I

Introduction to Computer and Hardware: Introduction of Information Technology, History of Computers, Organization of computers, Number Systems, Programming language and types, Public domain software, Applications of Information Technology in business, industry, entertainment, science, engineering and medicine.

UNIT - II

Internet and its Application: Evolution of internet, Internet applications, TCP/IP, Addressing in Internet (IP), Domains, Internet service providers, Connectivity such as dial up, leased line, VSAT. E-mail protocols (X-400, SMTP, UUCP), Description of E-Mail headers, Email routing, e-mail client, POP-3, IMAP-4.

UNIT - III

FTP and Telnet: Introduction to File Transfer Protocol(FTP), Types of FTP servers (including anonymous), Telnet protocol, Telnet client, Terminal emulation. Usenet and Internet relay chat, Web publishing tool, Website planning, Website Hosting, Multiple sites on one server, Maintaining a web site, WWW servers, HTTP & URLs, Registration of website on search engines, maintenance of website.

UNIT - IV

Dynamic HTML and Web Designing: HTML Basic concepts, Web designing issue, Structure of HTML documents, HTML Elements: Core attributes, Language attributes, Core Events, Block Level Events, Text Level Events, Linking Basics, Linking in HTML, Images and Anchors, Anchor Attributes, Image Maps, Semantic Linking Meta Information, Image Preliminaries, Image Download issues, Images as Buttons, Introduction to Layout: Backgrounds, Colors and Text, Fonts, Layout with Tables, Introduction to CSS.

UNIT - V

Internet Security: Internet security vulnerability and threats, Firewalls, Introduction to AAA, Malwares. **E-Commerce:** Introduction, Concepts & technology, Advantages, Limitations, Various electronics payment system, Payment Gateways, Introduction to EDI.

Text Books:

1. Computers Today, S.K.Basadra ,Galgotia Publication.2nd edition.
2. Internet for Every One , Alexis Leon and Mathews Leon, Tech World.2008 print.

Reference Books:

1. Introduction to Computers, P.K.Sinha ,BPB Publication, 6th edition.
2. Fundamentals of Computers, V.Rajaraman ,Prentice Hall of India,4th edition.
3. HTML Complete Reference, Thomas A. Powell, TMH
4. Frontiers of Electronics of Commerce , Ravi kalakota & Andrew B. Whinston Addison Wesley ,1196

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PGDCA
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PGDCA-109: Practical based on PGDCA106

1. Scheme of Examination: -

Practical examination will be of 3 hours duration. The distribution of practical marks is as follows :

Program 1	-	20
Program 2	-	20
Program 3	-	20
Viva-Voice	-	20
[Practical Copy + Internal Record]	-	20
Total	-	100

2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

4 All the following programs or a similar type of programs should be prepared.

Practical List

1. Design the form that calculates Sum, Multiplication, Division and Subtraction of two numbers.
2. Design Simple calculator.
3. Design the form to input radius of a circle and find its circumference and area.
4. Design the form to input length in centimeter and convert it into meter.
5. Design the form to input temperature in Celsius and convert it into Fahrenheit.
6. Design the form to input Principal amount, Time, Rate and calculate Simple Interest and Compound Interest show result information in msgbox.
7. Design a form that shows following operation related to array.
 - a) Sort array elements in ascending or descending order.
 - b) To insert an element in an array
 - c) To delete an element from an array at specified position.
 - e) Print all unique elements in the array.
8. Design a form to check whether a number is PRIME or NOT, using input box and msgbox.
9. Design the form to show the result and percent of PGDCA.

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10. Design the following form. So when user clicks on Radio Button then select appropriate checkbox.

The screenshot shows a window titled "Use Of Option Buttons, Checkbox...". It contains three sections:

- Gender:** Two radio buttons, "Male" (selected) and "Female".
- Age:** Three radio buttons: "Less Than 18", "19 to 40", and "Over 40".
- Rights:** Three checkboxes: "Drive Car", "Can't Drive Car", and "All Rights".

11. Design form that shows the functionality of listbox:

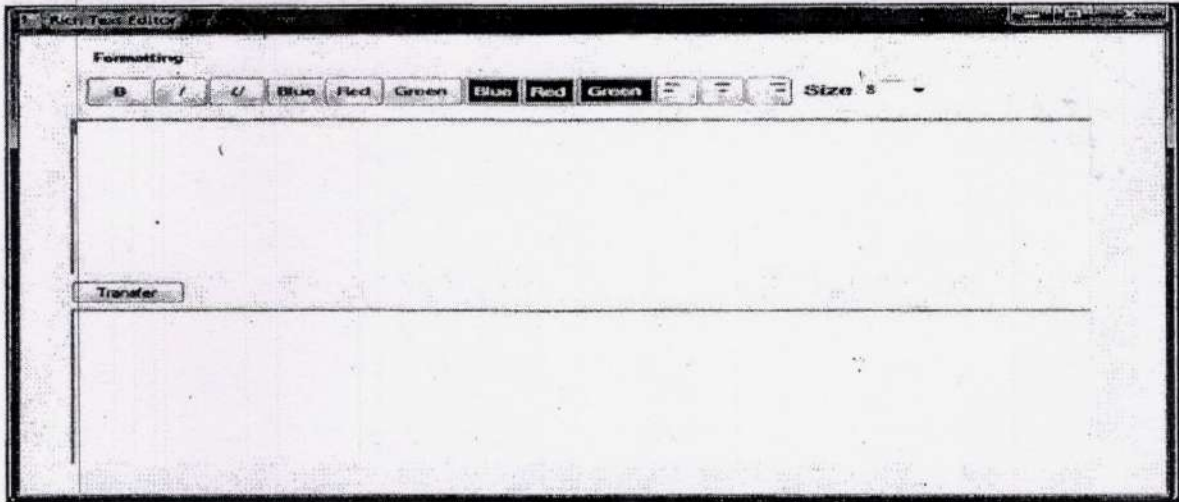
The screenshot shows a window titled "USE OF LISTBOX & ITS PROPERTY". It features:

- A listbox on the left containing "APPLE", "MANGO", and "ORANGE".
- Four arrow buttons in the center: ">", ">>", "<", and "<<".
- A large empty listbox on the right.
- Four buttons at the bottom: "ADD", "REMOVE", "CLEAR", and "SORT".

12. Design one form to create application like Rich text document using 1 Rich Textbox and different buttons. When user presses any of this command buttons then the selected content of Rich textbox Will be changed accordingly.

Daye *Xin* *Shah* *Shah* *Panyans*

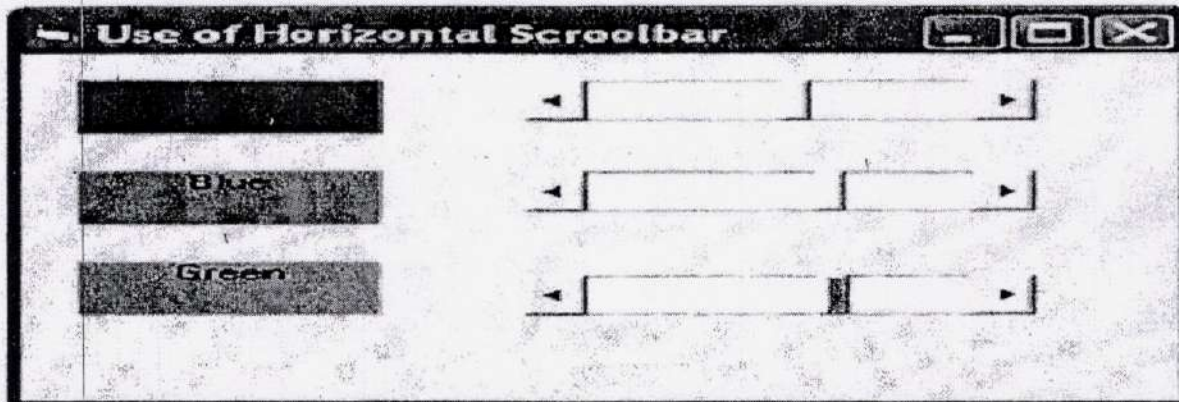
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13. Design the digital watch using Timer Control.



14. Design the following form using horizontal scrollbar. In this, when user click on particular scroll bar then back color of shape will be changed to Red, Green & Blue color



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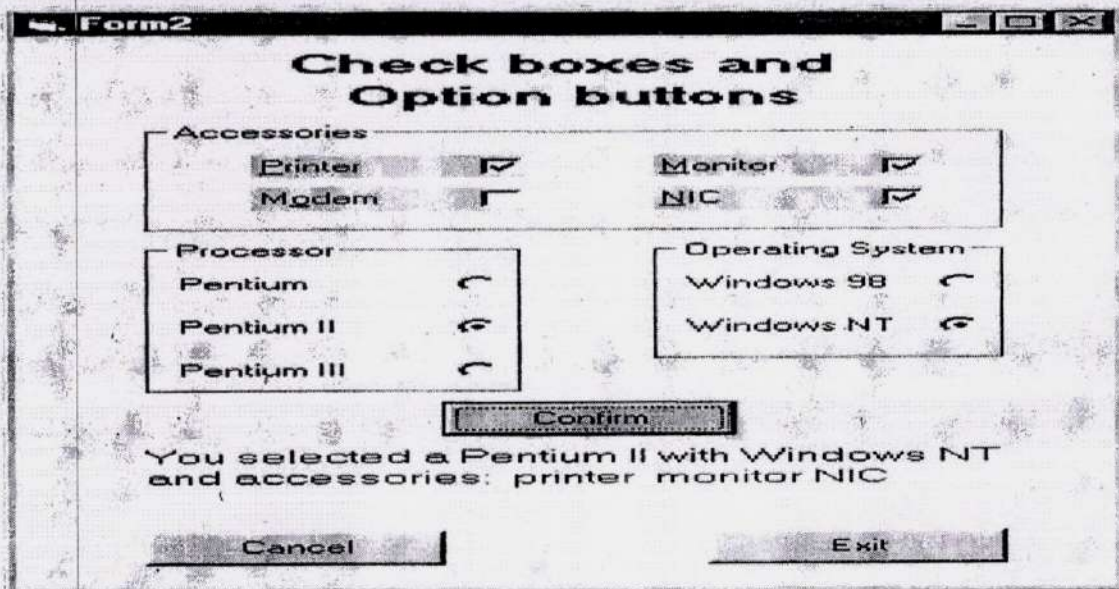
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15. Design the following form using vertical scrollbar. In this, when user click on particular scroll bar then back color of shape will be changed to Red, Green & Blue color



16. Design the form with different controls.



17. WAP for Exception handling of throwing an exception when dividing by zero condition occurs during arithmetic operation.

18. WAP in vb.net such that throw a user define exception when Temperature is zero.

19. WAP to demonstrate handling of multiple exceptions generated in program.

20. Create following table

Student(id, name, course, DOB, address)

Write vb.net application to

Add records

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Date

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Bangar

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Kalibadi Road, RAIPUR

view all the records

Delete the particular record

View all the student who are studying in course PGDCA using DataSet.

21. Write vb.net application to maintain loan database using connected scenario

Loan(id, cust_num, name, amount, no_of_inst, amt_inst, no_of_inst_over)

Print all the customer who has to pay only one installment.

Print the total amount to be repaid by all the customer

22. Write vb.net application which accesses the following table.

Product_master (pdt_no, description, profit_percent, uni_measure, qty_on_hand, recorder_level, cost_price, sell_price)

Perform insert, delete, view and search for items whose cost price is less than sell price.

23. Write a vb.net application that perform insert, update and delete operations on Employee table & perform a navigation operation on employee records using disconnected scenario.

24. Create table STUDENT with the following columns and datatypes.

Sid Alphanumeric
Name Varchar(20)
DOB DateTime
Addr Varchar(20)
Contact Varchar(10)

1. Insert following records into the table:

Sid	S1	S2	S3
Name	OshoJuneja	NishantSahni	SanyaDua
DOB	28-jan-93	1-oct-92	30-jul-94
Addr	ABC	XYZ	PQR
Contact	9000000000	8000000000	7800000000

ii) Select records from table where age > 22. [Use DOB for age calculation].

iii) Count the record in the table.

iv) Display records of the table order by DOB.

Perform using ADO.net in vb.net

25. Write a vb.net program to show data in data grid view.

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Practical based on PGDCA107 and PGDCA-108

1. Scheme of Examination: -

Practical examination will be of 3 hours duration. The distribution of practical marks is as follows :

Program 1 (SQL)	-	15
Program 2 (SQL)	-	15
Program 3 (HTML)	-	15
Program 4 (HTML)	-	15
Viva-Voice	-	20
[Practical Copy + Internal Record]	-	20
Total	-	100

2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

4 All the following programs or a similar type of programs should be prepared.

HTML

Q.1. Write an HTML program to create the following table:

Class	Subject1	Subject2	Subject3
BCA I	Visual Basic	PC Software	Electronics
BCA II	C++	DBMS	English
BCA III	Java	Multimedia	CSA

Q.2. Write an HTML program to create the following lists:

- (I) C
- (II) C++
- (III) Fortran
- (IV) COBOL

Q.3. Write an HTML program to create the following lists:

1. Java
2. Visual Basic
3. BASIC
4. COBOL

Q.4. Write an HTML program to demonstrate hyperlinking between two web pages. Create a marquee and also insert an image in the page.

Q.5. Write an HTML program to create frames in HTML with 3 columns (Width = 30%, 30%, 40%).

Q.6. Write an HTML program to create a web page with a blue background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

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Q.7. Write an HTML program to create the following table:

Admission

Course	OC	BC	MBC	SC/ST	TOTAL
Computer science	9	18	5	5	37
Commerce	14	25	6	5	50
Grand total					87

Q.8. Write an HTML program to create the following table:

Car Price List

Maruti		Tata		Ford	
Model	Price	Model	Price	Model	Price
Maruti 800	2 Lac	Sumo	2 Lac	Ikon	5 Lac
Omni	3 Lac	Scorpio	3 Lac	Gen	2 Lac

Q.9. Write an HTML program to create the following table:

Students Records

Name	Subject	Marks
Arun	Java	70
	C	80
Ashish	Java	75
	C	69

Q.10. Create an HTML document and embed a flash movie in it.

Q.11. Write the HTML coding to display the following table. Also insert an image in the web page.

Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70
Operating System	100	33	68
C++	100	33	73

Q.12. Write the HTML coding to display the following table:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

Q.13. Write an HTML program to create a form as the following:

Enter Name:

Enter Roll No.:

Enter Age:

Enter DOB:

Q.14. Write an HTML program to create a web page with an image as background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

On the other side New Delhi, the imperial city built by British, reflect the fast paced present. The most fascinating of all is the character of Delhi which varies from the 13th present century mausoleum of the Lodi kings to ultra modern glass skyscrapers.

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 Date: _____

Q.15. Create the following HTML form.

USERNAME :

PASSWORD :

When user types characters in a password field, the browser displays asterisks or bullets instead of characters.

Done My Computer 100%

Q.16. Create the following HTML form.

FIRSTNAME :

LASTNAME :

GENDER :
Male Female

SUBJECTS:
Multimedia
Operating System
CSA

Q.17. Create the following HTML form.

Enter your name :

Enter your rollno :

Subjects :
 Java
 C
 Visual Basic
 C++

Class:
BCA I
BCA II
BCA III

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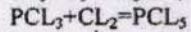
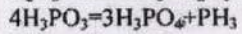
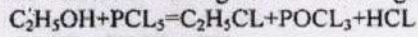
Xiya

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Q.18. Write the HTML coding for the following equations:



Q.19. Write the HTML code to display the following:

1. Actors

.1. Bruce Willis

2. Gerard Butler

3. Vin Diesel

4. Bradd Pitt

2. Actress

1. Julia Roberts

2. Angelina Jolie

3. Kate Winslet

4. Cameron Diaz

Q.20. Write the HTML code to display the following:

1. Cricket Players

1. Batsman

1. Sachin Tendulkar

2. Rahul Dravid

3. Virendra Sehwag

2. Bowler

d. Kumble

e. Zaheer Khan

f. Balaji

3. Spinner

d) Harbhajan

e) Kumble

f) Kartik

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Star

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SQL

1. Using the following database,

Colleges (cname, city, address, phone, afdate)
Staffs (sid, sname, saddress, contacts)
StaffJoins (sid, cname, dept, DOJ, post, salary)
Teachings (sid, class, paperid, fsession, tsession)
Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following –

- Create the above tables with the given specifications and constraints.
- Insert about 10 rows as are appropriate to solve the following queries.
- List the names of the teachers teaching computer subjects.
- List the names and cities of all staff working in your college.
- List the names and cities of all staff working in your college who earn more than 15,000

2. Using the following database,

Colleges (cname, city, address, phone, afdate)
Staffs (sid, sname, saddress, contacts)
StaffJoins (sid, cname, dept, DOJ, post, salary)
Teachings (sid, class, paperid, fsession, tsession)
Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following –

- Find the staffs whose names start with 'M' or 'R' and ends with 'A' and/or 7 characters long.
- Find the staffs whose date of joining is 2005.
- Modify the database so that staff N1 now works in C2 College.
- List the names of subjects, which T1 teaches in this session or all sessions.
- Find the classes that T1 do not teach at present session.

3. Using the following database,

Colleges (cname, city, address, phone, afdate)
Staffs (sid, sname, saddress, contacts)
StaffJoins (sid, cname, dept, DOJ, post, salary)
Teachings (sid, class, paperid, fsession, tsession)
Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following –

- Find the colleges who have most number of staffs.
- Find the staffs that earn a higher salary who earn greater than average salary of their college.
- Find the colleges whose average salary is more than average salary of C2
- Find the college that has the smallest payroll.
- Find the colleges where the total salary is greater than the average salary of all colleges.

4. Using the following database,

Colleges (cname, city, address, phone, afdate)
Staffs (sid, sname, saddress, contacts)
StaffJoins (sid, cname, dept, DOJ, post, salary)
Teachings (sid, class, paperid, fsession, tsession)
Subjects (paperid, subject, paperno, papername)

h

Acate

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Kalihadi Road, RAIPUR (C.G.)

Prangam

Brak

Sika

Write SQL statements for the following –

- List maximum, average, minimum salary of each college
- List the names of the teachers, departments teaching in more than one department.
- Acquire details of staffs by name in a college or each college.
- Find the names of staff that earn more than each staff of C2 College.
- Give all principals a 10% rise in salary unless their salary becomes greater than 20,000 in such case give 5% rise.

5. Using the following database,

Colleges (cname, city, address, phone, afdate)

Staffs (sid, sname, saddress, contacts)

StaffJoins (sid, cname, dept, DOJ, post, salary)

Teachings (sid, class, paperid, fsession, tsession)

Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following –

- Find all staff that do not work in same cities as the colleges they work.
- List names of employees in ascending order according to salary who are working in your college or all colleges.
- Create a view having fields sname, cname, dept, DOJ, and post
- Create a view consisting of cname, average salary and total salary of all staff in that college.
- Select the colleges having highest and lowest average salary using above views.
- List the staff names of a department using above views.

6. Using the following database,

Enrollment (enrollno, name, gender, DOB, address, phone)

Admission (admno, enrollno, course, yearsem, date, cname)

Colleges (cname, city, address, phone, afdate)

FeeStructure (course, yearsem, fee)

Payment (billno, admno, amount, pdate, purpose)

Write SQL statements for the following –

- Create the above tables with the given specifications and constraints.
- Insert about 10 rows as are appropriate to solve the following queries.
- Get full detail of all students who took admission this year class wise
- Get detail of students who took admission in Bhilai colleges.
- Calculate the total amount of fees collected in this session
 - By your college
 - by each college
 - by all colleges

7. Using the following database,

Enrollment (enrollno, name, gender, DOB, address, phone)

Admission (admno, enrollno, course, yearsem, date, cname)

Colleges (cname, city, address, phone, afdate)

FeeStructure (course, yearsem, fee)

Payment (billno, admno, amount, pdate, purpose)

Write SQL statements for the following –

- List the students who have not payed full fee
 - in your college
 - in all colleges
- List the number of admissions in your class in every year.
- List the students in the session who are not in the colleges in the same city as they live in.
- List the students in colleges in your city and also live in your city.
- Delete all the records of student who live in city Raipur.

Date

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Kalihadi Road, RAIPUR (C.G.)

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Raipur

8. Subjects (paperid, subject, paper, papename)

Test (paperid, 'date, time, max, min)

Score (rollno, paperid, marks, attendance)

Students (admno, rollno, class, yearsem)

Write SQL statements for the following -

- Create the above tables with the given specifications and constraints.
- Insert about 10 rows as are appropriate to solve the following queries.
- List the students who were present in a paper of a subject.
- List all roll numbers who have passed in first division.
- List all students in BCA-II who have scored higher than average
 - in your college
 - in every college

Pate

Star

Kris

Shah

Panguru

Sundhya

Group 1
Gurukul Mahila Mahavidyalaya
Kalibadi Road, RAIPUR (C.G.)

10

PT. RAVISHANKAR SHUKLA UNIVERSITY: RAIPUR (C.G.)
SCHOOL OF STUDIES IN COMPUTER SCIENCE

DIPLOMA IN COMPUTER APPLICATION, 2019-2020
[DURATION - ONE YEAR - PART TIME]

The duration of the course shall be one year consisting of two semesters. There shall be three theory and one practical course in the each semester. There shall be grading system of awards.

FIRST SEMESTER:	DCA101	: Essential of Information Technology and OS
	DCA102	: Essentials of Office Automation.
	DCA103	: Programming in 'C' Language
	DCA104	: Practical based on DCA102 & DCA103.

DCA101

Essential of Information Technology and OS

1. Introduction to Computers

Computer System Characteristics and Capabilities : Speed, Accuracy, Reliability, Memory capability, Repeatability. *Computer Hardware and Software*. Block Diagram of a Computer. *Types of Computers*: Analog, Digital, Hybrid General and Special Purpose Computers. *Computer Generations*: Characteristics of Computer Generations Computer Systems – Micros, Minis & Main-frames. *Introduction to a PC* : The IBM Personal Computer Types of PC systems PC, XT & AT Pentium PC's.

2. Computer Organization

Introduction to Input Devices : Keyboard, Direct Entry – Card Readers, Scanning Devices – O.M.R., Character Readers, MICR, Voice Input Devices, Pointing Devices – Mouse, Light Pen. *Storage Devices* : Storage Fundamentals-Bits, Bytes, Primary Storage – RAM, ROM, Secondary Storage-Floppy Disks, Hard Disks, Optical Disks, CD/DVD. *Computer Output* : Output Fundamentals, Hardcopy Output Devices, Impact Printers, Non-Impact Printers, Plotters, Computer output, Softcopy Output Devices. Cathode Ray Tube, Flat Screen Technologies.

3. Operating System

MS-DOS - Introduction, History and Versions of DOS. Booting Process, System Files and Command.com, Internal DOS Commands - DIR, MD, CD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE. Files & Directories, Elementary External DOS Commands - CHKDSK, MEM, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, HELP, TREE, SYS, LABEL, ATTRIB, Creating a Batch Files. Additional Commands - ECHO, PROMPT, MODE, EDIT, FORMAT, FDISK, BACKUP, RESTORE, MORE, SORT.

4. Windows

Windows Concepts, Features, Structures, Desktop, Taskbar, Start Menu, My Computer, Recycle Bin. Accessories : Calculator, Notepad, Paint, Wordpad, Character Map. Explorer : Creating folders and other Explorer facilities, Internet Explorer basics, navigating the Web, Control Panel.

5. Linux

Open Source Software concept and evolution of Linux, Features of Linux OS, Structure of Linux OS, File System, Directory Structure, Linux editors & Editor commands, Linux commands cd, md, rm, mv, ls, cat, find, grep.

Books

- | | |
|--|---|
| 1. Using IT | : Williams T M Hill |
| 2. IT | : Curtin T M Hill |
| 3. Fundamental of Information Technology | : Chetan Shrivastava Kalyani Publishers |
| 4. Computer Fundamentals | : P.K Sinha BPB Publications |
| 5. Working with UNIX | : Vijay Mukhi [BPB] |

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ESSENTIALS OF OFFICE AUTOMATION

1. **MS-Word**- Creating and editing word documents, formatting documents – aligning documents, indenting paragraphs, changing margin, formatting pages, formatting paragraph, printing labels, working with tables, formatting text in tables, inserting and deleting cells, rows and columns, use bulleted and numbering, checking spelling and grammar, finding synonyms, working with long documents, working with header and footer, adding page number and foot note, working with graphics, inserting clip art, working with pictures, Word art, creating chart & Graphs, creating flowcharts, working with mail merge, writing the form letter, merging form documents, merging to label, Working with Mailing lists and Data Sources, selecting merge records, creating macros, running macro.
2. **Working with MS-Excel** – Introducing Excel, use of excel sheet, saving, opening and printing workbook, Apply formats in cell & text, Divide worksheet into pages, setting page layout, adding Header & Footer, Using multiple documents, arranging windows i.e. (Cascade, Tiled, Split), protecting your work, password protection. Working with Functions & Formulas, using absolute reference, referencing cell by name, using cell label, giving name to cell and ranges, working with formulas (mathematical & trigonometric, statistical, date time, most recently used), Working with Excel graphics, creating chart & graphs. Working with lists & database, sorting a database, filtering a database, using auto filter, criteria range, calculating total and subtotal, creating pivot table, goal seek, recording & playing macros, deleting and selecting macro location.
3. **Presenting with PowerPoint** – Creating presentation, working with slides, different types of slides, setting page layout, selecting background and applying design, adding graphics to slide, adding sound and movie, working with table, creating chart and graph, playing a slide show, slide transition, advancing slides, setting time, rehearsing timing, animating slide, animating objects, running the show from windows.
4. **Introduction of DBMS through MS-Access** – Introduction to Database, DBMS, RDBMS, Features of Access, Designing Database, Relationship (One to One, One to many, Many to Many), Create table (Design View, Wizard, Datasheet View), Query (Update Query, Delete Query, Selection Query, Cross table Query, Make table Query).
5. **Introduction to TALLY**
Accounting, Accounting Conventions (Single and Double Entry), Transactions, Types of Accounts, Personal Accounts, Real, Nominal, Rules of Accounting.
Introduction to Accounting Software [Ex. TALLY] – Creating of Company, Ledgers & Groups. Voucher Entry; Types of Voucher, Capital and Revenue, Income, Expenditure, Receipts, Preparation of Trial Balance, Profit & Loss Account & Balance Sheet.

Suggested Books :

1. The Big Basics Book Of MS-OFFICE : Fulton, et al.

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Jeet
27-04-19

Devote Agar

Brah
27/4/19

Beemaw
27/4/19

Shreen
27-04-19

Principals
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DCA103

PROGRAMMING IN 'C' Language

Unit 1 - Introduction to C programming structure and C compiler, Data representation : Simple data types like real integer, character etc. Program, statements and Header Files, Simple Input Output statements in C, Running simple C programs. Primitive data types in C, char, integer, float, Double Long, Double Void etc.

Unit 2- Operators and Expressions – Arithmetic Operators, Assignment Operators, increment and decrement operator, relational and Boolean operators, Mixing of Different data types and operators for forming expressions.

Unit 3- Control Structure: If - statement, If -else statement, Multiway decision, Compound Statement, Loops: For - loop, While -loop, Do-While loop, Break statement, Switch statement, Continue statement, Goto statement. Arrays, Strings, Multidimensional Arrays, Strings, Array of Strings

Unit 4- Functions : Function main , Functions accepting more than one parameter, User defined and library functions, Concept associatively with functions, function parameter, Return value, recursion function, Structure and Union, Declaring and using Structure, Structure initialization, Structure within Structure, Operations on Structures, Array of Structure, Array within Structure,

Unit 5 Pointers: Definition and use of pointer, address operator, pointer variable, referencing pointer, void pointers, pointer arithmetic, pointer to pointer, pointer and arrays, passing arrays to functions, pointer and functions, accessing array inside functions, pointers and two dimensional arrays, array of pointers, pointers constants, pointer and strings.

TEXT BOOKS :-

1. Let us C
2. Mastering in C
3. Shaum's Series

- Yashwant Kanitkar.
- Venugopal

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DCA104 : Practical based on DCA102 & DCA103

1 Scheme of Examination:-

Practical examination will be two programs and a project demonstration. It will be of 3 hours duration. All programme with flowchart & algorithms. The distribution of practical marks will be as follows and

Programme 1 (Word / Powerpoint / Tally)	-	10
Programme 2 (Excel / Access)	-	10
Programme 3 (C Program)	-	20
Programme 4 (C Program)	-	20
Viva	-	25
[Practical Copy + Internal Record]	-	15
Total	-	100

- 2 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
- 3 In every program there should be comment for each coded line or block of code.
- 4 All the following programs or a similar type of programs should be prepared.

List of Practical

INPUT AND OUTPUT, FORMATTING

1. Write a program in which you declare variable of all data types supported by C language. Get input from user and print the value of each variable with alignment left, right and column width 10. For real numbers print their values with two digits right to the decimal.

LOOPS, DECISIONS

2. Write program to print all combination of 1 2 3.
3. Write program to generate following pattern

a) A B C D E F G	c) *
A B C E F G	* *
A B F G	* * *
A G	
b) 1	d) 1
1 2	1 2 1
1 2 3	1 3 3 1
	1 4 6 4 1

4. Write main function using switch...case, if..else and loops which when called asks pattern type; if user enters 11 then first pattern is generated using for loop. If user enters 12 then first pattern is generated using while loop. If user enters 13 then first pattern is generated using do-while loop. If user enters 21 then a second pattern is generated using for loop and so on.
5. Write program to display number 1 to 10 in octal, decimal and hexadecimal system.
6. Write program to display number from one number system to another number system. The program must ask for the number system in which you will input integer value then the program must ask the number system in which you will want output of the input number after that you have to input the number in specified number system and program will give the output according to number system for output you mentioned.
7. Write a program to perform following tasks using switch...case, loops, and conditional operator (as and when necessary).
 - a) Find factorial of a number
 - b) Print fibonacci series up to n terms and its sum.
 - c) Print prime numbers up n terms.
 - d) Print whether a given year is leap or not.

ARRAY

8. Create a single program to perform following tasks using switch, if..else, loop and single dimension character array without using library function:
 - a) To reverse the string.
 - b) To count the number of characters in string.
 - c) To copy the one string to other string;
 - d) To find whether a given string is palindrome or not.
 - e) To count no. of vowels, consonants in each word of a sentence and no. of punctuation in sentence.
 - f) To arrange the alphabets of a string in ascending order.
9. Create a single program to perform following tasks using switch, if..else, loop and single dimension integer array:
 - a) Sort the elements.
10. Write a program that read the afternoon day temperature for each day of the month and then report the month average temperature as well as the days on which hottest and coolest days occurred.
11. Create a single program to perform following tasks using switch, if..else, loop and double dimension integer array of size 3x3:
 - a) Addition of two matrix.
 - b) Subtraction of two matrix.
 - c) Multiplication of two matrix.
12. Create a single program to perform following tasks using switch, if..else, loop and double dimension character array of size 5x40:
 - a) Sorting of string.
 - b) Finding the largest string.
 - c) Finding the smallest string.

FUNCTIONS

13. Write program using the function power (a, b) to calculate the value of a raised to b.
14. Write a program to perform following tasks using switch...case, loops and function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
15. Write a program to perform following tasks using switch...case, loops and recursive function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
16. Write a function to accept 10 characters and display whether each input character is digit, uppercase letter or lower case letter.

STRUCTURE

17. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare a structure variable of student. Provide facilities to input data in data members and display result of student.
18. Create a structure Date with data member's dd, mm, yy (to store date). Create another structure Employee with data members to hold name of employee, employee id and date of joining (date of joining will be hold by variable of structure Date which appears as data member in Employee Structure). Store data of an employee and print the same.
19. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of structure to hold data of 3 students. Provide facilities to display result of all students. Provide facility to display result of specific student whose roll number is given.

POINTER

20. Write a program of swapping two numbers and demonstrates call by value and call by reference.
21. Write a program in c using pointer and function to receive a string and a character as argument and return the no. of occurrences of this character in the string.
22. Write program to find biggest number among three numbers using pointer and function.

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List of Practical

MS- WORD

File New, Open, Save, Cut, Copy, Paste, Drag Drop, Bullets and Numbering, Undo, Redo, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

1. Open a document. Type the following text and perform the tasks as instructed below:-

Working with Word Processor

As already mentioned, a word processor is a package that processes textual matter and creates organized and flawless documents. In addition to it a word processor not only remote all the limitations of typewriter but also offers various useful features that cannot be even dreamt of with typewriter.

Also if same textual matter is to be reproduced with minor changes, retyping the only option in typewriters.

The word processing (and word processor) originated way back in 1964 when special typewriters. Magnetic Tape Selectric typewriters (MIST) were launched by IBM (International Business Machines).

1. Insert the following text after the first paragraph
The main components of a word processing system are listed below:
 - . Computer
 - Printer
 - A word processing software
2. Save the document as Word1.doc
3. Move the second paragraph to the end of the document. Using darg & drop.
4. Move the second paragraph in the end of the document using cut, paste operations.
5. Undo the above actions.
6. Now use Redo actions
7. Go to the End of the document (in one step)
8. Go to the Beginning of document (in one step)
9. Insert page break before the third paragraph.
10. Search the word "computer: in your document with options Match case, find whole words only.
11. Replace the word "typewriters" with "word processor"
12. Undo the above action
13. Remove All page breaks from your document
14. Change the magnification of your document to different percentages using zoom features.
15. Format the above written paragraphs and give the options as follows:
 - (1) Alignment justified
 - (2) Indentation: left 0.2 right:0.2
 - (3) Spacing: before 6 pt. after:6 pt.
 - (4) Special: first line by :0.4"
 - (5) Line spacing 1.5 lines.
16. Set the default tab stop to 0.3"
17. Set the margins to 1.25
18. Format the page using
 1. Left margin:0.5, right margin: 0.5
 2. Top margin:1.5, bottom margin:0.5
 3. Gutter Margin: 1indentation: left 0.2 right:0.2
 4. Header Margin:0.5
19. Format the each occurrence of group of words 'Word Processor' as bold, italic, under line and small caps using find and replace with formatting options.
20. Align the heading to Center and make it bold, underlined and italicized.

File New, Open, Save, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

21. Type the text as show below and perform the tasks as directed:

Computers

COMPUTER is an electronic device that processes data and gives meaningful information.

Computers are being used in almost all the fields today

EXPERT SYSTEMS

HUMAN THINKING AND ARTIFICIAL INTELLIGENCE

Can computer think?

AI at work Today: Natural Language programs and Expert Systems.

THE IMPACT OF COMPUTERS ON PEOPLE

The Positive Impact

The Potential Dangers

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Kaliabadi Road, RAIPUR

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THE IMPACT OF COMPUTERS ON ORGANIZATIONS

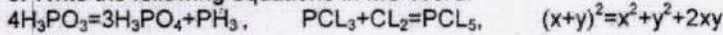
The information Processing Industry

The Positive impact on Using Organizations

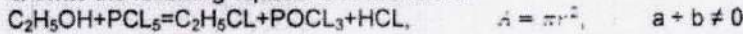
The Potential Dangers for Using Organizations

1. Search for the word 'Computer' in the entire document. All the occurrences of the given word are to be searched irrespective of the case.
2. In the above question note that word also searches 'computerization and 'computerisations'. Now make sure that this time Word searches only for the word 'computer' in the entire document.
3. Change the entire uppercase letter to lowercase.
4. Give a heading to the above written text 'COMPUTERS IN TODAY'S WORLD'
5. Centre aligns the Heading text Computer that appears in first line.
6. Apply outside border to entire document.
7. Apply outside border to the just heading text.
8. Change page setup according to the following specifications
Top margin: 1.5", bottom margin: 1.5"
Gutter: 1", left margin: 1.5"
Right margin: 1"
Page width: 7.5", page height: 6.5 "
Orientation: portrait
9. Give a header 'Creations' and footer 'The school of computing'. The footer should also consist of page no's.
10. Give appropriate commands for giving different header and footers for first page and odd & even pages.
11. Save and close the document.

3. Write the following equations in MS-Word:



4. Write the following equations in MS-Word:



5. Write the following in MS-Word:

1. Preheat the oven to 220°C.
2. Copyright ©
3. Registered ®
4. Trademark ™

6. Create the following table in MS-Word:

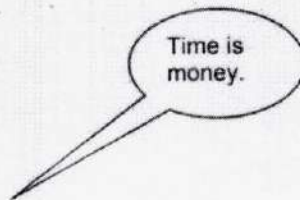
Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

7. Create a document in MS-Word. Set the watermark as **Microsoft**. Also write the following text as formatted below:

measuring programming progress by lines of code is like measuring aircraft building progress by weight.

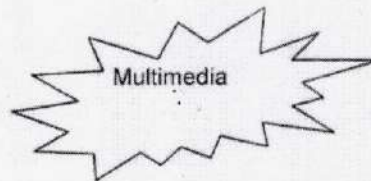
--Bill Gates

8. Create the following:



9. Create the following:

Computers



10. Create the following table in MS-Word:

Course	Admission 2012-2013				Total
	OC	OB	MBC	SC/ST	
Computer Science	9	18	5	5	37
Commerce	14	25	6	5	50
Mathematics	12	20	4	4	40

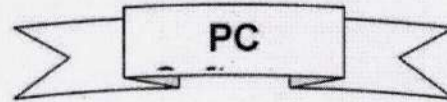
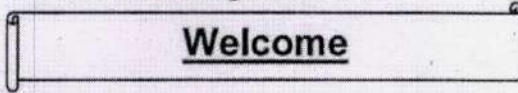
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Gurukul Mahila Mission
Kailbadi Road, R...

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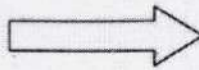
11. Create Table as shown

Car		Price
Maruti	Omni Van	200000
	Maruti 800	242000
Tata	Sumo	390000
	Sierra	447000

12. Insert the following in MS-Word.



13. Insert the following in MS-Word.



14. Write the following in MS-Word

- This is sentencecase.
- thjs is lowercase.
- THIS IS UPPERCASE.
- This Is Capitalise Each Word.
- tHIS IS tOGGLE cASE.

15. Create the following list in MS-Word:

- Actors
 - Bruce Willis
 - Gerard Butler
 - Vin Diesel
- Actress
 - Julia Roberts
 - Angelina Jolie
 - Kate Winslet
 - Cameron Diaz

16. Write the following in MS-Word:

1. Cricket Players
 - A. Batsman
 - i. Sachin Tendulkar
 - ii. Rahul Dravid
 - iii. Virendra Sehwag
 - B. Bowler
 - a. Kumble
 - b. Zaheer Khan
 - c. Balaji
 - C. Spinner
 - a) Harbhajan
 - b) Kumble
 - c) Kartik

17. Write a letter to send invitation to your friend inviting on your birthday.

18. Create labels for your friends' address.

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 Kalibadi Road, RAIPUR (C.G.)

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MS – EXCEL

1. Create the following worksheet and save the worksheet as wages.xls
 PACE COMPUTERS (ATC CEDT), Govt. of India
 Payroll for Employee (Temporary)

Today's date :	Pay Rate :
----------------	------------

Worker's Name	Hired On	days Worked	Gross Wages
Kushagra	3-Mar-07		
Pradeep	4-Mar-07		
Puneet	5-Mar-07		
Rajeev	6-Mar-07		

- (i) Calculate days work and gross wages

2. Create the following worksheet and save the worksheet as wages.xls

Name	Basic (monthly) (Rs.)	HRA(% of basic)	DA (Rs.)	Total Salary (1997)	Bonus (Rs)	Total Salary (1998)	% (Increase)
Shirome	5000	10	450		1200		
Somya	9000	15	800		200		
Tanya	7000	12	900		1800		

- i. Calculate the total salary as sum of Basic salary, HRA ,DA, for each-employee for 1997
- ii. Calculate total salary for year 1998 as sum of salary of 1997 and bonus
- iii. Calculate % increase in salary from 1997 to 1998

3. Create a worksheet as follows

Pace computer (ATC CEDT) Govt. Of India
 Payroll for employee (Permanent)

Empcode	name	doj	salary	bonus	net salary
E001	Meenu	3-Mar-95	5000		
E002	Manoj	4-Mar-06	4000		
E003	Preeti	3-Mar-95	4800		
E004	Sumita	6-Mar-07	7500		

- i. allow bonus 8000 to employee having service >2 year other wise allow bonus 3000
- ii. find net salary as sum of bonus and salary

4. create the worksheet as follows

Roll No	Name	English	Maths	Total	Average	Division
101	Kushagra	95	99			
102	Ajay	92	95			
103	Vijay	70	69			
				Class Average		

- i. find Total of two subject for each student
- ii. find average of two subject for each student
- iii. find class as average of average column
- iv. find division of student as first, second, third, assume percentage of division of your own and maximum marks in each student as 100
- v. Apply conditional formatting for division column, first division should be in bold, second division should be in italic and third division should be underline

1. Create macro in excel to make selected cell, bold, italic outside bordered and center across select

2. create bar chart with given data

	2001	2002	2003
Tea	19	23	25
Coffee	22	24	22
Sugar	45	40	45

- i. Provide heading production detail
- ii. Provide z axis title; lacks metric tone
- iii. Provide x axis title year

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3. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- Sort the data according to Zone then by Department
- Use group and outline feature to show & hide details

8. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- Use filter command to show records having zone: West
- Use filter command to show records having zone: West and salary less than 5000
- Use filter command to show records having salary greater than 10000

9. Create pivot table using Data of exercise 8

1. Suppose a database exists in ms-access you are required to import the data. How will you?

11. Create a table using feature

Principle 1500
Rate 4%
Time 5

300	3	4	5
1%	45	60	75
2%	90	120	150
3%	135	180	225

12. Using goal seek feature find out the interest rate it must be to earn interest 500

Principle 1500
Rate 4%
Time 5
Interest 300

MS-Access

Q.1. Create the following table in MS-Access:

Field Name	Data Type	Description
ContactID	AutoNumber	Primary Key
ContactType	Text 50	Type of contact (Wholesale, dealer, other)
Name	Text 50	Contact's first name
Company	Text 50	The Contact's employer
Address	Text 50	Contact's address
City	Text 50	Contact's city
State	Text 50	Contact's state
ZipCode	Text 50	Contact's zip code
Phone	Text 50	Contact's phone
Fax	Text 50	Contact's fax
E-Mail	Text 100	Contact's e-mail address
LastSalesDate	Date/Time	The most recent date the contact purchased something
DiscountPercent	Number	The customary discount provided to the customer
Notes	Memo	Notes and observations regarding this customer
Active	Yes/No	Whether the customer is still buying or selling products

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Q.2. Create the following tables in MS-Access with the referential integrity-foreign key:

1. tbiProducts

Primary Key - ProductID

ProductID	Description	Category	Quantity	Cost	RetailPrice	Product Number	SalePrice	Taxable
-----------	-------------	----------	----------	------	-------------	----------------	-----------	---------

2. tbiSalesLineItems

Primary Key - SalesLineItemID

SalesLineItemID	InvoiceNumber	ProductID	ProductNumber	Quantity	Description	Price	Discount
-----------------	---------------	-----------	---------------	----------	-------------	-------	----------

3. tbiSales

Primary Key - InvoiceNumber

InvoiceNumber	SaleDate	InvoiceDate	Buyer	PaymentMethod	TaxLocation	TaxRate
---------------	----------	-------------	-------	---------------	-------------	---------

MS PowerPoint

Q 1 Create a PPT of Atleast 10 Slides with one slide for comparison, one slide displaying a chart with the table.

Q 2 Create a PPT presentation use rehearse timing for the slide show

Q 3 Create PPT presentation slide import sound and video clips.

Q 4 Create PPT presentation with hyperlinking.

Q 5 Create PPT presentation and apply themes and transitions.

Tally

Preparing Balance Sheet for various companies.

Kris
27/4/19

27-4-19

Diya

Bob
27/4/19

Banyan
27/4/19

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Second Semester -	DCA105	: GUI - Programming in Visual Basic.
	DCA106	: E- Commerce
	DCA107	: HTML & Internet Applications.
	DCA108	: Practical based on DCA105 & DCA107.

DCA105 GUI - PROGRAMMING IN VISUAL BASIC

UNIT - I

Introduction to visual Basic: Hardware requirements, features of VB, Editions of Visual Basic, and Event Driven Programming vs procedure oriented programming. Introduction to Integrated Development Enviroment. Basic concepts of Visual Basic programming: Controls, properties, methods, events, forms, projects. Creating Executable files.

Variables, constants, data types, data conversion function., scope of variables Operators

UNIT - II

Control Structure : Conditional / branching statements : If...else..endif, Select case Looping statements: do.. while, for.. next, for each, exiting a loop, goto statement, msgbox and input box functions.

Arrays: types of arrays, array manipulation, Working with standard controls. Working with control array, various key and mouse events, using drag and drop concepts.

UNIT - III

Procedure and Functions: types of function, library function, date and time function, format function, and string related function, validation function. Creating user defined function & procedure, call by value and call by reference, concept of recursion, working with basic module, class module and form module.

UNIT - IV

Working with Advanced Controls: toolbar, status bar, tabbed dialog controls, progress bar, animation controls, dtpicker, calendar, common dialog control.

SDI & MDI Application: creating MDI application, menu editor: defining menu & popup menu, sub main, startup objects. Working with graphics control and using graphic methods.

UNIT - V

Data Access Using the ADO Data Control: Basic concepts of relational database, visual data manager, introduction to SQL, concept of ODBC, Overview of DAO and RDO, Using DAO and RDO to access data. ADO features, difference among ADO, DAO and RDO, accessing and manipulating database using ADO, ADO object hierarchy, concept of recordset and its type, connection object, command object.

BOOKS RECOMMENDED :

1. Introduction to OOP & V.B. - V.K. Jain (Vikas Publisher]
2. Data Base Management System - Alexies & Mathews [Vikas publication]
1. Programming in Visual Basic - G.B. Sahoo & Rita Sahoo BPB Publications.
2. Programming in VB 6.0- Bradley - TM Hill.

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DCA106
E- Commerce

Unit – I : Introduction to Electronic Commerce –The scope of E-commerce; Size, growth and future projection of E-commerce market Worldwide and in India; Internet and its impact on traditional businesses; Definition of E-commerce; Business models in E –Commerce environment; Case studies.

Unit – II : Emergence of E-commerce - E-commerce on private networks, Electronic Data Interchange (EDI), What is EDI, EDI in action, EDI basics, EDI standards, financial EDI, FEDI for international trade transaction, FEDI payment system within the US, ACH credit transfer payment system FEDI, application of EDI, benefits of EDI, Electronics Payment system, E-commerce on the web, E-commerce in India,

Unit – III : Internet, Security and E-Commerce: Security of Data/Information in Internet/web environment; Client security, Network security; Virus protection and Hacking; Security Measures: Authentication, Integrity, Privacy, Non-repudiation; Public information, Private information, firewall tunnels, encryption, secret key encryption, public key encryption, digital signature.

Unit – IV: E-commerce Payment Systems – E-Commerce Payment Models: Pure and Hybrid E-Commerce Payment Models; Credit Card; Debit Cards; Pre-paid Card; Online debit to the accounts; and Alternative Payment Systems employing Electronic Clearing System of Reserve Bank of India.

Unit – V : Types of E-commerce Business-to-Business (B2B), Business-to-Consumer (B2C); Business-to-Business-to-Consumer (B2B2C) and Consumer-to-Consumer (C2C) E-Commerce, Inter organizational transaction; Business transaction cycle, different types of transactions in E-commerce environment; Electronic markets, advantages and disadvantages of E-Market, Future of E-Markets; Inter- Organizational E-Commerce transactions; Advantages and Disadvantages of Inter-Organizational E-Commerce.

Recommend Books –

1. Business on the net - by Kamlesh N. Agarawala , Amit Lal & Deeksha Agarawal (Macmillan India Ltd.).

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Date

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Pranav
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DCA107
HTML & Internet Applications

1. **HTML Basics & Web Site Design Principles** – Concept of a Web Site, Web Standards, What is HTML? HTML Versions, Naming Scheme for HTML Documents, HTML document/file, HTML Editor, Explanation of the Structure of the homepage, Elements in HTML Documents, HTML Tags, Basic HTML Tags, Comment tag in HTML, Viewing the Source of a web page, How to download the web page source? XHTML, CSS, Extensible Markup Language (XML), Extensible Style sheet language (XSL), Some tips for designing web pages, HTML Document Structure. HTML Document Structure-Head Section, Illustration of Document Structure, <BASE> Element, <ISINDEX> Element, <LINK> Element, META, <TITLE> Element, <SCRIPT> Element, Practical Applications.
2. **HTML Document Structure-Body Section** - Body elements and its attributes: Background; Background Color; Text; Link; Active Link (ALINK); Visited Link (VLINK); Left margin; Top margin, Organization of Elements in the BODY of the document: Text Block Elements; Text Emphasis Elements; Special Elements -- Hypertext Anchors; Character-Level Elements; Character References, Text Block Elements: HR (Horizontal Line); Hn (Headings); P (Paragraph); Lists; ADDRESS; BLOCKQUOTE; TABLE; DIV (HTML 3.2 and up); PRE (Preformatted); FORM, Text Emphasis Elements, Special Elements, -- Hypertext Anchors, Character-Level Elements: line breaks (BR) and Images (IMG), Lists, ADDRESS Element, BLOCKQUOTE Element, TABLE Element, COMMENTS in HTML, CHARACTER Emphasis Modes, Logical & Physical Styles, Netscape, Microsoft and Advanced Standard Elements List, FONT, BASEFONT and CENTER.
3. **Image, Internal and External Linking between WebPages** - Netscape, Microsoft and Advanced Standard Elements List, FONT, BASEFONT and CENTER Insertion of images using the element IMG (Attributes: SRC (Source), WIDTH, HEIGHT, ALT (Alternative), ALIGN), IMG (In-line Images) Element and Attributes; Illustrations of IMG Alignment, Image as Hypertext Anchor, Internal and External Linking between Web Pages Hypertext Anchors, HREF in Anchors, Links to a Particular Place in a Document, NAME attribute in an Anchor, Targeting NAME Anchors, TITLE attribute, Practical IT Application. Designing web pages links with each other, Designing Frames in HTML. Practical examples.
4. **Creating Business Websites with Dynamic Web Pages** – Concept of static web pages and dynamic web pages, Introduction to scripting, Types of Scripting languages, Scripting Files, Client Side Scripting with VB/JavaScript/JavaScript, Practical examples of Client side scripting. Identifying Objects & Events, and Creating & Implementing Common Methods., Hosting & promotion of the web site, Domain Name Registration, Web Space allocation, Uploading / Downloading the website- FTP, cute FTP. Web Site Promotion Search Engines, Banner Advertisements.
5. **Internet** - Technical foundation of Internet, Internet Service Provider, Anatomy of Internet, ARPANET and Internet History of World Wide Web, Services Available on Internet; Basic Internet Terminologies. Client server computing, Distributed Computing, Domain naming system, DNS Server, Internet Security, Internet Applications.

Recommend Books –

1. Business on the net - by Kamlesh N. Agarwala, Amit Lal & Deeksha Agarawal
2. Introduction to HTML by Kamlesh N. Agarwala, O.P.Vyas, Prateck A. Agarwala.
3. ASP Developer's Guide – by Greg Buczek (TATA McGraw Hill).
4. Information Technology Act 2000: www.mit.gov.in/it-bill.htm

Online Resources— Indian Case Studies: URL's of some of the websites

India's first e-Commerce B2C e-tailer: www.fabmart.com
India's first online trading netpreneurs www.icicidirect.com
India's first alternative payment alternative: www.billjunction.com
Indian online grocery establishments: www.fabmart.com; www.sangam.com; www.subiksha.com; and www.myfoodworld.com for example.
India bank's offering Internet banking services: www.icicibank.com; www.hdfcbank.com; www.gtbank.com, for example.
www.ncsa.uiuc.edu/General/Internet/www.

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DCA108 : Practical based on DCA105 & DCA107

1 Scheme of Examination:-

Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows

Programme 1 (VB)	-	20
Programme 2 (VB)	-	20
Programme 1 (HTML)	-	10
Programme 2 (HTML)	-	10
Viva	-	25
[Practical Copy + Internal Record]	-	15
Total	-	100

- 2 In every program there should be comment for each coded line or block of code
- 3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
- 4 All the following programs or a similar type of programs should be prepared

List of Practical of Visual Basic

2. WAP to perform arithmetic operation using command buttons. (Declare variables globally).
3. WAP to take input of principal, rate & time and calculate simple interest & compound interest.
4. Write a program to take input of x and print table of x in the following format.

```
X * 1 = X
X * 2 = 2X
-----
-----
```

```
X ** 10 = 10*X
```

5. Design an interface, which will appear like marksheet. It will take input of marks in five subjects and calculate total marks and percentage then provide grade according to following criteria. (Using nested If) (Use tab index property to move focus).

If %	Then Grade
> = 90	A+
> = 75 & < 90	A
> = 60 & < 75	B
> = 45 & < 60	C
Otherwise	F

6. WAP to create a simple calculator (Using control array)
7. Write a program to check whether a centered no. is prime or not. (Using for loop & Exit for)
8. Write a program which will count all vowels, consonants, digits, special characters and blank spaces in a sentences (Using select case)
9. WAP to illustrate all functionalities of listbox and combobox.
10. WAP using check boxes for following font effects.

- Bold
- Italic
- Underline
- Increase font size
- Decrease font size
- Font color

10. WAP for temperature conversion using option button.
11. WAP to launch a rocket using pictures box and timer control.
12. WAP to change back color of any control (label, textbox) using scroll box.
13. WAP to search an element for a one dimension static array.
14. WAP to sort a dynamic array of
 - (a)n numbers
 - (b)n strings (Input array size at run time)
15. WAP to take input of two matrices and perform their addition, subtraction and multiplication using menu editor.
17. WAP to illustrate call by value and call by reference (to swap to values)
18. Write a program to calculate factorial of a number using user defined function.
19. Take input of a word and WAP to check whether it is a palindrome or not. (Without using structure fun)
20. WAP to find smallest among given three numbers using user defined procedures.
21. WAP to generate, print and find sum of first n elements of fibonacci series using recursion.
22. WAP to perform read write operations in a sequential file.
24. WAP to display records of a table using DAO & bound control code for buttons to move at first record, next record, previous record, last record in the table.

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25. Create a table using **visual data manager** and write a program using **RDO & advanced bound control** to add, delete, edit & navigate records.
26. WAP to access a database using **ADO &** display a key column in the combo box or list box when an item is selected in it, its corresponding records is shown in **MSH flex grid**.
27. Using **Data Environment** create a program to display records of any table.
28. WAP to generate marksheet of students in a class through **data report**.
30. Using **drive, directory and file list box** (it will show only .bmp files). Let the user select the bmp files, which will appear in picture box as user click on any item in list box.
31. Using **toolbar** design an interface for string manipulation. Toolbar should have tabs to (a) Find length of string (b) No of blank spaces in sting (c) Reverse the string Also show current date & time in **status bar**.

HTML LIST OF PRACTICALS

Q.1. Write an HTML program to create the following table:

Class	Subject1	Subject2	Subject3
BCA I	Visual Basic	PC Software	Electronics
BCA II	C++	DBMS	English
BCA III	Java	Multimedia	CSA

Q.2. Write an HTML program to create the following lists:

- C
- C++
- Fortran
- COBOL

Q.3. Write an HTML program to create the following lists:

1. Java
2. Visual Basic
3. BASIC
4. COBOL

Q.4. Write an HTML program to demonstrate hyperlinking between two web pages. Create a marquee and also insert an image in the page.

Q.5. Write an HTML program to create frames in HTML with 3 columns (Width = 30%, 30% , 40%).

Q.6. Write an HTML program to create a web page with a blue background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

Q.7. Write an HTML program to create the following table:

Admission

Course	OC	BC	MBC	SC/ST	TOTAL
Computer science	9	18	5	5	37
Commerce	14	25	6	5	50
Grand total					87

Q.8. Write an HTML program to create the following table:

Car Price List

Maruti		Tata		Ford	
Model	Price	Model	Price	Model	Price
Maruti 800	2 Lac	Sumo	2 Lac	Ikon	5 Lac
Omni	3 Lac	Scorpio	3 Lac	Gen	2 Lac

Q.9. Write an HTML program to create the following table:

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Handwritten signature and date: 27-11-19

Handwritten signature and date: 27/11/19

Handwritten signature and date: 27/11/19

STUDENTS REPORT

Pandit Ravishankar Shukla University		
NAME	ROLL NO	CLASS
Pamini	40	BCA-1
Preethi	85	BCA-1
Priya	74	BCA-1
Esha	95	BCA-1

Q.10. Write an HTML program to create the following table:

Students Records

Name	Subject	Marks
Arun	Java	70
	C	80
Ashish	Java	75
	C	69

Q.11. Create an HTML document and embed a flash movie in it.

Q.12. Write the HTML coding to display the following table. Also insert an image in the web page.

Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70
Operating System	100	33	68
C++	100	33	73

Q.13. Write the HTML coding to display the following table:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

Q.14. Write an HTML program to create a form as the following:

Enter Name:

Enter Roll No.:

Enter Age:

Enter DOB:

Q.15. Write an HTML program to create a web page with an image as background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

On the other side New Delhi, the imperial city built by British, reflect the fast paced present. The most fascinating of all is the character of Delhi which varies from the 13th present century mausoleum of the Lodi kings to ultra modern glass skyscrapers.

Q.16. Create the following HTML form.

USERNAME:

PASSWORD:

When user types characters in a password field, the browser displays asterisks or bullets instead of characters.

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Pranav
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Shubh
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Shuman
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Shubh
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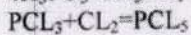
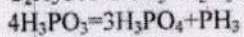
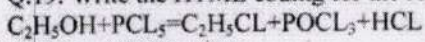
Q.17. Create the following HTML form.

FIRSTNAME:
LASTNAME:
GENDER:
Male Female
SUBJECTS: Multimedia
Operating System
CSA

Q.18. Create the following HTML form.

Enter your name:
Enter your rollno:
Subjects:
 Java
 C
 Visual Basic
 C++
Class: BCA I
BCA II
BCA III

Q.19. Write the HTML coding for the following equations:



Q.20. Write the HTML code to display the following:

- Actors
 - Bruce Willis
 - Gerard Butler
 - Vin Diesel
 - Bradd Pitt
- Actress
 - Julia Roberts
 - Angelina Jolie
 - Kate Winslet
 - Cameron Diaz

Q.21. Write the HTML code to display the following:

I. Cricket Players

A. Batsman

- i. Sachin Tendulkar
- ii. Rahul Dravid
- iii. Virendra Sehwag

B. Bowler

- i. Kumble
- ii. Zaheer Khan
- iii. Balaji

C. Spinner

- i. Harbhajan
- ii. Kumble
- iii. Kartik

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COMPUTER SCIENCE

PAPER - I

(Paper Code-0909)

COMPUTER HARDWARE PART-C

AIM : The emphasis is on the design concepts & organisational details of the common PC, leaving the complicated Electronics of the system to the computer engineers.

Objective of the Course :

1. To introduce the overall organisation of the microcomputers and operating systems.
2. To introduce the interaction of common devices used with computers with operating softwares, excluding the Assembly languages, with special reference to DOS/WINDOWS.
3. To introduce the working of hardware components, Micro-Processor and various chips used in micro-computers by operating system, without the use of electronic circuitry.
4. To introduce the use of operating systems architecture with IBM-PC & clones, excluding Assembly language, with forms an important part of hardware.

N.B. : Since the computer organisation study is very vast & complicated, so the study is restricted only to the description and understanding part, hence the paper-setter is requested to keep this important factor in mind.

UNIT-1 : ORGANISATION OF Micro-Processor & MICRO-COMPUTER :-

1. Introduction & organisation of Micro-Computer :

- (a) Basic Components of Micro-computer : Basic Block; Program memory; Data memory; I/O Ports; Clock generator; Integration of functional blocks.
- (b) Interconnecting Components in a Micro-computer : Necessary functional block; Bussed architecture for microcomputer; memory addressing; Addressing I/O ports; comparison of I/O mapped and memory mapped I/O.
- (c) Input Output Techniques : Non-CPU devices, Program & interrupt controlled I/O; Hardware controlled I/O or DMA.

2. An Introduction to the various μ P or CPU :

- (a) General understanding of different μ P or CPU : Intel 8088, 286, 386, 486, 586 Pentium, P34C, MMX P35C; Motorola 6800 & 68100 series; CYRIX & AMD CPUs.
- (b) The Registers of CPU : (Give Example of P-8088) Register organisation of 8088, Scratch pad segment, pointer, Index and Flag, Registers.
- (c) Memory addressing modes of P-8088 : Segment offset; Data addressing modes; Addressing for branch instructions.
- (d) I/O Addressing with P-8088 : Memory mapped I/O & I/O mapped I/O.

UNIT-2 : SYSTEM HARDWARE ORGANISATION OF COMPUTERS :

1. Hardware Organisation of the Personal Computer :

- (a) Block diagram with various parts of PC.
- (b) The Mother Board of General P.C. : 8088 CPU; ROM & RAM; Keyboard



& its interface; System timer/counters; Hardware interrupt vectoring; DMA controller & channels; Interfacing to audio speaker; Bus slots & feature cards.

- (b) The Serial I/O ports, COM-1 & COM-2.
- (c) The parallel Port for Printer.
- (d) Expansion Slots for RAM.
- (e) Disk Controllers : For floppy, Hard disk, CD-ROM & Cassette drives.

2. The Video Display of PCs :

- (a) Video Monitors; Monochrome and colour.
- (b) Video Display Adapters & Their Video Modes; Monochrome & colour graphics adapters.
- (c) Video Control Through ANSI-SYS.
- (d) Video Control Through ROM-BOIS : INT 10H.
- (e) Direct Video Control; Monochrome & colour graphics adapters.
- (f) Installing Customized Character Sets.

UNIT-3 : ORGANISATION OF OPERATING SYSTEM WITH SYSTEM HARDWARE :

1. The ROM-BIOS Services :

- (a) Introduction to UNIX, ENIX, SUN, solaris, DOS & MAC with special reference to DOS & Windows, its ver., as DOS becomes more popular than others in PCs.
- (b) The ROM-BIOS Diskette Services, INT 13H.
- (c) The ROM-BIOS Serial Port Services, INT 14H.
- (d) The ROM-BIOS Keyboard Services, INT 16H.
- (e) The ROM-BIOS Printer Services, INT 17H.
- (f) Miscellaneous Service Provided by the ROM-BIOS : INT 05H, INT 11H, INT 12H, INT 18H, INT 19H, INT 1AH.

2. The fundamental of Operating System via. DOS/WINDOWS :

- (a) The loading of DOS & Its Basic Structure ; ROM bootstrap, IO.SYS, DOS.SYS & Command..COM.
- (b) The Execution of the programs under DOS ; EXEC functions, program segment prefix; Features of COM & EXE program files.
- (c) Device Handling by Dos ; FDD, HDD, COM, Keyboard, PRN, AUX, CLOCK and NUL devices; Block devices; Character devices; Driver installation sequence.
- (d) File Structures of DOS ;
- (e) The DOS Interrupts : INT 20H-2FH
- (f) The DOS functions through INT 21H; Discuss only the understanding part of various other DOS function to handle hard & softwares.
- (g) Installation of windows : Important system files in windows.

UNIT-4 : ORGANIZATION & HANDLING BY OPERATING SYSTEMS :

1. Disk and Files under DOS :

- (a) Logical Structure of a Disk : Organisation of disk for use; Boot record ; FAT

files; disk or root directory.

- (b) File Organisation on a DOS disk : Logical volumes ; Sub directories; Volume labels.
- (c) Manipulating Files under DOS : File attributes ; date and time, file Access; PCB functions.

2 Memory Allocation, Program Loading and Execution :

- (a) Memory Management under DOS : EXEC loader; Memory Management & its functions; Modifying a Program's memory allocation.
- (b) Loading and Executing Programs under DOS : The EXEC function ; Memory considerations; parameter blocks; calling & returning from EXEC.
- (c) Loading the program overlays through EXEC.

UNIT-3 : ORGANISATION OF HARDWARE BY OPERATING SYSTEM :

1. Interrupt Handling through DOS :

- (a) Types of interrupts.
- (b) Interrupt Vector Table in PC.
- (c) Interrupt Service Routines.
- (d) Special Interrupts in PC : Clock Interrupt; The -C or Break Interrupt ; DOS reserved interrupt INT 2EH ; Patching memory resident routines.

2. Filters for DOS :

- (a) Filters in operating systems.
- (b) Redirection of I/O under DOS.
- (c) The Filters Supplied with DOS.
- (d) Writing Filters to run under DOS.

3. Handling of Various Versions of Windows O.S. :

- (a) Setup Installation
- (b) Trouble shooting
- (c) Networking features

Text Book :

1. Hardware and Software of Personal Computers.
By Sanjay K. Bose. (Wiley Eastern Ltd. New Delhi).

Supporting Text Books :

1. Digital System from Gates to Microprocessor.
By Sanjay K. Bose. (Wiley Eastern Ltd. New Delhi).
2. Computer Fundamentals ; Architecture & Organisation.
By H. Rana. (Wiley Eastern Ltd. New Delhi).

Reference Books :

1. IBM PC-XT and Clones : By Govinda Rajalu.
2. Microprocessor and interfacing : By Douglas Hall.
3. Insight the IBM-PC : Peter Norton.
4. Microprocessor System : 8086/8088 family architecture, programming & design ; By Liu and Gibern.

COMPUTER SCIENCE

PAPER - I

COMPUTER HARDWARE

(Paper Code - 0826)

Duration 3 hours

Max. Marks 80

AIM - The emphasis is on the design concepts & organizational details of the common PC, leaving the complicated electronics of the system of the computer Engineers.

OBJECT OF THE COURSE -

1. To introduce the overall organization of the microcomputers.
2. To introduce the common peripheral devices used in computers.
3. To introduce the hardware components, use of micro processor and function of various chips used in microcomputer.

NOTE : Since the computer organization study is very vast & complicated, so the study is restricted to only the description and understanding part, hence the paper setter is requested to keep this important factor in mind.

UNIT-I CLASSIFICATION AND ORGANIZATION OF COMPUTERS

Digital and analog computers and its evolution. Major components of digital computers; Memory addressing capability of CPU; word length and processing speed of computers. Microprocessors single chip microcomputers; large and small computers. Users interface Hardware software and firmware. multi programming multi user system. Dumb smart and intelligent terminals computer network and multi processing, LAN parallel processing. Flynn's classification of computers. Computer flow and data flow computers.

UNIT-II CENTRAL PROCESSING UNIT.

CPU organization, ALU control unit registers. Instructions for INTEL 8085. Instruction word size, Various addressing mode interrupts and exceptions, some special Control signals and I/O devices. Instruction cycle fetch and execute operation, time Diagram, data flow.

UNIT-III MEMORY OF COMPUTERS.

Main memory secondary memory, backup memory, cache memory; real and virtual Memory Semiconductor memory. Memory controller and magnetic memory; ROM; disks, optical disks Magnetic bubble memory; DRAM. destructive and non destructive. readout. Program of data Memory and I/O.

UNIT-IV I/O DEVICES.

I/O devices of micro controller; processors. I/O devices, printer, plotter, other out put devices, I/O port serial data transfer scheme, Micro controller, signal processor, I/O processor I/O processor arithmetic processor.

UNIT-V SYSTEM SOFTWARE AND PROGRAMMING TECHNIQUE.

M. M. MLL, stack subroutine debugging of program macro, micro programming, Program Design. software development. flow & chart multi programming, multhuser, multi tasking Protection, operating system and utility program, application package.

RE-II

Suman
11-06-18
Dr. Sushy Kumar

Prof. C. K. Sahu
11-06-18

YMC
11-06-18
Havi Shankar Prasad Tudu

Dr. A. K. Dainadi
Dr. J. K. Singh

Sushy Kumar
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RECOMMENDED BOOKS :

- 1 Computer Fundamentals : Architecture and Organisation - By S. Ram (Miley East-
an Ind.)
- 2 Computers Today - By Donald N. Sanders
- 3 Computers Fundamental - By Rajarajan.
- 4 IBM PC - XT Claves - By Govinda Rajulu

**SEM - II
SOFTWARE**

(Paper Code - 096)

AIM - Introduction to the web-language-HTML & problem solving through the concept of object oriented programming.

OBJECT OF THE COURSE -

- 1 To introduce the internet & web related technology & learn the intricacies of web-page designing using HTML.
- 2 To introduce the object oriented programming concept using C++ language.
- 3 To introduce the problem solving methodology using the C++ programming features.

M.R. : Students are requested to prepare unit-wise Question papers.

UNIT-I - HTML BASICS & WEB SITE DESIGN PRINCIPLES

Concept of a Web Site, Web Standards, What is HTML? HTML Versions, Naming Scheme for HTML Documents, HTML document/file, HTML Editor, Explanation of the Structure of the homepage, Elements in HTML Documents, HTML Tags, Basic HTML Tags, Comment tag in HTML, Viewing the Source of a web page, How to download the web page source? XHTML, CSS, Extensible Markup Language (XML), Extensible Style sheet language (XSL), Some tips for designing web pages, HTML Document Structure. HTML Document Structure-Head Section, Illustration of Document Structure, <BASE> Element, <ISINDEX> Element, <LINK> Element, <META>, <TITLE> Element, <SCRIPT> Element, Practical Applications, HTML Document Structure-Body Section:-Body elements and its attributes: Background, Background Color, Text, Link, Active Link (ALINK), Visited Link (VLINK), Left margin, Top margin, Organization of Elements in the BODY of the document: Text Block Elements; Text Emphasis Elements; Special Elements - Hypertext Anchors; Character-Level Elements; Character References, Text Block Elements: HR (Horizontal Line); Hn (Headings); P (Paragraph); Lists; ADDRESS; BLOCKQUOTE; TABLE; DIV (HTML 3.2 and up); PRE (Preformatted); FORM, Text Emphasis Elements, Special Elements - Hypertext Anchors, Character-Level Elements: line breaks (BR) and Images (IMG), Lists, ADDRESS Element, BLOCKQUOTE Element, TABLE Element, COMMENTS in HTML, CHARACTER Emphasis Modes, Logical & Physical Styles, Netscape, Microsoft and Advanced Standard Elements List, FONT, BASEFONT and CENTER.

UNIT-II IMAGE, INTERNAL AND EXTERNAL LINKING BETWEEN WEPPAGES

Netscape, Microsoft and Advanced Standard Elements List, FONT, BASEFONT and CENTER Insertion of images using the element IMG (Attributes: SRC (Source),

EE-II

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(C.K. Gavel)

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Hari Shankar Prasad Tare

59
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WIDTH, HEIGHT, ALT (Alternative), ALIGN, IMG (In-line Images) Element and Attributes; Illustrations of IMG Alignment, Image as Hypertext Anchor, Internal and External Linking between Web Pages Hypertext Anchors, NAME in Anchors, Links to a Particular Place in a Document, NAME attribute in an Anchor, Targeting NAME Anchors, TITLE attribute, Practical IT Application Designing web page links with each other, Designing Frames in HTML. Practical examples.

UNIT-III INTRODUCTION TO OOP

Advantages of OOP, The Object Oriented Approach, Characteristics of object oriented languages- Object, Classes, Inheritance, Reusability, Polymorphism and C++.

Function: Function Declaration, Calling Function, Function Defines, Passing Argument to function, Passing Constant, Passing Value, Reference Argument, returning by reference, Inline Function, Function Overloading, Default Arguments in Function.

UNIT-IV OBJECT CLASSES AND INHERITANCE

Object and Class, Using the class, class constructor, class destructors, object as function argument, copy constructor, struct and classes, array as class member, Static Class Data, Static Member Functions, Friend function, Friend class, operator overloading, Type of inheritance, Base class, Derive class, Access Specifier: protected, Function Overriding, member function, String, Template Function.

UNIT-V POINTERS AND VIRTUAL FUNCTION

pointers: & and * operator pointer variables, pointer to pointer, void pointer, pointer and array, pointer and function, pointer and string, memory management, new and delete, pointer to object, this pointer Virtual Function: Virtual Function, Virtual member function, accesses with pointer, pure virtual function

File and Stream: C++ streams, C++ Manipulators, Stream class, string I/O, char I/O, Object I/O, I/O with multiple object, Disk I/O.

RECOMMENDED BOOKS :

- | | | |
|---------------------------------------|---|--|
| 1. Introduction to HTML | : | Kamlesh Agarwala, O.P.Vyas, Prateek A. Agrwala (Kitab Mohal Publication) |
| 2. Let us C++ | : | Y. Kanetkar B.P.B Publication |
| 3. Programming in C++ | : | E. Balagurusami |
| 4. Mastering in C++ | : | Varun Gopal |
| 5. Object Oriented Programming in C++ | : | Lafare R. Galgotia Publications. |

82-II

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(Dr. Sujay Kumar)

Paul
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(L.K. Gavey)

YMP
Lande
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Kavi Shankar Pandey

Anil
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(Dr. A.K. Dainodi)

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B.Sc. PART - I
COMPUTER SCIENCE
PAPER - I
COMPUTER FUNDAMENTAL
(PAPER CODE - 0805)

NOTE: The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Max Marks: 50

UNIT - I Classification and Organization of Computers

History of computer, Generation of computer, Calculator vs. Computer, Digital and Analog computers and its evolution. Major components of digital computers; Memory addressing capability of CPU. Word length and processing speed of computers, Microprocessors, Single chip Microcomputer, Large and small computers, Users interface, Hardware, software and firmware, multi programming multi user system, Dumb smart and intelligent terminals, computer network and multi processing, LAN parallel processing, Flynn's classification of computers, Control flow and data flow computers

UNIT - II Central Processing Unit

Parts of CPU- ALU, Control Unit, Registers, Architecture of Intel 8085 microprocessor, Instructions for Intel 8085 microprocessor, Instruction Word size, Various addressing mode, Interrupts, Some special Control signals, Instruction cycle, fetch and execute operation, Timing Diagram, Instruction flow and data flow.

UNIT - III Memory

Memory hierarchy, Primary and Secondary Memory, Cache memory, Virtual Memory, Direct Access Storage Devices (DASD), Destructive and Nondestructive Readout, Program and data Memory, Memory Management Unit (MMU), PCMCIA Cards and Slots.

UNIT - IV I/O Devices

I/O devices- Keyboard, Mouse, Monitor, Impact and Non-Impact Printers, Plotter, Scanner, other Input/output devices; Scan method of Display- Raster Scan, Vector Scan, Bit Mapped Scan, CRT Controller, I/O Port- Programmable and Non Programmable I/O ports, Inbuilt I/O ports- Parallel and Serial ports, USB, IEEE 1394, AGP, Serial data transfer scheme. Micro controller, Signal Processor, I/O processor, Arithmetic Processor.

UNIT-V SOFTWARE AND PROGRAMMING TECHNIQUES

Application and System Software: Introduction, Example, Difference etc., Introduction to Open Source Software such as Unix/Linux (Ubuntu), Libre office etc., Introduction to Machine Language, Assembly Language and High Level Languages, Programming Techniques, Stack, Subroutine, Debugging of programs, Macro, Program Design, Software development, Flow Chart, Multi programming, Multiuser, Multitasking Protection, Operating system and Utility programs, Application packages.

TEXT BOOKS:

1. Computer Fundamentals, P. K. Sinha, BPB Publications, Sixth Edition.
2. Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
3. Fundamentals of Computers, V. Rajaraman, PHI, Sixth Edition.
4. Computers Today, Donald H. Sanders, McGraw-Hill, Third Edition.
5. IBM PC and Clones, B Govindarajulu, McGraw-Hill, Second Edition.
6. UNIX Concepts and Applications, Sumitabha Das, Tata McGraw-Hill, Fourth Edition.

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B.COM PART III

COMPULSORY CORE COURSE

TITLE OF PAPER - Group-I - PAPER - I - INCOME TAX

OBJECTIVE

It enables the students to know the basics of Income Tax Act and its implications.

M.M. 75

Proposed syllabus

UNIT-I Basic Concepts : Income, agricultural Income, casual income, assessment year, previous year, gross total income, total income, person.

Basis of charge : Scope of total income, residence and tax liability, income which does not form part of total income.

UNIT-II Heads of Income : Salaries; Income from house property.

UNIT-III Profit and gains of business or profession, including provisions relating to specific business; Capital gains, Income from other sources.

UNIT-IV Computation of Tax Liability : Set-off and carry forward of losses; Deduction from gross total income. Aggregation of income; Computation of total income and tax liability of individual and & HUF,

UNIT-V Tax Management: Tax deduction at source; Advance payment of tax; Assessment procedures; Tax planning for individuals.

Tax evasion, Tax Avoidance and Tax planning. Tax Administration: Authorities, appeals, penalties.

Preparation of return of income

-Manually and on line


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Suggested Reading :

1. Singhania V.K. : Students Guide to Income Tax; Taxmann, Delhi.
2. Prasad, Bhagwati : Income Tax Law & Prectice; Wily Publication, New Delhi.
3. Mehrotra H.C. : Income Tax Law & Accounts : Sahitya Bhawan, Agra.
4. Girish Ahuja and Ravi Gupta : Systematic approach to income tax : Sahitya Bhawan Publications, New Delhi.
5. Chandra Mahesh and Shukla D.C. : Income Tax Law and Practice; Pragati Publications, New Delhi.
6. R.K. Jain : Income Tax & Law (Hindi & English) Shahitya Bhavan, Publication, Agra


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B.COM PART III

COMPULSORY CORE COURSE

Group-II - PAPER - I - INDIRECT TAXES WITH GST

PAPER - II

OBJECTIVE

This course aims at imparting basic knowledge about GST and apply the provisions of GST law to various situations.

M.M. 75

Proposed syllabus


UNIT-I Customs : Role of customs in international trade; Important terms and definitions goods; Duty; Exporter; Foreign going vessel; Aircraft goods; Import; Import Manifest; Importer; Prohibited goods; Shipping bill; Store; Bill of lading; Export manifest; Letter of credit; Kinds of duties - basic, auxiliary, additional or countervailing; Basics of levy ad valorem, specific duties; Prohibition of export and import of goods, and provisions regarding notified & specified goods; Import of goods - Free import and restricted import; Type of import - import of cargo, import of personal baggage, import of stores. Clearance Procedure - For home consumption, for warehousing for re-export; Clearance procedure for import by post; Prohibited exports; Canalised exports; Export against licensing; Type of exports export of cargo, export of baggage; Export of cargo by land, sea, and air routes.

UNIT-II State Excise, CENVAT. Detail study of State Excise during calculation of Tax.

**UNIT-III INTRODUCTION TO GOODS AND SERVICES TAX (GST) - Objectives and basic scheme of GST, Meaning - Salient features of GST - Subsuming of taxes - Benefits of implementing GST, Structure of GST (Dual Model) - Central GST - State / Union Territory GST - Integrated GST
GST Council: Structures Power and Functions. Provisions for amendments.**

UNIT-IV

Registration under GST: Procedure for registration, Persons liable for registration, Persons not liable for registration, Compulsory registration. Exempted goods and services - Rates of GST.


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Procedure relating to Levy: (CGST & SGST): Scope of supply, Tax liability on Mixed and Composite supply, Time of supply of goods and services, Value of taxable supply.
Eway-Billing

UNIT-V ASSESSMENT AND RETURNS - /

Input tax Credit: Eligibility, Apportionment, Inputs on capital goods, Distribution of credit by Input Service Distributor (ISD)
Furnishing details of outward supplies and inward supplies, First return, Annual return and Final return.

Suggested Reading :

1. Deloitte: GST Era Beckons, Wolters Kluwer.
2. Madhukar N Hiregange: Goods and Services Tax, Wolters Kluwer.
3. All About GST: V.S Datey - Taxman's.
4. Guide to GST: CA. Rajat Mohan,
5. Goods & Services Tax – Indian Journey: N.K. Gupta & Sunnania Batia, Barat's Publication
6. Goods & Services Tax – CA. Rajat Mohan,
7. Goods & Services Tax: Dr. Sanjiv Agrawal & CA. Sanjeev Malhotra.
8. GST - Law & Practice: Dr. B.G. Bhaskara, Manjunath. N & Naveen Kumar IM,
9. Understanding GST : Kamal Garg, Barat's Publication


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B.COM PART III

COMPULSORY CORE COURSE

TITLE OF PAPER - Group-II - PAPER - II - MANAGEMENT ACCOUNTING

OBJECTIVE

This course provides the students an understanding of the application of accounting techniques for management.

M.M. 75

Proposed syllabus

UNIT-I Management Accounting : Meaning, nature, scope, and functions of management Accounting ; Role of management accounting in decision making; Management accounting vs financial accounting; Tools and techniques of management accounting ;Financial statement; Objectives and methods of financial statements analysis; Ratio analysis; Classification of ratios - Profitability ratios, turnover ratios, liquidity ratios,turnover ratios; Advantages of ratio analysis; Limitations of accounting ratios.

UNIT-II Funds Flow Statement as per Indian Accounting Standard 3, cash flow statement.

UNIT-III Absorption and Marginal Costing : Marginal and differential costing as a tool for decision making - make or buy; Change of product mix; Pricing, Break-even analysis; Exploring new markets; Shutdown decisions.

UNIT-IV Budgeting for profit Planning and control : Meaning of budget and budgetary control; Objectives; Merits and limitations; Types of budgets; Fixed and flexible budgeting; Control ratios; Zero base budgeting; Responsibility accounting; Performance budgeting.

UNIT-V Standard Costing and Variance Analysis : Meaning of standard cost and standard costing; Advantages and application; Variance analysis - material; Labour and overhead (Two-way analysis); Variances.


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Suggested Reading :

1. Arora M.N. : Cost Accounting - Principles and Practice, Vikas, New Delhi.
2. Jain S.P. & Narang K.L. : Cost Accounting; Kalyani, New Delhi.
3. Anthony, Rogert & Reece, at al : Principles of Management Accounting; Richard Irwin Inc.
4. Horngren, Charles, Foster and Datar et al : Cost Accounting - A Managerial Emphasis; Prentice Hall, New Delhi.
5. Khan M.Y. and Jain P.K. : Management Accounting : Tata McGraw Hill, New Delhi.
6. Kaplan R.S. and Atkonson A.A. : Advanced Management Accounting; Printice Hall India, New Delhi.
7. J.K. Agrawal & R.K. Agrawal : Jaipur (English & Hindi).
8. Dr. M.R. Agrawal : Minakshi Prakashan Meruth.
9. Dr. S.P. Gupta - Agra (Hindi & English).


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B.COM PART III

COMPULSORY CORE COURSE

TITLE OF PAPER - Group-I - PAPER - II - AUDITING

OBJECTIVE

This course aims at imparting knowledge about the principles and methods of auditing and their applications.

M.M. 75

Proposed syllabus

UNIT-I Introduction : Meaning and objectives of auditing; Types of audit; Internal audit. Audit Process : Audit programme; Audit note books; Working papers and evidences.

UNIT-II Internal Check System : Internal control

Audit Procedure : Vouching : Verification of assets and liabilities.

UNIT-III Audit of Limited Companies :

- a. Company auditor –Qualification, Appointment, powers, duties, Resignation and liabilities.
- b. Divisible profits and dividend.
- c. Auditor's report - standard report and qualified report.
- d. Special audit of banking companies.
- e. Audit of educational institutions.
- f. Audit of Insurance companies.

UNIT-IV Investigation : Investigation; Audit of non profit companies,

- a. Where fraud is suspected, and
- b. When a running a business is proposed.
- c. Varifications & Valuation of assets.

UNIT-V Recent Trends in Auditing : Nature and significance of cost audit; Tax audit; Management audit .


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Suggested Reading :

1. Gupta KaPal : Contemporary Auditing : Tata Mcgraw Hill, New Delhi.
2. Tandon B.N. : Principles of Auditing : S. Chand & Co., New Delhi.
3. Pagare Dinkar : Principles and Practice of Auditing : Sultan Chand, New Delhi.
4. Sharma T.R. : Auditing Principles and Problems, Sahitya Bhawan, Agra.
5. Shukla S.M. : Auditing - Shahitya Bhavan, Agra, (Hindi)
6. Batliboy : Auditing.

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B.COM PART III

OPTIONAL GROUP A (Finance Area)

TITLE OF PAPER - FINANCIAL MARKET OPERATIONS

OBJECTIVE

This course aims at acquainting the students with the working of financial markets in India.

PAPER - II

M.M. 75

Proposed syllabus

UNIT-I Money Market : Indian money market's composition and structure; (a) Acceptance houses, (b) Discount houses and (c) Call money market; Recent trends in Indian money market.

UNIT-II Capital Market : Security market - (a) New issue market, (b) Secondary market; Functions and role of stock exchange; listing procedure and legal requirements; Public issue - pricing and marketing; Stock exchanges - National Stock Exchange, Bombay stock exchange

UNIT-III Securities contract and Regulations Act : Main provisions. Investors Protection : Grievances concerning stock exchange dealings and their removal; Grievance cells in stock exchanges; SEBI; Company Law Board; Press; Remedy through courts.

UNIT-IV Functionaries on Stock Exchanges : Brokers, sub brokers, market makers, jobbers, portfolio consultants, institutional investors, and NRIs.

UNIT-V Financial Services : Merchant banking - Functions and roles; SEBI guide-lines; Credit rating - concept, functions, and types.

Javed Khan

Suggested Reading :

1. Van Home J.C. : Financial Management and Policy; Prentice Hall of India, New Delhi.
2. Khan M. Y. and Jain P.K. : Financial Management, Text and Problems; Tata McGrow Hill, New Delhi.
3. Prasanna Chandra L Financial Management Theory and practice; Tata McGrow Hill, New Delhi.
4. Pandey I.M. : Financial Management Vikas Publishing Hous, New Delhi.
5. Brigham E.F. Gapenski L.C., and Ehrhardt M.C. : Financial Management - Theory and Practice; Harcourt College Publishers, Singapore.
6. Bhalla V.K. : Modern Working Capital Management, Anmol Pub. Delhi.



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B.COM PART III

OPTIONAL GROUP B (Marketing Area)

TITLE OF PAPER - PRINCIPLES OF MARKETING

PAPER - I

OBJECTIVE

The Objective of this course is to help students to understand the concept of marketing and its applications.

M.M. 75

Proposed syllabus

UNIT-I Introduction : Nature and scope of marketing; Importance of marketing as a business function, and in the economy; Marketing concepts - traditional and modern; Selling vs. marketing; Marketing mix; Marketing environment.

UNIT-II Consumer Behaviour and Market Segmentation : Nature, scope, and significance of consumer behaviour; Market segmentation - concept and importance; Bases for market segmentation.

UNIT-III Product : Concept of product, consumer, and industrial goods; Product planning and development; Packaging role and functions; Brand name and trade mark; after sales service; Product life cycle concept. Price : Importance of price in the marketing mix; Factors affecting price of a product/service; Discounts and rebates.

UNIT-IV Distributions Channels and Physical Distribution; Distribution channels - Concept and role; Types of distribution channels. Factors affecting choice of a distribution channel; Retailer and wholesaler; Physical distribution of goods; Transportation, Warehousing, Inventory control; Order processing.

UNIT-V Promotion : Methods of promotion; Optimum promotion mix; Advertising media - their relative merits and limitations; Characteristics of an effective advertisement; Personal selling; Selling as a career; Classification of successful sales person; Functions of salesman.
Recent development in marketing - social marketing, online marketing, Direct marketing, Services marketing, Green marketing.


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Suggested Reading :

1. Philip Kotler : Marketing Management Englewood Cliffs; Prentice Hall, N.J.
2. William M. Pride and O.C. Ferrell : Marketing : Houghton - Mifflin Boston.
3. Stanton W.J. Etzel Michael J., and Walker Bruce J. Fundamentals of Marketing; McGraw Hill, New York.
4. Lamb Charies W., Hair Joseph F. and McDaniel Carl : Principles of Marketing; South- Western-Publishing, Cincinnati, Ohio.
5. Cravens David W. Hills Gerald E., Woodruff Robert B : Marketing management : Richard D. Irwin, Homewood Illinois.
6. Kotler Philip and Armstrong Gary : Principles of Marketing; Prentice Hall of India, New Delhi.
7. Dr. R.C. Agrawal, Agra.
8. Dr. S.C. Saxena Agra.
9. Dr. S.K. Jain, Hindi Granth Academi. M.P.
10. Dr. N.C. jain


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B.COM PART III

OPTIONAL GROUP B (Marketing Area)

TITLE OF PAPER - INTERNATIONAL MARKETING

PAPER - II

OBJECTIVE

This course aims at acquainting student with the operations of marketing in international environment.

M.M. 75

Proposed syllabus

UNIT-I International Marketing : Nature, definition, and scope of international marketing; Domestic marketing vs. International marketing; International environment external and internal.

UNIT-II Identifying and Selecting Foreign Market : Foreign market entry mode decisions. Product Planning for international Market : Product designing; Standardization vs. adaptation ; Branding and packaging; Labeling and quality issues; After sales service. International Pricing : Factors Influencing International price; Pricing process-process and methods; International price quotation and payment terms.

UNIT-III Promotion of Product/Services Abroad : Methods of international promotion; Direct mail and sales literature; Advertising; Personal selling; Trade fairs and exhibitions.

UNIT-IV International Distribution : Distribution channels and logistics decisions; Selection and appointment of foreign sales agents.

UNIT-V Export Policy and Practices in India : Export policy - an overview; Trends in India's foreign trade; Steps in starting an export business; Product selection; Market selection; Export pricing; Export finance; Documentation; Export procedures; Export assistance and incentives.

Marketing Control Process

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Suggested Reading :

1. Bhattacharya R.L. and Varshney B. : International Marketing Management; Sultan Chand, New Delhi.
 2. Bhattacharya B. : Export Marketing Strategies for Success; Global Press, New Delhi.
 3. Keegan W.J. : Multinational Marketing Management; Prentice Hall, New Delhi.
 4. Kriplani V. : International marketing; Prentice Hall New Delhi.
 5. Taggart J.H. and Moder Mott. M.C. : The Essence of International Business; Prentice Hall New Delhi.
 6. Kotler Phillip : Principles of Marketing; Prentice Hall New Delhi.
 7. Fayer Weather John : International Marketing; Prentice Hall N.J.
 8. Caterora P.M. and Keavenay S.M. : Marketing an international Perspective; Erwin Homewood, Illinois.
 9. Paliwala, Stanely J. The Essence of International marketing; Prentice Hall, New Delhi.
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B.COM PART III

OPTIONAL GROUP C (Commercial Area)

TITLE OF PAPER - INFORMATION TECHNOLOGY AND ITS APPLICATIONS IN BUSINESS

PAPER - I

OBJECTIVE

The objective of the course is to familiarize the students with the innovation information technology and how it affects business. An understanding of the group rules of these technologies will enable the students to appreciate the nitty-gritty Commerce.

Proposed syllabus

M.M. 75

UNIT-I Information Revolution and information Technology (IT) : Deployment of Business; Basic features of IT; Impact of IT on business environment and social fabric; Invention of writing; Written books; Printing Press and movable type Gutenberg's invention; Radio; telephone, wireless and satellite communication computing and dissemination of information and knowledge and convergence technologies (Internet with Wireless-WAP).

UNIT-II Fundamentals of Computer : Data, information and EDP : Data, information and concept of data and information; Levels of information from data; processing; Electronic data processing; Electronic machines;

a. Number Systems and Codes : Different number systems - binary, octal decimal, hexagonal, and their conversion codes used in computers; Bed, EBCDIC, ASCII; Gray and conversions.

b. Computer Arithmetic and Gates : Binary arithmetic, complements, addition subtraction; Conversion from one system to another; Logic Gates, truth table and applications minimisation, and K-maps.

c. Computer Processing System : Definition of computer; Hardware/Software concepts; Generation of computers; Types of computers; Elements of computer; CPU and its functions, Various computer systems.

d. I/O devices : Basic concepts of I/O devices; Various input devices Keyboard, mouse; MICR, OCR, microphones.

e. Various output devices : VDU, printer, plotter, spooling, L.S.

f. Storage Devices : Primary and secondary memory; Types of memory capacity and its enhancement; Memory devices and comparisons; Auxiliary storage, tapes, disks (magnetic and optical); various devices and their comparison.

g. System Software - Role of Software, Different System Software : O.S., utilization element of O.S. - Its types and variations;


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DOS and windows.

h. Computer and Networks : Need of communication; Data transmission; Baud; Bandwidth; Communication Channel; Multiplexing; Basic network concepts; O.S.I. model; Types of topologies; LAN, WAN, Client server concept.

UNIT-III Computer-based Business Applications

a. Word Processing : Meaning and role of word processing in creating of documents, editing, formatting, and printing documents, using tools such as spelling check, thesaurus, etc. in word processors (MS-Word).

b. Electronic Spreadsheet : Structure of spreadsheet and its applications to accounting, finance, and marketing functions of business; Creating a dynamic/sensitive worksheet ; Concept of absolute and relative cell reference; Using builtin functions; Goal seeking and solver tool; Using graphics and formatting of worksheet; Sharing data with other desktop applications; Strategies of creating error-free worksheet (MS-Excel, Lotus 123).
Practical knowledge on Wings Accounting (Software).

c. Programming under a DBMS environment : The concept of data base management system; Data field, records, and files, Sorting and indexing data; Searching records, designing queries, and reports; Linking of data files ; Understanding programming environment in DBMS; Developing menu driven applications in query language (MS-Access).

UNIT-IV Electronic Data Interchange (EDI)

Introduction to EDI; Basics of EDI; EDI standards; Financial EDI (FEDI); FEDI for international trade transaction; Applications of EDI; Advantages of EDI; Future of EDI.


UNIT-V The Internet and its Basic Concepts Internet-concept, history development in India; Technological foundation of internet; Distributed computing; Client-server computing; Internet protocol suite; Application of distributed computing; Client-server computing; Internet protocol suite in the internet environment; Domain Name System (DNS); Domain Name Service (DNS); Generic top-level domain (gTLD); Country code top-level domain (ccTLD); - India; Location of second-level domains; IP addresses; Internet protocol; Applications of Internet in business, education, governance, etc. Information System Audit Basic idea of information audit; Difference with the traditional concepts of audit; Conduct and applications of IS audit in internet environment.

Jandhyal

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Suggested Reading :

1. Agrawala Kamlesh N. and Agarwala Deeksha : Business on the Net - Introduction to Ecommerce, Macmillan India, New Delhi.
2. Agarwala Kamlesh, N. and Agarwala Deeksha : Bulls, Bears and The mouse; and introduction to On-line Service Market Trading; Macmillan India, New Delhi.
3. Agarwala Kamlesh, N. and Agarwala Prateek Amar; WAP the Net; An Introduction on Wireless Application Protocol; Macmillan India, New Delhi.
4. Bajaj Kamlesh K. and Nag Debjanl : E-Commerce; The cutting Edge of Business; Tata McGraw Hill, New Delhi.
5. Edwards, Ward and Bytheway : The Essence of Information Systems; Prentice Hall, New Delhi.
6. Garg & Srinivasan : Work Book on Systems Analysis & Design; Prentice Hall New Delhi.
7. Kanter : Managing with Information; Prentice Hall New Delhi.
8. Minoli Daniel, Minoli Emma : Web Commerce Technology Handbook; Tata McGraw Hill, New Delhi.
9. Minoli Daniel : Internet & Internet Engineering; Tata McGraw Hill, New Delhi.
10. Yeats : Systems Analysis & Design; Macmillan India, New Delhi.
11. Goyal : Management information System; Macmillan India, New Delhi.
12. Timothy J O'Leary : Microsoft Office 2000; Tata McGraw Hill, New Delhi.


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B.COM PART III

OPTIONAL GROUP C (E-Commerce Area)

TITLE OF PAPER - ESSENTIAL OF E-COMMERCE

PAPER - II

OBJECTIVE

The objective of this course is to familiarize the students with the basics of e-commerce and to comprehend its potential.

M.M. 75

Proposed syllabus

UNIT-I Internet and Commerce : Business operations; E-Commerce practices; Concepts b2b, b2c, b2g, g2h; Benefits of e-commerce to organization, consumers, and society;

Limitation of e-commerce; Management issues relating to e-commerce.

Operations of E-Commerce : Credit card transaction; Secure Hypertext Transfer

Protocol (SHTTP); Electronic payment systems; Secure electronic transaction (SET);

Set's encryption; Process; Cybercash; Smart cards; Indian payment models.

UNIT-II Applications in B2C : Consumer's shopping procedure on the internet; Impact on disintermediation and re-intermediation; Global market; Strategy of traditional department stores; Products in b2c model; Success factors of e-brokers; Broker based services on-line; Online travel tourism services; Benefits and impact of e-commerce on travel industry; Real estate market; Online stock trading and its benefits; Online banking and its benefits; Online financial services and their future; Educations benefits, implementation, and impact.

UNIT-III Applications in B2B; Applications of b2b, Key technologies for b2b; Architectural models of b2b; Characteristics of the supplier-oriented marketplace, buyer-oriented marketplace, and intermediary-oriented marketplace; Benefits of b2b on procurement re-engineering; Just in Time delivery in b2b; Internet-based EDI from traditional EDI; Integrating EC with back-end information systems; Marketing issues in b2b.

UNIT-IV Applications in Governance : EDI in governance; E-government; E-governance applications of the internet; Concept of government to business, business to government and citizen-to-government; E-governance models; Private sector interface



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in e-governance.

UNIT-V Emerging Business Models : Retail model; Media model; Advisory model, Mode-to-order manufacturing model; Do-it yourself model; Information service model; Emergin hybrid models; Emerging models in India.
Security and Legal aspects of E-commerce.

Suggested Reading :

1. Agarwala Kamlesh. N. and Agarwala Deeksha : Bridge to Online Storeformt; Macmillan India, New Delhi.
2. Agarwala Kamlesh. N. and Agarwala Deeksha : Business on the Net Introduction to the E-commerce; Macmillan India New Delhi.
3. Agarwala Kamlesh N. and Agarwala Deeksha : Bulls, Bears and The Mouse : An Introduction to Online Stock Market Trading; Macmillan India New Delhi.
4. Tiwari Dr. Murli D. : Eductaion and E-Governance; Macmillan India, New Delhi.
5. Minoli Daniel, Minoli Emma : Web Commerce Technology Handbook; Tata McGraw Hill, New Delhi.
6. Minoli Deniel, Internet & Internet Engineering : Tata McGraw Hill, 1999.
7. Bhatnagar Subhash and Schware Robert (Eds) : Information and Communication Technology in Development; Sage Publications India, New Delhi.
8. Amor, Daniel : E-business R eevaluation, The : Living and Working in an Interconnected World; Prentice Hall, U.S. .
9. Afuah, A., and Tuccu, C.: Internet usiness models and Strategies; McGraw Hill, New York.


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B.COM PART III**OPTIONAL GROUP D (Money Banking & Insurance Area)****TITLE OF PAPER FUNDAMENTAL OF INSURANCE****PAPER - I****OBJECTIVE**

This course enables the students to know the fundamentals of insurance.

M.M. 75

Proposed syllabus

UNIT-I Introduction to Insurance : Purpose and need of insurance; Insurance as a social security tool; Insurance and economic development.**UNIT-II Fundamentals of Agency Law :** Definition of an agent; Agents regulations; Insurance intermediaries; Agents compensation.**UNIT-III Procedure for Becoming an Agent :** Prerequisite for obtaining a license; Duration of license; Cancellation of incense; Revocation or suspension/termination of agent appointment; Code of conduct; Unfair practices. Functions of the Agent : Proposal form and other forms for grant of cover; Financial and medical underwriting ; Material information; Nomination and assignment; Procedure regarding settlement of policy claims.**UNIT-IV Company Profile :** organizational set-up of the company; Promotion strategy; Market share; Important activities; Structure: Product; Actuarial profession; Product pricing actuarial aspects; Distribution channels.**UNIT-V Fundamentals/Principles of Life insurance/ Marine /Fire /Medical/General Insurance; Contracts of various kinds; Insurable Interest.**
Online insurance procedure

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Suggested Reading :

1. Mishra M.N. : Insurance Principle and Practice; S. Chand and Co., New Delhi.
2. Insurance Regulatory Development Act. 1999.
3. Life Insurance Corporation Act. 1956.
4. Gupta OS : Life Insurance; Frank brothers, New Delhi.
5. Vinayakam N., Radhaswamy and Vasudevan SV : Insurance - Principles and Practice, S. Chand and Co. New Delhi.
6. Mishra MN : Life Insurance Corporation of India, Vols I, II & III; Raj Books, Jaipur.
7. Balchand Shriwastava, Agra.
8. Dr. M.L. Singhai, RAmesh Book Depot, Jaipur.


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B.COM PART III

OPTIONAL GROUP D

TITLE OF PAPER - MONEY & BANKING SYSTEM

(Money Banking & Insurance Area)

PAPER – II

OBJECTIVE

This course enables the students to know the working of the Indian Money & banking system.

M.M. 75

Proposed syllabus


UNIT-I Money : Function, Alternative Measures to money supply in India - their different components. Meaning and changing relative importance of each.

UNIT-II Indian Banking System : Structure and organization of banks; Reserve Bank of India; Apex banking Institutions; Commercial banks; Regional rural banks; Cooperative banks; Development banks.

UNIT-III Banking Regulation Act, 1947 : History; Social control; Banking Regulation Act as applicable to banking companies and public sector banks; Banking Regulation Act as applicable to Cooperative banks.

UNIT-IV Regional Rural and Cooperative Banks in India : Functions; Role of regional rural and cooperative banks in rural India; Progress and performance.

**UNIT-V Reserve Bank of India : Objectives; Organization ; Functions and working; Monetary policy; Credit control measures and their effectiveness.
State Bank of India, Project History, Objectives, Functions & Organization working & progress.
Internet banking system**


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Suggested Reading :

1. Basu A.K. : Fundamentals of Banking-Theory and Practice; A Mukherjee and Co., Calcutta.
2. Sayers R.S. : Modern Banking : Oxford University Press.
3. Panandikar S.G. And Mithani D.M. : Banking in India; orient Longman.
4. Reserve Bank of India : Functions and Working.
5. Dekock : Central Banking; Crosby lockwood Staples, London.
6. Tannan M.L. : Banking - Law and Practice in India : India Law House, New Delhi.
7. Knubchandani B.S. : Practice and Law of Banking; Macmillan, New Delhi.
8. Shekhar and Shekhar : Banking Theory and Practice; Vikas Publishing House, New Delhi.
9. Harishchandra Sharma.
10. M.L. Singhai.


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B.Com Part- I
Compulsory
Group – I Paper – I - Financial Accounting

OBJECTIVE – To impart basic accounting knowledge as applicable to business.

Proposed Syllabus

UNIT – I

Accounting : An Introduction; Development, Definition, Needs, objectives; Branches of accounting; Basic Accounting Principles, Concepts & Conventions.
Accounting Standard : International Accounting Standard only outlines, Accounting Standard in India.
Accounting Transaction : Concept of Double Entry System, Concept of Capital & Revenue, Book of original records - Journal, Ledger; Sub-Division of Journal
Cashbook.

UNIT – II

Final Accounts; Trial balance; Manufacturing account; Trading account; Profit & loss account; Balance sheet; Adjustment entries.
Rectification of errors; Classification of errors; Location of errors; Rectification of errors; Suspense account; Effect on profit.

UNIT – III

Depreciation, Provisions, and Reserves; Concept of depreciation; Causes of depreciation; Depreciation, depletion amortization, Depreciation accounting; Methods of recording depreciation; Methods for providing depreciation; Depreciation of different assets, Depreciation of Replacement cost, Depreciation policy; Indian accounting Standard : provisions and Reserves, Accounts of Non-Trading Institutions

UNIT – IV

Special Accounting Areas :

Hire-purchase and installment purchase system : Meaning of hire-purchase contract, Legal provision regarding hire-purchase contract, Accounting for goods of substantial sale values, and accounting records for goods for small values ; Installment purchase system : After sales Service

UNIT – V

Partnership Account : Dissolution of a Partnership Firm, Amalgamation of Partnership Firms, Conversion of Partnership Firm into Joint Stock Company



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Suggested Readings:

1. Gupta, R.L. and Radhaswamy, M; Financial Accounting ; Sultan Chand and Sons, New Delhi. (Both Hindi and English medium)
2. Monga J.R. Ahuja Girish, and Sehgal Ashok ; Financial Accounting ; Mayur Paper Back, Noida.
3. Shukla. M.C., Grewal T.S. and Gupta, S.C. : Advanced Accounts; S. Chand & Co., New delhi.
4. Singh B.K. ; Financial Accounting; Wisdom Publishing House, Varanasi.
5. S.M. Shukla; Financial Accounting ; Sahitya Bhawan Publication ; Agra. (Both Hindi and English medium)
6. Karim & Khanuja ; Financial Accounting ; SBPD Publishing House ; Agra. (Both Hindi and English medium)
7. Agrawal & Mangal ; Financial Accounting; Universal Publication. (Both Hindi and English medium)


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B.Com Part-I

Compulsory

Group – II

Paper – I - Business Mathematics

OBJECTIVE – To enable the students to have such minimum knowledge of mathematics as is applicable to business and economic situations

Proposed Syllabus

UNIT –I

Simultaneous Equations– Meaning, Characteristics, Methods of Solving Equations in Two Variables– Graphical, Substitution, Elimination and Cross Multiplication;
Linear Programming –Formulation of LLP : Graphical method of solution ; Problems relating to two variables including the case of mixed constraints.

UNIT –II

Matrices and Determinants : Definition of a matrix ; Type of a matrices ; Algebra of matrices ; Properties of determinants ; Calculation of values of determinants upto third order ;

Logarithm's & Antilogarithm's.

UNIT –III

Simple interest and Compound Interest ;
Annuities : Types of annuities ; Present value and amount of an annuity, including the case of continuous compounding ; Valuation of simple loans and debentures.
Problems relating to sinking funds.

UNIT –IV

Ratio & Proportion,
Average, Percentage.

UNIT –V

Commission, Brokerage, Discount, Profit and loss.



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Suggested Readings:

1. Dr. **Amarnath** Dikshit, Dr. Jinendra Kumar Jain; Business Mathematics :Himalaya Publishing House, Mumbai. (Both Hindi and English medium)
2. N.K. Nag : Business Mathematics: Kalyani publication, New Delhi. .
3. Dr. V.K. Shukla. : Business Mathematics; Madhya Pradesh hindi Granth Academy: Bhopal.
4. S.M. Shukla; Business Mathematics; Sahitya Bhawan Publication ; Agra. (Both Hindi and English medium)
5. Dr. Karim & Agrawal ; Business Mathematics; SBPD Publishing House ; Agra. (Both Hindi and English medium)
6. Dr. Ramesh Mangal; Business Mathematics; Satish Printer and Publishers, Indore.


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B.Com Part-I

Compulsory

Group – I Paper – II - BUSINESS COMMUNICATION

OBJECTIVE – To develop effective business communication skills among the students.

Proposed Syllabus

UNIT –I

Introducing Business Communication : Definitions, concept and Significance of communication. Basic forms of communicating : Communication models and process; principles of effective communication; Theories of communication;

Self-Development and Communication : Development of positive personal attitudes, SWOT analysis;

UNIT –II

Corporate Communication : Formal and Informal communication networks; Grapevine; Miscommunication (Barriers) : improving communication. Practices in business communication ; Group discussions : Seminars; Effective Listening : Principles of effective listening; Factor affective listening exercises; Oral, Written, and video session, Audience analysis and feedback.

UNIT –III

Writing skill : Business letters – Definition, concepts ,structure, advantages disadvantage, need and kinds of business letter. Essentials of effective business letter. Good news and bad new letters; Office memorandum, Writing Resume and Letter of Job Application.

UNIT –IV

Report Writing : Introduction to a proposal, Short report and formal report . report preparation.

Oral Presentation : Principles of oral presentation, factor affecting presentation, sales presentation, training presentation, conducting surveys, speeches to improve presentation skill.

UNIT –V

Non-Verbal Aspects of Communicating. Body Language : Kinesics, Proxemics, Para Language

Interviewing skills : Appearing in interviews; Conducting interviews; mock interview.

Modern Forms of Communicating : Fax; E-Mail; video conferencing; etc.

International Communication for global business.

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Suggested Readings:

7. Dr. Amarnath Dikshit, Dr. Jinendra Kumar Jain: Business Mathematics ;Himalaya Publishing House, Mumbai. (Both Hindi and English medium)
8. N.K. Nag : Business Mathematics; Kalyani publication, New Delhi. .
9. Dr. V.K. Shukla. : Business Mathematics; Madhya Pradesh hindi Granth Academy; Bhopal.
- 10.S.M. Shukla; Business Mathematics; Sahitya Bhawan Publication ; Agra. (Both Hindi and English medium)
- 11.Dr. Karim & Agrawal ; Business Mathematics; SBPD Publishing House : Agra. (Both Hindi and English medium)
- 12.Dr. Ramesh Mangal; Business Mathematics; Satish Printer and Publishers, Indore.



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**B.Com Part-I
Compulsory**

Group – II Paper – II – BUSINESS REGULATORY FRAMEWORK

OBJECTIVE – To provide a brief idea about the framework of Indian business laws.

Proposed Syllabus

UNIT – I

Law of Contract (1872) – I : Nature of contract ; Classification ; Offer and acceptance; Capacity of parties to contract, free consent, Considerations, Legality of object; Agreement declared void.

UNIT – II

Law of Contract (1872) - II : Performance of contract, Discharge of contract; Remedies for breach of contract.
Special contracts; Indemnity ; Guarantee; Bailment and pledge; Agency.

UNIT – III

Sale of Goods Act (1930) ;Formation of contracts of sale ;Goods and their classification, price, Conditions and warranties; Transfer of property in goods; Performance of the contract of sales: Unpaid seller and his rights: sale by auction; Hire purchase agreement.

UNIT – IV

Negotiable Instrument Act (1881) : Definition of negotiable instrument; Feature; Promissory note; Bill of exchange & cheque; Holder and holder in the due course; Crossing of a cheque, types of crossing; Negotiation; Dishonor and discharge of negotiable instrument.

UNIT – V

The Consumer Protection Act 1986 : Main Provision, Definition of consumer, Consumer Disputes, Grievance redressal machinery ; Indian Partnership Act 1932
Limited Liabilities Partnership Act 2008.

Introduction of Intellectual Property Right Act – Copyright, Patent & Trademark.



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Suggested Readings:

1. Dr. P. K. Agrawal, Dr. A.K. Mishra ; Business Communication ; Sahitya Bhawan Publication ; Agra (Hindi medium)
2. Balasubramanyam: Business Communication; Vikas Publishing House, Delhi. (English medium)
3. Dr. Vinod Mishra : Business Communication; Sahitya Bhawan Publication ; Agra. (Hindi medium)
4. Kaul : Effective Business Communication; Prentice Hall, New Delhi. (English medium)
5. Patri VR : Essentials of Communication ; Greenspan Publications, New Delhi. (English medium)
6. Sengun J : Business Communication; The Real World and Your Career, Allied Publishers , New Delhi. (English medium)
7. Dr. Mishra , Shukla & Patel ; Business Communication ; SBPD Publishing House, Agra. (Both Hindi and English medium)


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B.Com Part-I

Compulsory

Group - III

Paper - I - BUSINESS ENVIRONMENT

OBJECTIVE - To acquainting the students with the emerging issues in business at the national and international level in the light of the policies of liberalization and globalization.

Proposed Syllabus

UNIT -I

Business Environment : Concept, Components and Importance, Economic Trends (overview) : Income : Saving and investment : Trade and balance of payment, Money and Finance.

UNIT -II

Problems of Growth : Unemployment ; Poverty ; Regional imbalances ; Social Injustice; Inflation ; Parallel economy ; Industrial sickness

UNIT -III

Role of Government : Monetary and fiscal policy ; Industrial policy ; Industrial licensing, Privatization ; Liberalisation ; Globalisation ; Demonetisation ; Export-Import policy.

UNIT -IV

Economic Planning in India ; Need, objectives, Strategy ; Review of Previous Plans, Planning Commission, Foreign Exchange Management Act 2000 : Basic Concept and Main Provisions.

UNIT -V

International Environment : Trends in World trade and the problems of developing countries; Foreign trade and economic growth; International economic groupings - GATT, WTO, UNCTAD, World Bank, IMF; FDI.

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Suggested Readings:

1. Agarwal A. N. : Indian Economy, Vikas Publishing House Delhi. (English medium)
2. Khan Farooq A : Business and Society; S. Chand , Delhi. (English medium)
3. Dutt R. and Sundharam K. Pm. : Indian Economy; S. Chand , Delhi. (English medium)
4. Misra S.K. and Puri V.K. : Indian Economy; Himalaya Publishing House. New Delhi. (English medium)
5. Dr. V.C. Sinha; Business Environment; SBPD Publishing House, Agra . (Both Hindi and English medium)
6. Dr. J. K. Jain; Business Environment; Madhya Pradesh hindi Granth Academy; Bhopal. (Hindi medium)
7. Gupta & Pathak; Business Environment; Ram Prasad & Sons, Raipur. (Hindi medium)
8. S.K. Singh; Business Environment; SBPD Publishing House. Agra . (Both Hindi and English medium)

B.Com Part-I

Compulsory

Group – III – Business Economics

Paper – II – BUSINESS ECONOMICS

OBJECTIVE – To acquaint the students with the principles of Business Economics as are applicable in business.

Proposed Syllabus

UNIT – I

Introduction : Definition, Nature and Scope of Economics, Difference Between Micro and Macro Economics, Method of Economic Study : Inductive and Deductive Methods.
Basic problem of Economy, Working of Price Mechanism.
Utility Analysis: Measurements of Utility, Law of Diminishing Marginal Utility, Law of Equi-Marginal Utility.

UNIT-II

Law of demand: Meaning and Definitions, Effecting Factors, Types ; Exception of Law of demand
Elasticity of Demand : Concept, Definitions, Importance, Types and Measurement of Elasticity of Demand, Factors affecting the Elasticity of Demand

UNIT –III

Production : Factors of Production, their characteristics and importance.
Production Functions : Law of Variable Proportions, Return to scale and Equal Product Curve Analysis, Internal and external economies and diseconomies

UNIT –IV

Market Structure – Concept , Characteristics, Classification, Determination of Price under condition of Perfect Competition, Imperfect Competition and Monopolistic Competition, Oligopoly and Duopoly.

UNIT –V

Theories of distribution, Marginal Productivity theory of distribution, Concept and theories of Wages, Rent, Interest & Profit.



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Suggested Readings:

1. John P. Gould, Jr. and Edward P. Lazear: Micro economic theory; All India Traveller, Delhi. (English medium)
2. Koutsoyianni A. : Modern Microeconomics; Macmillan, New Delhi. (English medium)
3. Khan Farooq A : Business and Society; S. Chand , Delhi. (English medium)
4. Misra S.K. and Puri V.K. : Indian Economy; Himalaya Publishing House, New Delhi. (English medium)
5. M. L. Jhingan : Micro Economics, Vrinda publication. Delhi. (Both English and Hindi medium)
6. Dr. J. K. Jain; Business Economics; Madhya Pradesh hindi Granth Academy; Bhopal. (Hindi medium)
7. Dr. V.C. Sinha; Business Economics; SBPD Publishing House, Agra. (Both English and Hindi medium)
8. Dr. Jai Prakash Misra; Business Economics; Sahitya Bhawan Publication, Agra. (Hindi medium)



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B. Com. II year

COMPULSORY

Group - I PAPER - I (CORPORATE ACCOUNTING)

OBJECTIVE

This course enable the students to develop awareness about corporate accounting in conformity with the provisions of companies Act.
(As per company act 2013)

Proposed Syllabus
UNIT-I Issue, Forfeiture, and Re-issue of Shares : Redemption of preference shares; Issue and redemption of debentures.
UNIT-II Final Accounts (as per company act 2013) Liquidation of Company.
UNIT-III Valuation of Goodwill and Shares.
UNIT-IV Accounting for Amalgamation of Companies as per Indian Accounting Standard 14; Accounting for internal reconstruction - excluding intercompany holdings and re-construction schemes.
UNIT-V Consolidated Balance Sheet of holding companies with one subsidiary only.

SUGGESTED READINGS :

1. Dr. S.M. Shukla, Sahitya Bhawan Agra.
2. Dr. Mangal Mehta & Agrawal Published - Indore.
3. Dr. Karim Khanuja - Published - Agra.
4. Gupta R.L., Radhaswamy M; Company Accounts; Sultan Chand & Sons, New Delhi.



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Group - II PAPER - I (COST ACCOUNT)

OBJECTIVE

This course exposes the students to the basic concepts and the tools used in cost accounting.

Proposed Syllabus

UNIT-I Introduction : Nature and scope of cost

accounting ; Cost concepts and classification; Methods and techniques; Installation of costing system; Concept of cost audit.
Accounting for Material : Material Control; Concept and techniques; Pricing of material issues; Treatment of material losses.

UNIT-II Accounting for Labour : Labour cost control procedure; Labour turnover; Idle time and overtime; Methods of wage payment

- time and piece rates; Incentive schemes. Accounting for overheads; Classification and departmentalization;
Absorption of overheads; Determination of overhead rates; Under and over absorption, and its treatment.

UNIT-III Cost Ascertainment : Unit costing; Job, batch and contract costing.

UNIT-IV Operating costing; Process Costing - excluding inter - process profits, and joint and by - products.

UNIT-V Cost Records : Intergal and non -

integral system; Reconciliation of cost and financial accounts; Break Even Point.

SUGGESTED READINGS :

1. M.L. Agrawal : Sahitya Bhawan Agra.
2. Maheshwari S.N. : Advanced Problems and Solutions in Cost Accounting; Sultan Chand, New Delhi.
3. Arora M.N. : Cost Accounting - Principles and Practice; Vikas, New Delhi.
4. Jain S.P. and Narang K.L. : Cost Accounting; Kalyani New Delhi.


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Group - II - PAPER - II
PRINCIPLES OF BUSINESS MANAGEMENT

OBJECTIVE

This Course familiarizes the students with the basics of principles of management.

Proposed Syllabus

UNIT-I Introduction : Concept, nature, process, and significance of management; management roles (Mintzberg); An overview of functional areas of management; Development management thought; Classical and neo-classical systems; Concept approaches.

UNIT-II Planning : Concept, process and types. Decision making - concept and Bounded rationality; Management by objectives; Corporate planning; Environment analysis and diagnosis; Strategy formulation.

UNIT-III Organizing : Concept, nature, process and significance; Authority and resident relationships; Centralization and decentralization; Departmentation; Organization structure - forms and contingency factors.

UNIT-IV Motivating and Leading People at work :
Motivation - concept; Theories Herzberg, McGregor, and Ouchi; Financial and non-financial incentives.
Leadership - concept and leadership styles; Leadership theories (Tannenb Schmidt.); Likert's System Management;
Communication - nature, process, networks, and barriers, Effective Communication.

UNIT-V Managerial Control : Concept and process;
Effective control system; Technical control - traditional and modern.
Management of Change : Concept, nature, and process of planned Resistance to change; Emerging horizons of management in a environment.

SUGGESTED READINGS :

1. Dr. R.C. Agrawal, Agra.
2. Dr. S.C. Saxena, Agra.
3. Wehrich and Koontz, et al : Essentials of Management; Tata McGraw Hill, New Delhi.



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Group - I - PAPER - II
COMPANY LAW

OBJECTIVE

This objective of this course is to provide basic knowledge of the provisions Companies Act. 2013, along with relevant case law.

Proposed Syllabus

UNIT-I Corporate personalities; Kinds of

Companies, Nature & Scope, promotion on and incorporation of companies.

UNIT-II Memorandum of Association; Articles of

Association; Prospectus, Shares; share capital - transfer and transmission.

UNIT-III Capital management - borrowing powers, mortgages and charges, debentures.

Directors - Managing Director, whole time director, Appointment, Remuneration, and duties.

UNIT-IV Company meetings - kinds, Notice, quorum, voting, proxy, resolutions, minutes.

UNIT-V majority powers and minority rights; Prevention of oppression and mismanagement.

Winding up - kinds and conduct.

SUGGESTED READINGS :

1. Singh Avtar : Company Law; Eastern Book Co., Lucknow.
2. Dr. S.M. Shukla, Shahitya Bhawan Agra.
3. Dr. R.C. Agrawal, Shahitya Bhawan Agra.
4. Kapoor N.D. : Company Law - Incorporating the Provisions of the companies Amendment Act, 2013 Chand & Sons, New Delhi.


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Group - III - PAPER - I

BUSINESS STATISTICS

OBJECTIVE

It enable the students to gain understanding of statistical techniques as are applicable to business.

Proposed Syllabus

UNIT-I Introduction : Statistics as a subject; Descriptive Statistics - compared to Inferential Statistics; Types of data; Summation operation; Rules of Sigma E operations, Analysis of University Data; Construction of a frequency distribution; Concept of central tendency.

UNIT-II Dispersion - and their measures; Partition values; Skewness and measures;

UNIT-III Analysis of Bivariate Data : Linear regression two variables and correlation.

UNIT-IV Index Number; Meaning, types, and uses; Methods of Constructing price and quantity indices (simple and aggregate); Tests of adequacy; Chain - base index numbers; Base shifting, splicing and deflating; Problems in constructing index numbers; Consumer price index. Analysis of Time Series : Cause of Variation in time series data; Components of a time series; Decomposition - Additive and Multiplicative models; Determination of trend - Moving Averages Method and method of least squares (including linear, second degree, parabolic, and exponential trend); Computation of seasonal indices by simple averages, ratio - to - trend, ratio - to - moving average, and link relative methods.

UNIT-V Forecasting and Methods : Forecasting -

concept, types and importance; General approach to forecasting; Methods of forecasting; demand; Industry Vs Company sales forecast; Factors affecting company sales. Theory of Probability : as a concept; The three approaches to defining probability; Addition and multiplication laws of probability; Conditional Probability; Bayes' Theorem; Expectation and Variance of a random variable.

SUGGESTED READINGS :

1. S.M.Shukla, Shahitya Bhawan, Agara.
2. Statistical Analysis, Dr. Rajesh Shukla and J.B. Agrawal


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Group - III PAPER - II

FUNDAMENTALS OF ENTREPRENEURSHIP

OBJECTIVE

It Provides exposure to the students to the entrepreneurial culture and industrial growth so as to preparing them to set up and manage their own small units.

Proposed Syllabus	
UNIT-I Introduction : The entrepreneur; Definition; Theories of entrepreneurship;	Emergence of entrepreneurial class; Role of socio - economic environment; Characteristics.
UNIT-II Promotion of a Venture; Opportunities	analysis; External environmental analysis economic, social and technological; Competitive factors; Legal requirements for establishment of a new unit, and raising of funds; Venture capital sources and documentation required.
UNIT-III Entrepreneurial Behavior : Innovation and entrepreneur; Entrepreneurial behavior and Psycho - Theories, Social responsibility.	
UNIT-IV Entrepreneurial Development Programs (EDP) :	EDP, their role, relevance, and achievements; Role of Government in organizing EDPs; Critical evaluation.
UNIT-V Role of Entrepreneur : Role of an entrepreneur	in economic growth as an innovator, generation of employment opportunities, complementing and supplementing economic growth, bringing about social stability and balanced regional development of industries; Role in export promotion and import substitution, forex earnings, and augmenting and meeting local demand.

SUGGESTED READINGS :

3. Srivastava S.B. : A Practical Guide to industrial Entrepreneurs; Sultan Chand and Sons, New Delhi.
4. Tandon B.C. : Environment and Entrepreneur; Chugh Publications, Allahabad.
5. Prasanna Chandra : Project Preparation, Appraisal, Implementation; Tata McGraw Hill, New Delhi.



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PAPER-I
MANAGERIAL ECONOMICS

M.M. 80+20

OBJECTIVE:

This course develops managerial, perspective to economic fundamentals as aids to decision making under given environmental constraints.

COURSE INPUTS:

- UNIT-1 Nature and Scope of Managerial, Economics: Objective of a firm; Economics theory and managerial theory; Managerial economist's role and responsibilities.
- UNIT-2 Fundamental economic concepts-incremental principle, opportunity cost principle, discounting principle, equi-marginal principle.
- UNIT-3 Demand Analysis: Individual and Market demand functions Law of demand; determinants of demand; Elasticity of demand-its meaning and importance, Price elasticity; income elasticity and cross elasticity; Using elasticity in managerial decisions.
- UNIT-4 Theory of consumer Choice: Cardinal utility approach, indifference approach, revealed preference and theory of consumer choice under risk; Demand estimation for major consumer durable and non-durable products; Demand forecasting tech. technique.
- UNIT-5 Production Theory: Production function-production with one and two variable inputs, Stages of production; Economics of scale; Estimation of production function.

PAPER-II
ADVANCED ACCOUNTING

M.M. 80+20

OBJECTIVE:

The objective of this course is to expose students to accounting issues and practices such as maintenance of company accounts and handling accounting adjustments.

COURSE INPUTS:

- UNIT-1 Accounting for issue, Forfeited and redemption of shares and debentures.
- UNIT-2 Final accounts and financial statements of companies.
- UNIT-3 Accounting issues relative to amalgamation and reconstruction of companies.
- UNIT-4 Accounting for holding and subsidiary companies.
- UNIT-5 Accounts relating to Liquidation of companies.

REFERENCES.

- Beams, F.A. : Advanced Accounting, Prentice Hall, New Jersey., Dearden, J. and S.K. Bhattacharya: Accounting for Management, Vikas Publishing House, New Delhi.
- Engler, C.L.A Bernstein. and K.R. Lambert: Advanced Accounting, with Chicago. Fischer, P.M., W.J. Taylor and J.A. Leer: Advanced Accounting, South-Western, Ohio. Gupta. R.L.: Advanced Financial Accounting, S.Chand & Co., New Delhi.
- Keiso D.E. and J.J. Weygand: Intermediate Accounting, John Wiley and Sons, N.Y.
- Maheshwari, S.N.: Advanced Accountancy- Vol.II Vikas Publishing House, New Delhi.
- Monga, J.R. : Advanced Financial Accounting, Aryoor Paperbacks, Gurgaon Narayanaswamy, R: Financial Accounting: A Managerial Perspective, Prentice Hall of India, Delhi.
- Neigs, R.F. : Financial Accounting. Tata McGraw Hill, New Delhi.
- Shukla, M.G. and T.S.Grewal : Advanced Accountancy, Sultan Chand & Co. New Delhi.
- Warren, C.S. and P.E. Fess: Principles of Financial and Managerial Accounting, South Western, Ohio.

RECOMMENDED BOOKS:

1. Flekles and Duakerley : Accountancy
2. Wilson: Company Accounts

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- 3 Diskson: Accountancy
- 4 J.R. Batliboi : Advanced Accounting
- 5 R.R.Gupta: Advanced Accounting
- 6 S.M. Shukla : Advanced Accounting
- 7 Shukla and Grewal: Advanced Accounting
- 8 H Chakravarty : Advanced Accounts
- 9 Dr.Shukla Avam Agrawal: Advanced Accountancy
- 10 Dr.S.S. Gupta: Advanced Accounts
- 11 Dr.Karim, Dr.Khanuja & Pro.Mehata : Advanced Accounting
- 12 डॉ. करीम, डॉ. खनूजा एवं प्रो. मेहता : वृहत लेखाकर्म
- 13 जे. के. अग्रवाल तथा आर.के. अग्रवाल : उच्च वित्तीय एवं कम्पनी लेखांकन
- 14 आर.के. गुप्ता : उन्नत लेखांकन
- 15 Basu Das : Advanced Accounting

M. Com - 1st Semester

आयकर विधान एवं लेखे (प्रश्नपत्र - III)

Income Tax Law and Accounts (Paper - Third)

M.M. : 80

OBJECTIVE

The objective of this course is to help student understand and conceptual framework of Income tax.

Unit - I	Law relating to Income tax : Brief study of the main provisions of the Indian Income Tax Act. Important definitions. Income exempted from tax, Residence and Tax liability.
Unit - II	Calculation of taxable income under the head : Salary and House property.
Unit - III	Depreciation and Development allowance, Calculation of taxable Income under the head : Business and Profession, capital gains, income from other sources.
Unit - IV	Set off and carry forward of losses, Deduction from gross total Income Calculation of taxable Income and tax of an individual, and Hindu undivided Families.

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Unit - V

Appeals & Revisions Reference of High Court and Supreme court, offences & penalties, Income tax authorities.

M. Com - 1st Semester

(Compulsory) Paper - IV (Paper Code.....)

STATISTICAL ANALYSIS

M.M.: 80

OBJECTIVE

The Objective of this course is to help student learn the application of statistical tools and techniques for decision making.

- UNIT-1 **Statistics** - Definitions, Characteristics, Scope and Nature, Functions, Limitations, Distrust and misuse importance & Statistical Investigations., Classification & Tabulation,
- UNIT-2 **Data Sources**: Primary and Secondary, Primary data collection techniques, Schedule, Questionnaire and interview & Sources' of Secondary data.
- UNIT-3 **Dispersion**, Co-efficient of variance and skewness, correlation - Karl- Pearsons and spearman's ranking method and Regression analysis, Two variables case.
- UNIT-4 **Probability Theory**: Probability classical, relative and subjective probability, Addition and multiplication probability models - Conditional probability and Baye's Theorem.
- UNIT-5 **Probability Distributions** - Binomial, poisson and Normal Distributions, Their characteristics and applications.

M. Com - 1st Semester

UNDER MANAGEMENT BOARD

(Compulsory) Paper - V (Paper Code_____)

CORPORATE LEGAL FRAMEWORK

M.M.: 80

OBJECTIVE

The Objective of this course is provide knowledge of relevant provisions of various laws influencing business operations.

- UNIT-1 **The Companies Act, 1956 (Relevant Provisions)** : Definition, types of companies Memorandum of association; Articles of. association; Prospectus; Share capital and membership.
- UNIT-2 **Meetings and resolutions** - Company management; Managerial remuneration; Winding up and dissolution of companies.
- UNIT-3 **The Negotiable Instruments Act, 1881** - Definition, types of negotiable instruments; Negotiation; Holder and holder in due course; payment in due course;
- UNIT-4 **Endorsement and crossing of cheque**; Presentation of negotiable instruments.
- UNIT-5 **Legal Environment for Security Markets: SEBI Act, 1992**-organisation and objectives of SEBI

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PAPER - VI

BUSINESS ECONOMICS

M.M. 80+20

OBJECTIVE -

This course develops managerial perspective to economic fundamentals' as aids to decision making under given environmental constraints.

- UNIT-1 **Cost Theory and Estimation**, economic value analysis, Short and long run cost functions- their nature, shape and inter-relationship; Law of variable proportions; -Law of returns to scale.
- UNIT-2 **Price Determination under Different Market Conditions**: Characteristics of different market structures; Price determination and firm's equilibrium in short-run and long-run under perfect competition, monopolistic competition, oligopoly and monopoly.
- UNIT-3 **Pricing Practices: Methods of price determination in practice**, pricing of multiple products; price discrimination; International price discrimination and dumping; Transfer pricing.
- UNIT-4 **Business Cycles: Nature and phases of la business .cycle**; Theories of business cycles- psychological, profit, monetary, innovation, cobweb, Samuelson and Hicks theories.
- UNI-5 **Inflation: Definition, Characteristics and types; Inflation in terms of demand- pull and cost-push factors; Effects of inflation.**

PAPER - VII

SPECIALISED ACCOUNTING

M.M. 80+20

OBJECTIVE.

The objective of this course -is to expose students to accounting issues and practices such as maintenance of company accounts and handling accounting adjustments.

- UNIT-1 **Accounts of General Insurance Companies.**
- UNIT-2 **Accounts of Banking Companies.**
- UNIT-3 **Accounts of Public Utility concerns: Double Accounts System.**
- UNIT-4 **Royalty accounts.**
- UNIT-5 **Investment accounts.**

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M. Com - 2nd Semester

कर नियोजन एवं प्रबन्ध (प्रश्नपत्र - VIII)

TAX PLANNING AND MANAGEMENT (Paper - VIII)

M.M. : 80

OBJECTIVE -

This course aims at making students conversant with the concept of corporate tax planning and Indian tax laws, as also their implications for corporate management.

Unit - I	Calculation of taxable Income and tax of Firm and Companies.
Unit - II	Return of Income, Provisional Regular, Expert, and emergency assessment, Re opening of assessment.
Unit - III	Concept of tax Planning ; Tax avoidance and tax evasions ; Tax planning with reference of location, nature and form of organization of new
Unit - IV	Tax planning to capital structure, decision dividend policy ; Inter corporate dividends and bonus shares.
Unit - V	Preparation of income tax returns, Computation of Income tax, Tax deduction at source; Advance payment of tax.

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(Compulsory) Paper - IX (Paper Code)
ADVANCE STATISTICS

M.M.: 80

OBJECTIVE

The Objective of this course is to help student learn the application of statistical tools and techniques for decision making.

- UNIT-1 Statistical Decision Theory:** Decision environment, Expected profit under uncertainty and assigning probabilities and utility theory.
- UNIT-2 Statistical Estimations and Testory:** Point and interval estimation of population mean, proportion and variance Statistical Testing - Hypothesis and Errors, Sample size - Large and Small Samplingtest Z tests, T Tests & F Tests.
- UNIT-3 Association of Attributes :** Two Attributes, consistency of data, measurement of Association of Attributes - Percentage method, Co-efficient of Association, Comparison of Actual and (you ie method) Expected frequency's & Issusery Association. .
- UNIT-4 Statistical Quality Control:** Causes of Variations in quality characteristics, Quality Control charts-purpose and logic, Process under control and out of control, warning limits, control charts for attributes-fraction defectives and number of defects, Acceptance sampling.
- UNIT-5 interpolation and Extrapolation -** Prabolic Bionomial, Newton and long rages method.

(Compulsory) Paper - X (Paper Code)
Business Laws

M.M. 80

OBJECTIVE

The Objective of this course is provide knowledge of relevant provisions of various laws influencing business operations.

- UNIT-1 SEBI Act-1992:** Organisation and objectives of SEBI, Functions and Role of SEBI Rights and Power of SEBI.
- UNIT-2 MRTP Act 1969:** Monopolistic Trade Practice Meaning, essentials, Restrictive Trade Practices - Meaning, Unfair trade practice, MRTP commission offences and Penalties.
- UNIT-3 Consumer Protection Act 1986:** Needs of Act, Rights of consumers, Objectives of Act., Grievance redressal Machinery, District Forum, State Commission, National Commission.
- UNIT-4 FEMA Act 1999:** Objectives; Regulation and Management of FEMA, Penalties Appeal.
- UNIT-5 W.T.O.:** Brief History of WTO, Objectives and Functions, Organisation, W.T.O. and India, Regional groupings, anti-dumping duties and other NIBs, Data deterioration, Dispute settlement system, TRIP, TRIMS and GATS.

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M.Com. Third Semester (Compulsory Paper)

एम. कॉम. तृतीय सेमेस्टर – अनिवार्य प्रश्नपत्र

प्रबन्ध की अवधारणा (प्रश्नपत्र प्रथम)

MANAGEMENT CONCEPT (Paper – First)

M.M. : 80

OBJECTIVE -

The Objective of this course is to help student understand and conceptual framework of management and organizational behaviour .

Unit – I	Schools of Management Thought : Scientific, process, human behaviour and social system school; Decision theory school; Quantitative and system school; Contingency theory of management; Functions of a manager.
Unit – II	Managerial Functions : Planning - /concept, significance, types; Organizing - concept, principles of authority, theories, types of organizations, authority, responsibility, power, delegation, decentralization;
Unit – III	Staffing; Directing; Coordinating; Control - nature, process, and techniques.
Unit – IV	Motivation : Process of motivation; Theories of motivation - need hierarchy theory, theory X and theory Y, two factor theory, Alderfer's ERG theory, McClelland's learned need theory, Victor Vroom's expectancy theory, Stacy Adams equity theory.
Unit – V	Group Dynamics and Team Development : Group dynamics - Definition and importance, types of groups, group formation, group development, group composition, group performance factors; Principle-centered approach to team development.

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संगठनात्मक व्यवहार (प्रश्नपत्र द्वितीय)

ORGANIZATIONAL BEHAVIOUR (Paper - Second)

M.M. : 80

OBJECTIVE -

The Objective of this course is to help student understand and conceptual framework of management and organizational behavior.

Unit - I	Organizational Behaviour : concept and significance ; Relationship between management and organizational behaviour; Emergence and ethical perspective; Attitudes; Perception; Learning; Personality; Transactional analysis.
Unit - II	Leadership : Concept ; Leadership styles; Theories - trait theory, behavioural theory, Fielder's contingency theory; Harsey and Blanchard's situational theory; Managerial grid; Likert's four systems of leadership.
Unit - III	Organizational Conflict : Dynamics and management; Sources, patterns, levels, and types of conflict; Traditional and modern approaches to conflict; Functional and difunctional organizational conflicts; Resolution of conflict.
Unit - IV	Interpersonal and Organizational Communication : Concept of two-way communication; Communication process; Barriers to effective communication; Types of organizational communication ; Improving communication; Transactional analysis in communication.
Unit - V	Organizational Development : Concept; Need for change, resistance to change; Theories of planned change; Organizational diagnosis; Organizational Development intervention.

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ADVANCED COST ACCOUNTING (Paper - Third)

M.M. : 80

OBJECTIVE -

This course exposes the students to the basic concepts and the tools used in cost accounting.

Unit - I	Introduction - Cost Analysis, concepts and classification, Materials control - Techniques of Materials control.
Unit - II	Labour cost - Computation and control, Overheads - Accounting and Control.
Unit - III	Job, Batch, Contract Costing and operating costing.
Unit - IV	Process Costing, Joint products & By - products costing. Uniform costing and Estimate costing.
Unit - V	Budgetary control - Importance of budgets in accounting. Nature of budgetary control, Organization for budgetary control preparation zero base budgeting, performance budgeting. Cash Budget, Production and sales Budget.

Paper - IV

प्रबंधकीय लेखांकन (Management Accountin)

OBJECTIVE

The objective of this course is to acquaint student with the accounting concepts, tools and techniques for managerial decisions.

COURSE INPUTS-

- UNIT-1 Introduction of Accounting: Management accounting as a area accounting; Objectives, nature and scope of management accounting, techniques of management accounting, difference between financial accounting, cost accounting and management accounting, Management accounting and managerial decisions; Management accountant's position, role and responsibilities.
- UNIT-2 Accounting Plan and Responsibility Centers: Meaning and significance of responsibility accounting; Responsibility centers-cost centre, profit centre and investment centre, Problems in transfer pricing, Objectives and determinates of responsibility centers.
- UNIT-3 Budgeting.: Definition of Budget; Essentials of budget; Types of budget; master budget etc. Fixed and flexible budget
- UNIT-4 Standard Costing and Variance Analysis: Standard costing as a control technique; Setting of standards and their revision; Variance analysis-meaning and importance; Kinds of variances and their uses-material, labour and overhead variances; Disposal of variances; Relevance of variance analysis to budgeting and standard costing.
- UNIT-5 Marginal Costing; Concept of marginal cost; Marginal costing and absorption costing.

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Marginal costing versus direct costing

REFERENCE

Anthony, Robert: Management Accounting, Tarapore-wala, Mumbai. Barfield, Jessie, Ceily A. Raiborn and Michael R. Kenney: Cost Accounting: Traditions and Innovations, South-Western College Publishing, Cincinnati, Ohio. Decoster, Don T. and Elden L. Schafe : Management Accounting: A Decision Emphasis, John Wiley and Sons Inc., New York.

Garrison, Ray H. and Eric W. Noreen: Management Accounting, Richard D. Irwin, Chicago.

Hansen, Don R. and Maryanne M. Moreen: Management Accounting, South-Western College Publishing, Cincinnati, Ohio.

Horngran, C.T., Gary L. Sundem and William O. Stratton: Introduction to Management Accounting, Prentice Hall, Delhi.

Horngren, Charles T., George Foster and Srikant M. Dalior : Cost Accounting: A Managerial Emphasis, Prentice Hall, Delhi.

Lall, B.M. and I.C.Jain : Cost Accounting: Principles and Practice, Prentice Hall, Delhi.

Pandey.I.M. : Management Accounting, Vani Publication, Delhi.

Welsch Glenn A.; Ronald W. Hilton and Paul N. Gordon: Budgeting, Profit Planning and Control, Prentice Hall, Delhi.

BOOKS RECOMMENDED:

- 1 Anthony Robert N. : Management Accounting
- 2 Gillet: Management and the account
- 3 Wills more : Business, Business Budget and Budgetary Control
- 4 Rose U. Fahri : Higher Management Control
- 5 Guthmann H.G. : Analyse of financial Statement
- 6 Smith and Ashburn: Financial and Administrative Accountancy
- 7 Pinkless and Duakaraley : Accountancy
- 8 Manmohan A: Goyal: Management Accounting
- 9 जे.के.अग्रवाल, आर.के.अग्रवाल : प्रबंधकीय लेखांकन
- 10 ए.पी.गुप्ता : प्रबंधकीय लेखांकन
- 11 एस.एन.माहेष्वरी : प्रबंध लेखांकन
- 12 के.जी.गुप्ता : प्रबंधकीय लेखांकन
- 13 एम.आर.अग्रवाल : प्रबंधकीय लेखांकन
- 14 पी.मिश्रा : प्रबंध लेखांकन
- 15 डॉ.वी.पी.अग्रवाल, डॉ.मेहता : प्रबंधकीय लेखाविधि

M. Com - 3rd Semester

Paper - V

प्रबंधकीय निर्णय के लिए लेखांकन (Accounting for managerial decisions)

OBJECTIVE

The objective of this course is to acquaint student with the accounting concepts, tools and techniques for managerial decisions.

COURSE INPUTS-

UNIT-1 Break-even-analysis; Assumptions and practical applications of break-even-analysis; cost volume profit analysis, decisions regarding sales-mix, make or buy decisions and

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- discontinuation of a product, etc.
- UNIT-2 Analyzing Financial Statements: Method, objects and its analysis.
- UNIT-3 Cash flow analysis and Fund flow analysis.
- UNIT-4 Contemporary Issues in Management Accounting: Value chain analysis; Activity based costing, Quality costing, Target and life cycle costing.
- UNIT-5 Reporting to Management : Objectives of reporting, reporting needs at different managerial levels; Types of reports, modes of reporting; reporting at different levels of management.

REFERENCE:

- Anthony, Robert: Management Accounting, Tarapore-wala, Mumbai. Barfield, Jessie, Gilly A. Pailborn and Michael R. Kenney: Cost Accounting: Traditions and Innovations, South-Western College Publishing, Cincinnati, Ohio. Deoster, Don T. and Elden L. Schafe : Management Accounting: A Decision Emphasis, John Wiley and Sons Inc., New York. Garrison, Ray H. and Eric W. Noreen: Management Accounting, Richard D. Irwin, Chicago. Hansen, Don R. and Maryanne M. Moore: Management Accounting, South-Western College Publishing, Cincinnati, Ohio.
- Homgran, C.T., Gary L. Sunden and William O. Stratton: Introduction to Management Accounting; Prentice Hall, Delhi.
- Homgren, Charles T., George Foster and Srikant M. Dalior : Cost Accounting: A Managerial Emphasis, Prentice Hall, Delhi. Lall, B.M. and I.C.Jain : Cost Accounting: Principles and Practice, Prentice Hall, Delhi. Pandey I.M. : Management Accounting, Vani Publication, Delhi.
- Welsch Glenn A., Ronald W. Hilton and Paul N. Gordon: Budgeting, Profit Planning and Control, Prentice Hall, Delhi:

BOOKS RECOMMENDED:

1. Anthony Robert N. : Management Accounting
2. Gillet: Management and the account
3. Willmore: Business, Business Budget and Budgetary Control
4. Rose U. Fahri : Higher Management Control
5. Guthmann H.G. : Anlysis of financial Statement
6. Smith and Ashburn: Financial and Administrative Accountancy
7. Pinkless and Duakaraley : Accountancy.
8. Manmohan A. Goyal: Management Accounting
9. जे.के.अग्रवाल, आर.के.अग्रवाल : प्रबंधकीय लेखांकन
10. ए.पी.गुप्ता : प्रबंधकीय लेखांकन
11. एस.एन.माहेष्चरी : प्रबंध लेखांकन
12. के.जी.गुप्ता : प्रबंधकीय लेखांकन
13. एम.आर.अग्रवाल : प्रबंधकीय लेखांकन
14. पी.मिश्रा : प्रबंध लेखांकन
15. डॉ.बी.पी.अग्रवाल : डॉ.मेहता : प्रबंधकीय लेखाविधि

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एम.कॉम. चतुर्थ सेमेस्टर – (M.Com. Fourth Semester)

विशिष्टिकरण : (A) विपणन

Specialization : (A) Marketing

(1) विपणन के सिद्धान्त (प्रश्नपत्र – : A-प्रथम)

PRINCIPLE OF MARKETING (Paper – : A-First)

M.M. : 80

OBJECTIVE –

The Objective of this course is to facilitate understanding of the conceptual framework of marketing and its applications in decision making under various environmental constraints.

Unit – I	Introduction – Meaning, nature, scope and importance of marketing; Marketing concept and its evolution; Marketing mix; Strategic marketing planning – an overview.
Unit – II	Market Analysis and Selection – Marketing environment – macro and micro components and their impact of marketing decisions ; Market segmentation and positioning ; Buyer behaviour ; Consumer versus organizational buyers ; Consumer decision – making process.
Unit – III	Product Decisions – Concept of a product ; Classification of products ; Major product decisions ; Product line and product mix ; Branding ; Packaging and labeling ; Product lifecycle – strategic implications ; New product development and consumer adoption process.
Unit – IV	Pricing Decisions – Factors affecting price determination ; Pricing policies and strategies ; Discounts and rebates.
Unit – V	Distribution Channels and Physical Distribution Decisions – Nature, functions, and types of distribution channels ; Distribution channel intermediaries ; Channel management decisions ; Retailing and wholesaling. Physical Distribution Management.

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PRINCIPAL
Gurukul Mahil's College, Kalyan
Kalyan Road, Kalyan (C.G.)

(1) विज्ञापन एवं विक्रय प्रबन्ध - (प्रश्नपत्र : A - द्वितीय)

ADVERTISING & SALES MANAGEMENT (Paper : A - Second)

M.M. : 80

Unit - I	Introduction : Concept, Scope, Objectives and Functions of Advertising. Role of Advertising in marketing mix and the advertising process. Legal, ethical and social aspect of advertising.
Unit - II	Pre-launch Advertising Decision : Determination of target audience, Advertising Media and their choice. Advertising messages, Layout of advertisement and Advertising Appeal, Advertising Copy.
Unit - III	Promotional Management : Advertising Department, Role of Advertising Agencies and their Selection, Advertising Budget, Evaluation of Advertising Effectiveness.
Unit - IV	Personal Selling : Meaning and Importance of Personal Selling. - Difference between Personal Selling, Advertising and Sales Promotion. Methods and Procedure of Personal Selling.
Unit - V	Sales Management : Concept of Sales Management, Objectives and Functions of Sales Managements. Sales Organization, Management of Sales force and Sales force objectives, Sales force Recruitment :- Selection, Training, Compensation and Evaluation.

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PRINCIPAL
Gurukul Mahila Model High School
Kalibadi Road, RAIPUR (C.C.)

(3) विपणन अनुसंधान (प्रश्नपत्र : A – तृतीय)

MARKETING RESEARCH (Paper : A – Third)

M.M. : 80

Unit – I	Marketing Research ; An Introduction ; Marketing Decisions ; Marketing Research and Information System.
Unit – II	Marketing Research Methodology, Research Design.
Unit – III	Organization of Marketing Research. Specialised areas of application of marketing research.
Unit – IV	Specialised Techniques of Marketing Research. Motivation Research.
Unit – V	Advertising Research : Planning and Procedure, New Product Research.

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PRINCIPAL
Gurukul Mahavidyalaya
Kalibadi Road, Lucknow (C.C.)

(4) अन्तर्राष्ट्रीय विपणन (प्रश्नपत्र : A – चतुर्थ)

INTERNATIONAL MARKETING (Paper : A – Fourth)

M.M. : 80

Unit – I	International Marketing ; Meaning ; Scope, benefits and difficulties of International Marketing ; International marketing and Domestic Marketing, reasons for entering International marketing. International marketing environment ; Identifying and selecting foreign market.
Unit – II	Foreign market entry mode : Product designing, standardisation Vs. Adaptation ; Branding, Packaging and Labelling.
Unit – III	Quality issues and after sales service ; International pricing ; International price quotation ; payment terms and methods of payment.
Unit – IV	Promotion of products and services abroad : International channels of distribution ; Selection and appointment of foreign sales agents. Logistic decision.
Unit – V	Export policy and practices in India , Trends in India's foreign trade, steps in starting export business ; Export finance, documentation and procedure.

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PRINCIPAL
Gurukul Math (P.G. & U.G. Deptt.)
Kalibadi Road, K.M.P. (G.S.)

विशिष्टिकरण : (B) प्रबन्ध

Specialization : (B) Management

(1) वित्तीय प्रबन्ध (प्रश्नपत्र - : B प्रथम)

FINANCIAL MANAGEMENT (Paper : B - First)

M.M. : 80


OBJECTIVE

The objective of this course is to help students of understand the conceptual framework of financial management, and is applications under various environmental constraints.

COURSE INPUTS

Unit - I	Financial Management : Meaning, nature and scope of finance; Finance functions - investment, financing and dividend decisions. Capital Budgeting : Nature of investment decisions; Investment evaluation criteria - net present value, internal rate of return, profitability index, payback period, accounting rate of return; NPV and IRR comparison; Capital rationing; Risk analysis in capital budgeting.
Unit - II	Cost of Capital : Meaning and significance of cost of capital; Calculation of cost of debt, preference capital, equity capital and retained earnings; Combined cost of capital (weighted); Cost of equity and CAPM.
Unit - III	Operating and Financial Leverage : Measurement of leverages; Effects of operating and financial leverage on profit; Analysing alternate financial plans; Combined financial and operating leverage. Capital structure Theories : Traditional and 'M.M. hypotheses - without taxes and with taxes; Determining capital structure in practice.
Unit - IV	Divident Policies : Issues in dividend decisions, Walter's model, Gordon's model, M-M hypothesis, dividend and uncertainty, relevance of dividend; Dividend policy in practice; Forms of dividends; Stability in dividend policy; Corporate dividend behaviour.
Unit - V	Management of Working Capital : Meaning, significance and types of working capital; Calculating operating cycle period and estimation of working capital requirements; Financing of working capital and norms of bank finance; Sources of working capital; Factoring services; Various committee reports on bank finance; Dimensions of working capital management. Management of cash, and inventory.

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PRINCIPAL
Gurukul Ashram, Kalibadi Road, RAIPUR (C.G.)

(2) सेविदगीय प्रबन्ध (प्रश्नपत्र : B - द्वितीय)

PERSONNEL MANAGEMENT (Paper : B - Second)

M.M. : 80

Unit - I	Concept, Definition, Importance & Objectives of Personnel Management, Historical Development of Personnel Management, Nature, scope planning, Philosophy and Principles of personnel Management and its relation with behavioural sciences.
Unit - II	Personnel policies, programmes & procedures. Personnel Department; Personnel Functions, Position of personnel Department & Organization of Personnel Management.
Unit - III	Man power planning Recruitment and Selection, Training & Development of Employees & Executives. Promotion, Demotion, Transfers, Absenteeism & Turnover.
Unit - IV	Performance Appraisal and Merit Ruting, Discipline. Job evaluation Wage & Salary Administration, plans of Remuneration & Financial Rewards/Incentive payments.
Unit - V	Employees Fringe Benefits & Services - Safety, Health & Security programme and welfare. Motivation and Moral.

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PRINCIPAL
Gurukul Mahila Mahavidyalaya
Kalibadi Road, N.M.P.O.R. (D.G.)

(3) उत्पादन प्रबन्ध (प्रश्नपत्र : B - तृतीय)

PRODUCTION MANAGEMENT (Paper : B - Third)

M.M. : 80

Unit - I	Fundamentals of production management, Nature, Scope, Functions ; Problems, Production and Productivity organizing for production. Types of manufacturing systems.
Unit - II	Production planning, Objectives, Factors affecting Production Planning. Planning future activities, forecasting. Qualitative & Quantative forecasting Methods, longrange forecasts, project planning method (P.E.R.T. and C.P.M.) Process planning System. Techniques of process planning : Assembly charts, process charts make or buy analysis.
Unit - III	Process design, Factors affecting design Relation with types of manufacturing plant location and layout : Factors affecting location. Types of plans layout, evaluation of alternative layout.
Unit - IV	Work measurement and work standards Uses of work measurement date, procedure for work measurement. Direct work measurement. Time study, activity sampling. Indirect work measurement : Synthetic timing, Predetermined motion time system, analytical estimating. Methods analysis : Areas of application, Approaches to methods design. Tools for methods analysis, work simplification programme.
Unit - V	Production Control - Control functions : Routing, Loading, Scheduling, Despatching, Follow up. Quality control & inspection : place of quality control in modern enterpriss, organisation of quality control. Statistical quality control, inspection location for inspection, inspection procedure and records, Inspection devices.

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Gurukul Mahavidyalaya
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STRATEGIC MANAGEMENT (Paper : B - Fourth)

M.M. : 80

Unit - I	<p>Concept of Strategy : Defining strategy, levels at which strategy operates; Approaches to strategic decision making; Mission and purpose, objectives and goals; Strategic business unit (SBU); Functional level strategies.</p> <p>Environmental Analysis and Diagnosis : Concept of environment and its components; Environment scanning and appraisal; Organisational appraisal; Strategic advantage analysis and diagnosis, SWOT analysis.</p>
Unit - II	<p>Strategy Formulation and Choice of Alternatives : Strategies - modernisation, diversification, integration, Merger, take-over and joint strategies; Turnaround, divestment and liquidation strategies; Process of strategic choice-industry, competitor and SWOT analysis; Factors affecting strategic choice; Generic competitive strategies- cost leadership, differentiation focus, value chain analysis, bench marking, service blue printing.</p>
Unit - III	<p>Functional Strategies : Marketing, production / operations and R & D plans and policies.</p> <p>Functional Strategies : Personnel and financial plans and policies.</p>
Unit - IV	<p>Strategy Implementation : Inter-relationship between formulation and implementation; Issues in strategy implementation; Resource allocation.</p> <p>Strategy and Structure : Structural considerations, structures for strategies; Organisational design and change.</p>
Unit - V	<p>Strategy Evaluation : Overview of strategic evaluation; Strategic control; Techniques of strategic evaluation and control.</p> <p>Global Issues in Strategic Management.</p>

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Gurukul Mahila Mahavidyalaya
Kalibadi Road, P. O. Kalibadi

विशिष्टीकरण : (C) बैंकिंग एवं बीमा

Specialization : (C) Banking and Insurance

(1) बैंकिंग व्यवहार - (प्रश्नपत्र : C - प्रथम)

BANKING PRACTICES (Paper : C - First)

M.M. : 80

OBJECTIVE -

This course enables the students to know the working of the Indian banking system and fundamentals of insurance.

Unit - I	Bank : Concept, Functions and Services, Prohibited Business, Nature of Banking, Qualities of Banker, Bank and Customer Relationship, Concept of Customer, general Relationship, Bankers, Rights and obligations, Termination of Relationship.
Unit - II	Accounts of Customers : Various Customers' Accounts, Opening an account, Nomination facility, Special Types of Customers Minors, Pardanashin Women, Lunatics, Intoxicated Persons, Joint Hindu Family, Limited Companies and Non Trading Concern.
Unit - III	Employment of Bank Funds, Importance of Liquidity, Cash Reserve, Money at call and short notice, Investments, Statutory provisions regarding liquid Assets, Principles of lending, Types of loan, Interest Tax Act.
Unit - IV	Purchase/Discounting of Bills, Legal Position, Bill Market scheme, Lodgment of bills, Vaghu Working Group Report, Letters of Credit, Concept and types, Crossing and endorsements of cheque.
Unit - V	Securities for Advances : General Principles, Advances against Goods, Stock Exchange Securities, Real Estate, Life Policies, Fixed Deposits, Gold, Silver, Bond and Debenture. Lien and Mortgage, Types of mortgage, Hypothication, pledge.

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HEADMASTER
Gurukul Mahavidyalaya
Kalibadi Road, RAIPUR (C.G.)

(2) भारत में बैंकिंग संस्थाएँ - (प्रश्नपत्र : C - द्वितीय)

BANKING INSTITUTION IN INDIA (Paper : C - Second)

M.M. : 80

Unit - I	Indian Banking System : Indigenous Bankers, Money Lenders, Nationalization of commercial Bank and their Effects, Classification of Banking Institutions, Commercial Banks, Regional Rural Banks, Cooperative Banks. E-Banking & Green Banking.
Unit - II	Development Banking in India : IFCI, ICICI, SIDBI, Credit Guarantee Institutions; Export Credit Guarantee Corporation of India, Deposit Insurance and Credit Guarantee Corporation of India.
Unit - III	R.B.I. : Organization, function, Central Banking functions, Promotional functions, Control of credit by RBI, NBFC and RBI, Commercial Banks and RBI, Power of RBI.
Unit - IV	Banking Regulation Act 1949 : Important features, Forms of Business of a Bank, Regulation for Capital, Control over Management, Restrictions on loans and advances winding up of a Banking Company, Amalgamation of Banks.
Unit - V	Emerging trends in Banking Sector : Narasimham Committee Report, Committee on Banking Sector Reforms, Bridge Loan and Privatization of Banks and its impact.

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(3) जीवन बीमा - (प्रश्नपत्र : C - तृतीय)

LIFE INSURANCE (Paper : C - Third)

M.M. : 80

Unit - I	Life insurance : introduction , History of life insurance, Utility, Object, Characteristics and importance of life insurance, procedure of getting life insurance, non - medical insurance, Insurance of sub - standard lives, insurance of female lives and Minors.
Unit - II	Life insurance policy : Conditions and kinds of Life insurance policies, some important plans of life insurance.
Unit - III	Premium and Annuity ; Elements of premium ; methods of premium computation, Natural premium plan, level premium plan. Gross and net premium, Loading mortality table - meaning, characteristics and importance in life insurance ; Kinds of mortality table. Annuity : meaning, objects, advantages and kinds of annuity, annuity Vs Life insurance.
Unit - IV	Life Insurance agent and his working , settlements of Life insurance claims. Guidelines and procedures, Organisation and management of life insurance corporation of India, working and progress.
Unit - V	Privatization of Life insurance in India, Insurance Regulatory & Development Authority Act, 1999, - powers and functions of authority.

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PRINCIPAL
Curriculum Cell, P. V. Jyotsna
Kalibadi Road, KANPUR (C.G.)

(4) सामान्य बीमा - (प्रश्नपत्र : C - चतुर्थ)

GENERAL INSURANCE (Paper : C - Fourth)

M.M. : 80

Unit - I	Introduction : Origin and Development of Insurance : Advantages, Importance and Functions of Insurance, Fundamental principles of Insurance - insurable interest, utmost good faith, other principles - indemnity, subrogation, contribution, mitigation of loss warranties, Proximate cause etc.
Unit - II	Classification and Re-insurance : General Principles, various methods of re-insurance, under insurance, Over-insurance, double insurance Classification and organisation of Insurance.
Unit - III	Marine Insurance : Introduction, Evolution & Development of marine insurance. Necessary elements of marine insurance contract Peril & Scope of marine insurance. Procedure of Taking out Marine Insurance Policy, kinds of Marine insurance Policies, Computation of Marine Insurance Premiums and Returns, Marine Losses - Total loss, Actual and Constructive, Partial Loss - particular average loss and general average loss, Settlements of Claims and Recoveries, Salvage and Particular Charges.
Unit - IV	Fire insurance : Physical and moral hazards, functions of fire insurance, history of fire insurance ; principles of fire insurance, meaning of fire, characteristics of fire insurance, contract rights of insurer under a fire insurance contract, procedure of fire insurance policy, fire policy conditions, settlement of claims.
Unit - V	Miscellaneous Insurance : Personal accident Insurance, Motor, employer's liability fidelity guarantee, burglary, live stock, crop. And workmen's compensation insurance, Cattle Export Risks ; Engineering ; Aircraft insurance.

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विशिष्टिकरण : (D) करारोपण एवं लेखांकन

Specialization : (D) Taxation and Accounting

(1) भारत में प्रत्यक्ष कर (प्रश्नपत्र : D - प्रथम)

DIRECT TAX IN INDIA (Paper : D - First)

M.M. : 80

Unit - I	Basic Concepts and Definitions, Residential Status and Tax incidence. Exempted Income, Deemed Income, Clubbing of Income, Deductions under Section - 80.
Unit - II	Computation of Tax Liabilities of Individual. Taxation on Agriculture Income.
Unit - III	Return of Income and Assessment, Various Types of Return, types of Assessment.
Unit - IV	Advance payment of Tax, Tax Deducted at Source. Penalties and Prosecution, Refund of Excess Payment.
Unit - V	Income Tax Authorities, Appeal and Revisions, Settlement of cases.

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विशिष्टिकरण : (D) करारोपण एवं लेखांकन

Specialization : (D) Taxation and Accounting

(2) एकीकृत वस्तु एवं सेवा कर (प्रश्नपत्र : D - द्वितीय)


INTEGRATED GOODS AND SERVICE TAX

(Paper : D - Second)

M.M. : 80

Unit - I	Observation & Introduction of GST Act-2017, Nature, Important Definations, Levy And Collection of Tax, Taxation And Exemption of Tax, Registration Procedure, Meaning & Probability of Supply. Assessment of Tax in GST, List of Tax-free & Taxable Goods, E Billing.
Unit - II	Electronic Commerce (E-Commerce), Job Work, Inputs Tax Credits, Concept of Input Service Distributors in GST, Procedure of Returns & Checking of Inputs Tax Credit.
Unit - III	Valuation & Checking of Accounting, Payable & Refunds, Demand & Recovery, Appeals & Amendment in GST, Advance Judicial Decisions. Composition Scheme, E Way Billing.
Unit - IV	Organisation & Administrative Structure, Settlement Commission, Appointment of Officer, Inspection, Searching, Confiscations (Seizure) & Arrest, Offences & Penalties, Prosecution & Compounding.
Unit - V	Observation of GST Act, Place of Services & Supply, Fronted Business Procedure on GST Portal, Miscellaneous Provisions.

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(3) सेवा के क्षेत्र में लेखांकन (प्रश्नपत्र : D - तृतीय)

Accounting in Service Sector (Paper : D - Third)

M.M. : 80

Unit - I	Accounts of Hotel Companies - Introductions, Sources of Income, Heads of Expenditures, Cash Book, Visitor's ledger, final accounts. Accounting for Transport Undertaking - Introduction - Railways, Trams and Buses, Roadways, Shipping. Preparation of Daily Log book and final accounts (Problems on roadways only)
Unit - II	Accounts for Hospitals - Introduction, preparation of final accounts, capital and revenue expenditure, OPD and IPD register. Accounts of Professional people.
Unit - III	Accounting for educational institutions - General cash book, Collection Ledger, Donors Register, Stock book Register, Salary and wages Register, Types of Govt. Grants and its accounting, Annual statement of accounts.
Unit - IV	Accounts of Co-operative Societies - Accounts of Agricultural Farms.
Unit - V	Government Accounting : Basic principles of government Accounting, Commercial Accounting Vs Government Accounting, Consolidated funds contingency fund and public Accounts.

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(4) लेखांकन पद्धतियाँ (प्रश्नपत्र : D - चतुर्थ)

Accounting Methods (Paper : D - Fourth)

M.M. : 80

Unit - I	Preparation of Accounts from incomplete records and single entry system.
Unit - II	Branch Accounts - Independent and foreign branch. Departmental accounts.
Unit - III	Lease Accounts, Social Accounting.
Unit - IV	Accounting for Price level changes. Human Resource Accounting.
Unit - V	Insolvency Accounts. (individual and firm).

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27-06-18


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5. Kalsi, P. S. Stereochemistry Conformation and Mechanism, New Age International, 2005.
6. McMurry, J.E. Fundamentals of Organic Chemistry, 7th Ed. Cengage Learning India Edition, 2013.
7. Organic Chemistry, Paula Y. Bruice, 2nd Edition, Prentice-Hall, International Edition (1998).
8. A Guide Book of Reaction Mechanism by Peter Sykes.

PAPER - III
PHYSICAL CHEMISTRY

M.M.34

UNIT-I

MATHEMATICAL CONCEPTS FOR CHEMIST

Basic Mathematical Concepts: Logarithmic relations, curve sketching, linear graphs, Properties of straight line, slope and intercept, Functions, Differentiation of functions, maxima and minima; integrals; ordinary differential equations; vectors and matrices; determinants; Permutation and combination and probability theory, Significant figures and their applications.

UNIT-II

GASEOUS STATE CHEMISTRY

Kinetic molecular model of a gas: postulates and derivation of the kinetic gas equation; collision frequency; collision diameter; mean free path; Maxwell distribution and its use in evaluating molecular velocities (average, root mean square and most probable) and average kinetic energy, law of equipartition of energy, degrees of freedom and molecular basis of heat capacities. Joule Thompson effect, Liquification of Gases.

Behaviour of real gases: Deviations from ideal gas behaviour, compressibility factor (Z), and its variation with pressure and temperature for different gases. Causes of deviation from ideal behaviour. van der Waals equation of state, its derivation and application in explaining real gas behaviour, calculation of Boyle temperature. Isotherms of real gases and their comparison with van der Waals isotherms, continuity of states, critical state, relation between critical constants and van der Waals constants, law of corresponding states.

UNIT-III



A. LIQUID STATE CHEMISTRY

Intermolecular forces, magnitude of intermolecular force, structure of liquids, Properties of liquids, viscosity and surface tension.

B. COLLOIDS and SURFACE CHEMISTRY

Classification, Optical, Kinetic and Electrical Properties of colloids, Coagulation, Hardy Schulze law, flocculation value, Protection, Gold number, Emulsion, micelles and types, Gel, Syneresis and thixotropy, Application of colloids.

Physical adsorption, chemisorption, adsorption isotherms (Langmuir and Freundlich). Nature of adsorbed state. Qualitative discussion of BET.

UNIT-IV

SOLID STATE CHEMISTRY

Nature of the solid state, law of constancy of interfacial angles, law of rational indices, Miller indices, elementary ideas of symmetry, symmetry elements and symmetry operations, qualitative idea of point and space groups, seven crystal systems and fourteen Bravais lattices; X-ray diffraction, Bragg's law, a simple account of rotating crystal method and powder pattern method. Crystal defects.

UNIT-V

A. CHEMICAL KINETICS

Rate of reaction, Factors influencing rate of reaction, rate law, rate constant, Order and molecularity of reactions, rate determining step, Zero, First and Second order reactions, Rate and Rate Law, methods of determining order of reaction, Chain reactions.

Temperature dependence of reaction rate, Arrhenius theory, Physical significance of Activation energy, collision theory, demerits of collision theory, non mathematical concept of transition state theory.

B. CATALYSIS

Homogeneous and Heterogeneous Catalysis, types of catalyst, characteristic of catalyst, Enzyme catalysed reactions, Micellar catalysed reactions, Industrial applications of Catalysis.

REFERENCE BOOKS:

1. Atkins, P. W. & Paula, J. de Atkin's Physical Chemistry 10th Ed., Oxford University Press (2014).

2. Ball, D. W. Physical Chemistry Thomson Press, India (2007).
3. Castellan, G. W. Physical Chemistry 4th Ed. Narosa (2004).
4. Mortimer, R. G. Physical Chemistry 3rd Ed. Elsevier: NOIDA, UP (2009).
5. Engel, T. & Reid, P. Physical Chemistry 3rd Ed. Pearson (2013).
6. Puri, B.R., Sharma, L. R. and Pathania, M.S., Principles of Physical Chemistry, Vishal Publishing Co., 47th Ed. (2016).
7. Bahl, A., Bahl, B.S. and Tuli, G.D. Essentials of Physical Chemistry, S Chand Publishers (2010).
8. Rakshit P.C., Physical Chemistry, Sarat Book House Ed. (2014).
9. Singh B., Mathematics for Chemist, Pragati Publications.

PAPER - IV LABORATORY COURSE

INORGANIC CHEMISTRY

A. Semi-micro qualitative analysis (using H₂S or other methods) of mixtures - not more than four ionic species (two anions and two cations, excluding interfering, insoluble salts) out of the following:

Cations : NH₄⁺, Pb²⁺, Bi³⁺, Cu²⁺, Cd²⁺, Fe³⁺, Al³⁺, Co²⁺, Ni²⁺, Mn²⁺, Zn²⁺, Ba²⁺, Sr²⁺, Ca²⁺, Na⁺
Anions : CO₃²⁻, S²⁻, SO₃²⁻, S₂O₃²⁻, NO₂⁻, CH₃COO⁻, Cl⁻, Br⁻, I⁻, NO₃⁻, SO₄²⁻

(Spot tests may be carried out wherever feasible)

B. Acid-Base Titrations

- Standardization of sodium hydroxide by oxalic acid solution.
- Determination of strength of HCl solution using sodium hydroxide as intermediate.
- Estimation of carbonate and hydroxide present together in mixture.
- Estimation of carbonate and bicarbonate present together in a mixture.
- Estimation of free alkali present in different soaps/detergents

C. Redox Titrations

- Standardization of KMnO₄ by oxalic acid solution.
- Estimation of Fe(II) using standardized KMnO₄ solution.
- Estimation of oxalic acid and sodium oxalate in a given mixture.
- Estimation of Fe(II) with K₂Cr₂O₇ using internal (diphenylamine, anthranilic acid) and external indicator.

D. Iodo / Iodimetric Titrations

- Estimation of Cu(II) and K₂Cr₂O₇ using sodium thiosulphate solution iodimetrically.
- Estimation of (a) arsenite and (b) antimony iodimetrically.

6. Inorganic Chemistry, A.G. Sharp, ELBS.
7. Inorganic Chemistry, G.L. Miessler and D.A. Tarr, Prentice Hall.
8. Advanced Inorganic Chemistry, Satyas Prakash.
9. Advanced Inorganic Chemistry, Agarwal & Agarwal.
10. Advanced Inorganic Chemistry, Puri & Sharma, S. Neginchand
11. Inorganic Chemistry, Madan, S. Chand & Co.
12. Adhunik Akarbanic Raseyan, A.K. Shrivastav & P.C. Jain, Osel Pub.
13. Uchhatar Akarbanic Raseyan, Satya Prakash & G.D. Tuli, Shyamal Prakashan
14. Uchhatar Akarbanic Raseyan, Puri & Sharma.

SEM - II (Paper Code-0896)

ORGANIC CHEMISTRY

S.No. 23

UNIT-I A. ORGANOMETALLIC COMPOUNDS

Organomercurium compounds : Grignard reagents-formation, structure and chemical reactions. Organozinc compounds : formation and chemical reactions. Organolithium compounds : formation and chemical reactions.

B. Organosulphur Compounds

Nomenclature, structural features, methods of formation and chemical reactions of thiols, thioethers, sulphonic acids, sulphonamides and sulphagenidines.

Organic Synthesis via Enolates

Active methylene group alkylation of diethylmalonate and ethyl acetoacetate. Synthesis of ethyl acetoacetate : the Claisen condensation. Keto-enol tautomerism of ethyl acetoacetate.

UNIT-II BIONOLECULES

A. Carbohydrates :

Configuration of monosaccharides, threo and erythro diastereomers. Formation of glycosides ethers and esters. Determination of ring size of monosaccharides. Cyclic structure of D(+)-glucose. Structure of ribose and deoxyribose. An introduction to disaccharides (maltose, sucrose and lactose) and polysaccharides (starch and cellulose) without involving structure determination.

B. Proteins and Nucleic acids

Classification and structure of protein levels of protein structure, protein denaturation / renaturation. Constituents of amino acids Ribonucleosides and ribonucleotides, double helical structure of DNA.

UNIT-III A. Synthetic Polymers

Addition or chain growth polymerization. Free radical vinyl polymerization, Ziegler-Natta polymerization, Condensation or Step growth polymerization, Polyesters, polyamides, phenolic-formaldehyde resins, urea-formaldehyde resins, epoxy resins and polyurethanes, natural and synthetic rubbers.

B. Synthetic Dyes

Colour and constitution (Electronic Concept). Classification of Dyes. Chemistry of dyes. Chemistry and synthesis of Methyl Orange, Congo Red, Malachite Green, Crystal Violet, Naphthalein, fluorescein, Alizarine and Indigo.

UNIT-IV SPECTROSCOPY

A. Mass Spectrometry : mass spectrum fragmentation of functional groups.



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- B. Infrared Spectroscopy** : IR absorption bands their position and intensity, identification of IR spectra.
- C. UV-Visible Spectroscopy** : Beer Lambert's law, effect of conjugation on max visible spectrum and colour.
- D. Anthocyanin as natural colouring matter** (Introduction only)
- E. Application of Mass, IR, UV-Visible Spectroscopy to organic molecules.**
- UNIT-V**
- A. NMR Spectroscopy** : Introduction to NMR. Shielding and Number of signal in NMR, Chemical shift and characteristic values, splitting of signals and coupling constant. Application to organic molecules.
- B. ^{13}C NMR Spectroscopy** : Principle & Application.
- C. Magnetic Resonance Imaging (MRI)** - Introductory idea.

REFERENCE BOOKS :

- 1 Organic Chemistry, Morrison and Boyd, Prentice-Hall
- 2 Organic Chemistry, L.G. Wade Jr., Prentice-Hall
- 3 Fundamentals of Organic Chemistry, Solomons, John Wiley
- 4 Organic Chemistry, Vol. I, II, III, S.M. Mukherjee, S.P. Singh and R.P. Kapoor, Wiley-Eastern (New-Age)
- 5 Organic Chemistry, F.A. Carey, McGraw Hill
- 6 Introduction to Organic Chemistry, Streiweisser, Heathcock and Kosover, Macmillan
- 7 Organic Chemistry, P.L. Soni
- 8 Organic Chemistry, Bahi & Bahi
- 9 Organic Chemistry, Joginder Singh
10. Carbanic Reasyon, Bahi & Bahi
11. Carbanic Reasyon, R.N. Singh, S.M.I. Gupta, M.M. Bakodia & S.K. Nadhwa
12. Carbanic Reasyon, Joginder Singh.
13. Carbanic Reasyon, P.L., Soni.
14. Carbanic Reasyon, Bhagchandani, Sahitya Bhawan Publication.
15. Reasyon Vigyan, Bhatnagar, Arun Prakashan.

PMER - III (Paper Code-0897)

PHYSICAL CHEMISTRY

M.N. 34

UNIT-I QUANTUM MECHANICS

Black body radiation, Plank's radiation law, photoelectric effect, Compton effect. DeBroglie's idea of matter waves, experimental verification Heisenberg's uncertainty principle, Sincoidal wave equation, Operators : Hamiltonian operator, angular momentum operator, Laplacian operators postulate of quantum mechanics Eigen values, Eigen function. Schrodinger time independent wave equation physical significance of ψ and ψ^2 . Applications of schrodinger wave equation : particle in one dimensional box Hydrogenation (separation into three equation's) radial wave function and angular wave function.

UNIT-II QUANTUM MECHANICS-II

Quantum mechanical approach of molecular orbit theory; basic idea criteria for forming M.O and A.O, LCAO approximation, formation of H_2^+ ion, calculation of energy levels from wave functions bonding and antibonding wave functions concept of σ and π

B.SC.-III (BOTANY) PAPER -I

(ANALYTICAL TECHNOLOGY PLANT PATHOLOGY, EXPERIMENTAL EMBRYOLOGY, ELEMENTARY BIostatISTICS, ENVIRONMENTAL POLLUTION AND CONSERVATION)

UNIT-I

Structure, Principle and applications of analytical instrumentation.

Chromatography technique, Oven, Incubator, Autoclave, Centrifuge, Spectrophotometere

UNIT-II

Plant Tissue culture techniques, growth media, totipotency, protoplast culture, somatic hybrids and cybrids, micropropagation , somaclonal variations, haploid culture.

Analytical techniques: Microscopy-Light microscope, Electron microscope

UNIT-III

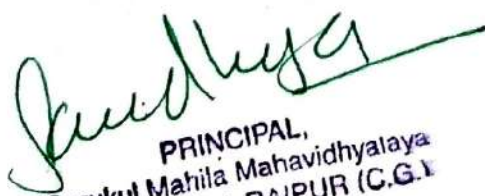
General principles of plant pathology, general symptoms of fungal, bacterial and viral diseases, mode of infection, diseases resistance and control measures, plant quarantine. A study of epidemiology and etiology of following plant diseases.

Rust diseases of wheat, Tikka diseases of ground nut, Red rot of sugar can, Bacterial blight of rice, Yellow vein mosaic of b hindi, Little leaf of brinjal.

UNIT-IV

Introduction to pollution, green house gases, Ozone depletion, Dissolve oxygen, B.O.D., C.O.D.

Bio magnification, Eutrophication, Acid precipitation, Phytoremediation, Plant indicators,
Biogeographical Zones of India, Concept of biodiversity, CBD, MAB, National parks and


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biodiversity Hot spots, Conservation strategies, Red Data Book, IUCN threat categories, invasive species, endemic species, concept of sustainable development.

UNIT-V

ELEMENTARY BIOSTATISTICS:

Introduction and application of Biostatistics, measure of central tendency-Mean, Median, Mode, measures of dispersal-Standard deviation, standard error.

Books Recommended:

Singh, RS, *Plant Diseases*, Oxford & IBH, New Delhi.

Pandey, BP, *Plant Pathology*, S.Chand Publishing, New Delhi

Sharma, PD, *Microbiology and Plant pathology*, Rastogi Publications, Meerut

Sharma PD, *Mycology and Phytopathology*, Rastogi Publications, Meerut

Singh JS, Singh SP and Gupta, SR, *Ecology Environmental Science and Conservation*, S. Chand Publishing, New Delhi

Sharma, PD. *Ecology and Environment*, Rastogi Publications, Meerut

Bhojwani, SS and Razdan, MK, *Plant Tissue Culture: Theory and Practices*, Elsevier

Sharma AK, *Text book of Biostatistics*, Discovery Publishing House Pvt. Ltd.

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B.Sc.-III (BOTANY) PAPER -II
(GENETICS, MOLECULAR BIOLOGY, BIOTECHNOLOGY AND
BIOCHEMISTRY)

UNIT-I

Cell and cell organelles, organization and morphology of chromosomes, giant chromosomes, cell division, Mendel's laws, gene interactions, linkage and crossing over, chromosomal aberration, polyploidy, sex linked inheritance, sex determination, cytoplasmic inheritance, gene concept: cistron, muton, recon.

UNIT-II

Nucleic acids, structure and forms of DNA and RNA, DNA/RNA as genetic material, replication of DNA, biochemical and molecular basis of mutation, genetic code and its properties, mechanism of transcription and translation in prokaryotes, regulation of gene expression, Operon model.

UNIT-III

Recombinant DNA, Enzymes in recombinant DNA technology, cloning vectors (Plasmid, Bacteriophages, Cosmids, Phagemids), gene cloning, PCR, Application of Biotechnology; G.M.Plants, Monoclonal antibodies, DNA finger printing

UNIT-IV

Protein: Chemical composition, primary, secondary and tertiary structure of Proteins.

Carbohydrate: general account of monosaccharides, disaccharids and Polysaccharides

Fat: Structure and properties of fats and fatty acids, synthesis and breakdown.

UNIT-V

ENZYMES: Nomenclature and classification, components of enzyme, theories of enzyme action, enzyme kinetics (Michaelis-Menten constant), allosteric enzymes, isozymes, Abzymes. Ribozymes, factors affecting enzyme activity.


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Books Recommended:

Nelson, DL, Cox, MM, Lehninger *Principles of Biochemistry*, W.H. freeman and Company, New York, USA.

Cooper, GM, *The Cell: A Molecular Approach*, ASM Press & Sunderland, Washington, D.C. Sinauer Associates, MA.

Singh BD, *Fundamental of Genetics*, Kalyani Publication

Singh BD, *Genetics*, Kalyani Publication

Gupta, PK, *Cell and Molecular Biology*, Rastogi Publications, Meerut

Singh, BD, *Biotechnology: Expanding Horizons*, Kalyani publications

Gupta, PK, *Elements of Plant Biotechnology*, Rastogi Publications, Meerut


Gupta, SN, *Concepts of Biochemistry*, Rastogi Publications, Meeru

Jain, JL., Jain S, Jain, N, *Fundamentals of Biochemistry*, S Chand Publishing, New Delhi

B.Sc.-III (Botany)

Practical

1. Study of host parasite relationship pf plant diseases listed above.
2. Demonstration of preparation of Czapek's Dox medium and Potato dextrose agar medium, sterilization of culture medium and pouring.
3. Inoculation in culture tubes and petriplates.
4. Gram Staining.
5. Microscopic examination of Curd.
6. Study of plant diseases as listed in the theory paper.
7. Biochemical test of carbohydrate and protein.
8. Instrumentation techniques


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BOTANY

PAPER-I (Paper Code-0915)

PLANT PHYSIOLOGY, BIOCHEMISTRY AND BIOTECHNOLOGY

M.M. : 30

UNIT-I Plant-water relations : Importance of water to plant life ; physical properties of water; diffusion and osmosis; absorption, transport of water and transpiration ; physiology of stomata.

Mineral nutrition : Essential macro and micro-elements and their role ; mineral uptake; deficiency and toxicity symptoms.

UNIT-II Transport of organic substances : Mechanism of phloem transport ; source-sink relationship ; factors affecting translocation.

Basic of enzymology : Discovery and nomenclature ; characteristics of enzymes ; concept of holoenzyme apoenzyme, coenzyme and cofactors ; regulation of enzyme activity, mechanism of action.

Photosynthesis : Significance ; historical aspects ; photosynthetic pigments ; action spectra and enhancement effects ; concept of two photosystems; Z-scheme ; photo-phosphorylation ; Calvin cycle ; C_4 pathway ; CAM plants ; photorespiration.

UNIT-III Respiration : ATP - the biological energy currency ; aerobic and anaerobic respiration; Krebs's cycle, electron transport mechanism (chemi-oxidative theory) ; redox potential; oxidative phosphorylation ; pentose phosphate pathway.

Nitrogen and lipid metabolism : Biology of nitrogen fixation ; importance of nitrate reductase and its regulations ; ammonium assimilation ; structure and function of lipids; fatty acid biosynthesis ; Beta-oxidation ; saturated and unsaturated fatty acids; storage and mobilization of fatty acids.

UNIT-IV Growth and development : Definitions ; phases of growth and development ; kinetics of growth, seed dormancy, seed germination and factors of their regulation ; plant movements ; the concept of photoperiodism ; physiology of flowering ; florigen concept; biological clocks ; physiology of senescence, fruit ripening ; plant hormones auxins, gibberellins, cytokinins, abscisic acid and ethylene, history of their discovery, biosynthesis and mechanism of action ; photomorphogenesis ; phytochromes and cryptochromes, their discovery, physiological role and mechanism of action.

UNIT-IV Genetic engineering : Tools and techniques of recombinant DNA technology ; cloning vectors ; genomic and cDNA library ; transposable elements ; techniques of gene mapping and chromosome walking.

Biotechnology : Functional definition ; basic aspects of plant tissue culture ; cellular totipotency, differentiation and morphogenesis ; biology of *Agrobacterium* ; vectors for gene delivery and marker genes ; salient achievements in crop biotechnology.

PAPER-II (Paper Code-0916)

ECOLOGY AND UTILISATION OF PLANTS

M.M. : 30

UNIT-I Plants and environment : Atmosphere (gaseous composition), water (properties of water cycle), light (global radiation, photosynthetically active radiation), temperature, soil (development, soil profiles, physico-chemical properties), and biota.

Morphological, anatomical and physiological responses of plants to water (hydrophytes and xerophytes), temperature (thermoperiodicity), light (photoperiodism, heliophytes and sciophytes) and salinity.

- UNIT-II** Community Ecology : Community characteristics, frequency, density, cover, life forms biological spectrum ; ecological succession.
Ecosystems : Structure, abiotic and biotic components ; food chain, food web, ecological pyramids, energy flow ; biogeochemical cycles of carbon, nitrogen and phosphorus.
- UNIT-III** Population ecology : Growth curves ; ecotypes ; ecads.
Biogeographical regions of India.
Vegetation types of India : Forests and grasslands.
- UNIT-IV** Utilization of Plants
Food plants : Rice, wheat, maize, potato, sugarcane.
Fibres : Cotton and jute.
Vegetable oils : Groundnut, mustard and coconut
General account of sources of firewood, timber and bamboo.
- UNIT-V** Spices : General account.
Medicinal plants : General account
Beverages : Tea and coffee.
Rubber.

PRACTICAL SCHEME

M.M. 30

01. Physiology	08
02. Ecology	08
03. Utilization of Plants	05
04. Biochemistry / Biotechnology	05
05. Spotting (1-3 spots)	10
06. Project work	04
07. Viva V.	05
08. Sessional	05
	50

Suggested Laboratory Exercises

- To study the permeability of plasma membrane using different concentrations of organic solvents.
- To study the effect of temperature on permeability of plasma membrane.
- To prepare the standard curve of protein and determine the protein content in unknown samples.
- To study the enzyme activity of catalase and peroxidase as influenced by pH and temperature.
- Comparison of the rate of respiration of various plant parts.
- Separation of chloroplast pigment by solvents method.
- Determining the osmotic potential of vacuolar sap by plasmolytic method.
- Determining the water potential of any tuber.
- Separation of amino acids in a mixture by paper chromatography and their identification by comparison with standards.
- Biosassay of auxin, cytokinin, GA, ABA and ethylene using appropriate plant material.
- Demonstration of the technique of micropropagation by using different explants, e.g. axillary buds, shoot meristems.
- Demonstration of the technique of anther culture.
- Isolation of protoplasts from different tissues using commercially available enzymes.
- Demonstration of root and shoot formation from the apical and basal portion of stem segments in liquid medium containing different hormones.

Suggested Laboratory Exercises (Biology)

1. To determine minimum number of quadrats required for reliable estimate of biomass in grasslands.
2. To study the frequency of herbaceous species in grassland and to compare the frequency distribution with Rankair's Standard Frequency Diagram.
3. To estimate importance Value Index for grassland species on the basis of relative frequency, relative density and relative biomass in protected and grazed grassland.
4. To measure the vegetation cover of grassland through point frame method.
5. To measure the aboveground plant biomass in a grassland.
6. To determine Kemp's constant for dicot and monocot leaves and to estimate the leaf area index of a grassland community.
7. To determine diversity indices (richness, Simpson, Shannon-Wiener) in grazed and protected grassland.
8. To estimate bulk density and porosity of grassland and woodland soils.
9. To determine moisture content and water holding capacity of grassland and woodland soil.
10. To study the vegetation structure through profile diagram.
11. To estimate transparency, pH and temperature of different water bodies.
12. To measure dissolved oxygen content in polluted and unpolluted water samples.
13. To estimate salinity of different water samples.
14. To determine the percent leaf area injury of different leaf samples collected around polluted sites.
15. To estimate dust holding capacity of the leaves of different plant species.

PRACTICAL

Suggested Laboratory Exercises (for Utilization of Plants)

1. Food Plants : Study of the morphology, structure and simple microchemical tests of the food storing tissues in rice, wheat, maize, potato and sugarcane. Microscopic examination of starch in these plants (excepting sugarcane)
2. Fibres : Study of cotton flowers, sectioning of the cotton ovules/developing seeds to trace the origin and development of cotton fibres. Microscopic study of cotton and test for cellulose. Sectioning and staining of jute stem to show the location and development of fibres. Microscopic structure. Test for lignocellulose.
3. Vegetable oils : Study of hand sections of groundnut, mustard and coconut and staining of oil droplets by Sudan III and Sudan Black.
4. Field visits : To study sources of firewood (10 plants), timber-yielding trees (10 trees) and herbs. A list to be prepared mentioning special features.
5. Spices : Examine black pepper, cloves, cinnamon (hand sections) and opened fruits of cardamom and describe them briefly.
6. Preparation of an illustrated inventory of 10 medicinal plants used in indigenous systems of medicine or allopathy : Write their botanical and common names, parts used and disease/diseases for which they are prescribed.
7. Beverages : Cut sections of boiled coffee beans and tea leaves to study the characteristic structural features.
8. Rubber : Collect illustrative materials of *Hevea brasiliensis* ; morphology of the plant and tapping practices, history of rubber. List the many uses of rubber.

B.Sc.-II (BOTANY) PAPER-I

(PLANT TAXONOMY, ECONOMIC BOTANY, PLANT ANATOMY AND EMBRYOLOGY)

UNIT-I

Bentham and Hooker system of classification. Binomial Nomenclature, International Code of Nomenclature for Algae, Fungi, and plants (IUCN), Typification, numerical Taxonomy and chemotaxonomy. Preservation of Plant material and Herbarium techniques. Important botanical gardens and herbaria of India, Kew Botanical garden, England.

UNIT-II

Systematic position, distinguishing characters and economic importance of the following families, Ranunculaceae, Magnoliaceae, Brassicaceae, Rosaceae, Papaveraceae, Caryophyllaceae, Rutaceae, Cucurbitaceae, Apiaceae, Rubiaceae, Apocynaceae, Asclepiadaceae, Solanaceae, Malvaceae, Convolvulaceae, Orchidaceae, Acanthaceae, verbenaceae, Lamiaceae, Asteraceae, Fabaceae, Euphorbiaceae, Poaceae and Liliaceae.

UNIT-III

Economic Botany: Botanical name, family, part used and uses of the following economically important plants, fiber yielding plants: Cotton, jute, sun, hemp, coir. Timber yielding plants: Sal, Teak, Shisham and Pine. Medicinal plants: Kalmegh, Ashwagandha, Ghritkumari, Giloy, Brahmi, sarpgandha, ---of medicinal plants of C.G. Food plants: Pearl millet, Buck of wheat, Sorghum, Soyabean, gram, Ground nut, Sugarcane and Potato. Fruit plants: Pear, Peach, Litchi. Spices: Cinnamon, Turmeric, Ginger, Asafoetida and Cumin. Beverages : Tea, Coffee Rubber Cultivation of important flowers: Chrysanthemum, Dahelia, Biodiesel plants Jatropha, Pongamia Ethnobotany in context of Chhattisgarh.

UNIT-IV

Plant Anatomy: Root and shoot apical meristems theories of root and shoot apex organization, permanent tissues, anatomy of root, stem and leaf of dicot and monocot, secondary growth in root and stem, Anatomical anomalies in the primary structure of stems (Nyctanthes, Boerhaavia, Casuarina), Anamolous secondary growth in Dracaena, Bignonia, Laptadenia.

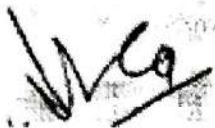
UNIT-V

Embryology: Flower as a reproductive organ, anther, microsporogenesis, types of ovules, megasporogenesis, development of male and female gametophyte, pollination, mechanisms, self incompatibility, fertilization, endosperm, embryo, polyembryony, apomixes and parthenocarpy.

Books Recommended:



- Singh, Pandey, Jain. *Diversity and Systematics of Seed Plants*, Rastogi Publications Meerut
- Sharma OP, *Plant Taxonomy*, Tata Mc Graw Hill, New Delhi
- Pandey BP, *Taxonomy of Angiosperms*, S. Chand Publishing, New Delhi
- Pandey, BP, *Plant Anatomy*, S.Chand Publishing, New Delhi
- Pandey, BP, *Economic Botany*, S.Chand Publishing, New Delhi
- Bhojwani, SS and Bhatanagar SP, *Embryology of Angiosperm*, Vikas Publication House, New Delhi
- Singh, Pandey, Jain, *Embryology of Angiosperms*, Rastogi Publication, Meerut
- Sharma, V, Alum, A. *Ethnobotany*, Rastogi Publications, Meerut
- Tayal, MS *Plant Anatomy*, Rastogi Publication, Meerut



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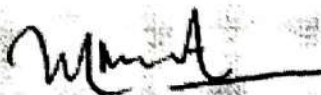
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B.Sc.-II (BOTANY) PAPER-II
(ECOLOGY AND PLANT PHYSIOLOGY)

UNIT-I

Introduction and scope of ecology, environmental and ecological factors, Soil formation and soil profile, Liebig's law of minimum, Shelford's law of tolerance, morphological and anatomical adaptations in hydrophytes, xerophytes and epiphytes.

UNIT-II

Population and community characteristics, Raunkiaer's life forms, population interactions (e.g. Symbiosis, Amensalism etc.), succession, ecotone and edge effect, ecological niches, ecotypes, ecads, keystone species

Concept of ecosystem, trophic levels, flow of energy in ecosystem, food chain and food web, concept of ecological pyramids

Biogeochemical cycles: carbon cycle, nitrogen cycle and phosphorus cycle

UNIT-III

Plant water relations: Diffusion, permeability, osmosis, imbibitions, plasmolysis, osmotic potential and water potential, Types of soil water, water holding capacity, wilting, Absorption of water, theories of Ascent of sap, Mineral nutrition and absorption, Deficiency symptoms, Transpiration, stomatal movement, significance of transpiration, Factors affecting transpiration, guttation.

UNIT-IV

Photosynthesis: Photosynthetic apparatus and pigments, light reaction mechanism of ATP synthesis. C₃, C₄ CAM pathway of carbon reduction, photorespiration, factors affecting photosynthesis.

Respiration: Aerobic and anaerobic respiration, Glycolysis, Krebs's cycle, factors affecting respiration, R.Q.

UNIT-V

Plant growth hormones: Auxin, Gibberellin, Cytokinin, Ethylene and Abscissic acid. Physiology of flowering, Florigen concept, Photoperiodism and Vernalization. Seed dormancy and germination, plant movement.

Books Recommended:

Koromondy, E.J. *Concepts of Ecology*, Prentice Hall, USA

Singh, JS Singh SP and Gupta SR. *Ecology and Environmental Science and Conservation*, S. Chand Publishing, New Delhi

Sharma, PD. *Ecology and Environment*, Rastogi Publications, Meerut

Hopkins, WG and Huner, PA. *Introduction to Plant Physiology*, John Wiley and Sons.

Pandey SN and Sinha BK, *Plant Physiology*, Vikas Publishing, New Delhi


Taiz, L and Zeiger. E. *Plant Physiology*, 5th edition, Sinauer Associates Inc. M.A, USA

Srivastava, HS *Plant Physiology and Biotechnology*, Rastogi Publications, Meerut

B.Sc. II (BOTANY)

Practical

1. Taxonomy: Detailed description and identification of locally available plants of the families as prescribed in the theory paper.
2. Economic Botany: Identification and comment on the plants and plant products belonging to different economic use categories
3. Preparation of Herbarium of local wild plants.
4. Quantitative vegetation analysis of a grassland ecosystem.
5. Anatomical characteristics of hydrophytes and xerophytes.
6. Demonstration of root pressure.
7. Demonstration of transpiration.
8. Demonstration of evolution of O₂ in photosynthesis, factors affecting of photosynthesis.
9. Comparison of R.Q. of different respiratory substrates.
10. Demonstration of fermentation.
11. Determination of BOD of a water body.
12. Demonstration of mitosis.


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PRACTICAL SCHEME

TIME: 4 Hrs.

M.M. : 50

1.	Anatomy	08
2.	Embryology	04
3.	Physiology	08
4.	Immunology	10
5.	Spotting	10
6.	Viva-Voce	05
7.	Project Work/ Field Study	10

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Zoology
B.Sc. Part III 2018-19
Paper II

GENETICS, CELL PHYSIOLOGY, BIOCHEMISTRY, BIOTECHNOLOGY AND BIOTECHNIQUES

Unit: I (Genetics)

- Linkage & linkage maps, Sex Determination and Sex Linkage
- Gene interaction- Incomplete dominance & Codominance, Supplementary gene, Complementary gene, Epistasis Lethal gene, Pleiotropic gene and multiple alleles.
- Mutation: Gene and chromosomal mutation
- Human genetics: chromosomal alteration: Down, Edward, Patau, Turner and Klinefelter Syndrome Single gene disorders: Alkaptonuria, Phenylketonuria, Sickle cell anemia, albinism and colour blindness

Unit: II (Cell Physiology)

- General idea about pH & buffer
- Transport across membrane: Diffusion and Osmosis
- Active transport in mitochondria & endoplasmic reticulum
- Enzymes-classification and Action

Unit: III (Biochemistry)

- Amino acids & peptides- Basic structure & biological function
- Carbohydrates & its metabolism- Glycogenesis; Gluconeogenesis; Glycolysis; Glycogenolysis; Cosei-cycle
- Lipid metabolism- Oxidation of glycerol; Oxidation of fatty acids
- Protein Catabolism- Deamination, transamination, transmethylation

Unit: IV (Biotechnology)

- Application of Biotechnology
- Recombinant DNA & Gene cloning
- Cloned genes & other tools of biotechnology (Tissue culture, Hybridoma, Transgenic Animals and Gene library)

Unit: V (Biotechniques)

1. Principles & techniques about the following:

- (i) pH meter
- (ii) Colorimeter
- (iii) Microscopy- Light microscopes: Compound, Phase contrast & Electron microscopes
- (iv) Centrifuge
- (v) Separation of biomolecules by chromatography & electrophoresis



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Zoology
B.Sc. Part III 2018-19

Paper-I

**ECOLOGY, ENVIRONMENTAL BIOLOGY: TOXICOLOGY,
MICROBIOLOGY AND MEDICAL ZOOLOGY**

Unit: I (Ecology)

- Aims and scopes of ecology
- Major ecosystems of the world- Brief introduction
- Population- Characteristics and regulation of densities
- Communities and ecosystem
- Bio-geo chemical cycles
- Air & water pollution
- Ecological succession

Unit: II (Environmental Biology)

- Laws of limiting factor
- Food chain in fresh water ecosystem
- Energy flow in ecosystem- Trophic levels
- Conservation of natural resources
- Environmental impact assessment

Unit: III (Toxicology)

- Definition and classification of Toxicants
- Basic Concept of toxicology
- Principal of systematic toxicology
- Heavy metal Toxicity (Arsenic, Mercury, Lead, Cadmium)
- Animal poisons- snake venom, scorpion & bee poisoning
- Food poisoning

Unit: IV (Microbiology)

- General and applied microbiology
- Microbiology of domestic water and sewage
- Microbiology of milk & milk products
- Industrial microbiology: fermentation process, production of penicillin, alcoholic beverages, bioleaching.

Unit: V (Medical Zoology)

- Brief introduction to pathogenic microorganisms, Rickettsia, Spirochaetes, AIDS and Typhoid
- Brief account of life history & pathogenicity of the following pathogens with reference to man: prophylaxis & treatment
- Pathogenic protozoan's- Entamoeba, Trypanosome & Plasmodium
- Pathogenic helminthes- Schistosoma
- Nematode pathogenic parasites of man
- Vector insects


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ZOOLOGY

Paper-I (Paper Code-0817)

~~Ecology, Environmental biology, Toxicology, Microbiology and Medical Biology.~~

2. Attempting one question from each unit will be compulsory. 1000 choice be given.

UNIT-I (ECOLOGY)

1. Aims and scopes of Ecology.
2. Major ecosystems of the world-Brief introduction
3. Population- Characteristics and regulation of densities.
4. Communities and Ecosystems.
5. Biogeochemical cycles
6. Air and water pollution
7. Ecological succession

UNIT-II (ENVIRONMENTAL BIOLOGY)

1. Law of limiting factors
2. Food chain in a freshwater ecosystem.
3. Energy flow in ecosystem-Trophic levels
4. Conservation of Natural resources.
5. Environmental impact Assessment

UNIT-III (TOXICOLOGY)

1. Definition of Toxicity
2. Classification of toxicants
3. Principle of systematic toxicology
4. Toxic agents and their action- Metallic and inorganic agents
5. Animal poisons - Snake-venom, Scorpion and bee poisoning
6. Food poisoning

UNIT-IV (MICROBIOLOGY)

1. General and Applied microbiology.
2. Microbiology of Domestic water and sewage
3. Microbiology of milk and milk products
4. Industrial microbiology

UNIT-V (MEDICAL MICROBIOLOGY)

1. Brief introduction to pathogenic micro-organisms, Rickettsia, Spirochaetes and Bacteria.
2. Brief account of life-history and pathogenicity of the following pathogens with reference to man ; Prophylaxis and treatment -
 - (a) Pathogenic Protozoans - Entamoeba, Trypanosoma, and Giardia
 - (b) Pathogenic helminths - Schistosoma
 - (c) Nematode Pathogenic parasites of man
3. Vector insects

PAPER-III

(Paper Code-0918)

(GENETIC'S, CELL PHYSIOLOGY, BIOCHEMISTRY, BIOTECHNOLOGY AND BIOTECHNIQUES)

Note : Attempting one question from each unit will be compulsory, 100% choice be given.

UNIT-I (GENETIC'S)

1. Linkage and Linkage maps
2. Varieties of gene expression - Multiple alleles ; lithogenesis ; Pleiotropic genes; gene interaction ; epistasis.
3. Sexchromosome systems, and sex-linkage.
4. Mutation and chromosomal alterations ; meiotic consequences.
5. Human genetics - chromosomal and single gene disorders (somatic cell genetics)

UNIT-II (CELL PHYSIOLOGY)

1. General idea about pH and Buffer.
2. Transport across membrane - cell membrane; Mitochondria and Endoplasmic reticulum.
3. Active transport and its mechanism; Active transport in Mitochondria and Endoplasmic reticulum.
4. Hydrolytic enzymes - Their chemical nature, Activation and specificity.

UNIT-III (BIOCHEMISTRY)

1. Amino acids and Peptides - Basic structure and biological function.
2. Carbohydrate and its metabolism - Glycogenesis; Gluconeogenesis; glycolysis, Glycogenolysis; Coni-cycle.
3. Lipid metabolism - Oxidation of glycerol; oxidation of fatty acid.
4. Protein metabolism - Deamination, Transamination, Transmethylation; Biosynthesis of Protein;


UNIT-IV (BIOTECHNOLOGY)

1. Biotechnology - Scope and importance.
2. Recombinant DNA and Gene cloning.
3. Cloned genes and other tools of biotechnology.
4. Applications of biotechnology in (i) Pharmaceutical industry, and (ii) Food processing industry.

UNIT-V (BIOTECHNIQUES)

Principles and techniques about the following

1. pH meter
2. Colcimeter
3. Microscopy-Light microscopes, Phase contrast and Electron microscopes.
4. Centrifugation
5. Separation of biomolecules by chromatography, and Electrophoresis
6. Microchemical methods for determination of Protein, Lipids, and carbohydrate


PRINCIPAL,
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Kalibadi Road, RAIPUR (C.G.)

Zoology
B.Sc. Part I 2018-19
Paper I
(Cell Biology and Non-chordata)

Unit: I

1. The cell (Prokaryotic and Eukaryotic)
2. Organization of Cell: Extra-nuclear and nuclear (Plasma membrane, Mitochondria, Endoplasmic reticulum, Golgi body, Ribosome and Lysosome).
3. Nucleus, Chromosomes, DNA and RNA

Unit: II

1. Cell division (Mitosis and Meiosis).
2. An elementary idea of Cancer cells And Cell transformation.
3. An elementary idea of Immunity: Innate & Acquired Immunity, Lymphoid organs, Cells of Immune System, Antigen, antibody and their interactions

Unit: III


- General characters and classification of Phylum Protozoa, Porifera, and Coelenterata up to order.
- 2. Protozoa: Type study - Paramecium,
- 2. Porifera: Type study - Sycon.
- 3. Coelenterata: Type study - Obelia

Unit: IV

- General characters and classification of Phylum Platyhelminthes, Nematelminthes, Annelida and Arthropoda up to order.
- 2. Platyhelminthes and Nematelminthes: Type Study – Fasciola, Ascaris
- 3. Annelida: Type Study - Pheretima.
- 4. Arthropoda: Type Study - Palaemone.

Unit: V

- General characters and classification of Phylum Mollusca and Echinodermata up to order.
- 2. Mollusca: Type Study - Pila.
- 3. Echinodermata- Type Study- Asterias (Starfish).


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Kalibadi Road, RAIPUR (C.G.)

Zoology
B.Sc. Part I 2018-19
Practical

The practical work will, in general be based on the syllabus prescribed in theory and the candidates will be required to show knowledge of the following:-

- Dissection of Earthworm, Cockroach, Palaemon and Pila
- Minor dissection—appendages of Prawn & hastate plate, mouth parts of insects, radulla of Pila.

(Alternative methods: By Clay/Thermacol/drawing/Model etc.)

- Adaptive characters of Aquatic, terrestrial, aerial and desert animals.
- Museum specimen invertebrate
- Slides- Invertebrates, frog embryology, Chick embryology and cytology.

Scheme of Practical Exam

Time: 3hrs

1. Major Dissection	10 Marks
2. Minor Dissection	05 Marks
3. Comments on Exercise based on Adaptation	04 Marks
4. Cytological Preparation	05 Marks
5. Spots-8 (Slides-4, Specimens-4)	16 Marks
6. Sessional	10 Marks



PRINCIPAL,
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Kalibadi Road, RAIPUR (C.G.)

1.3.1 Program organized for Professional Ethics, Gender, Human Values, Environment and Sustainability

दिनांक	17/06/2022 से 21/06/2022
कार्यक्रम	पांच दिवसीय योग प्रशिक्षण कार्यशाला
स्थान	महाविद्यालय परिसर



Raipur, Chhattisgarh, India

Kalibadi, Kalibadi, Janta Colony, Raipur, Chhattisgarh 492001, India

Lat 21.234888°

Long 81.640226°

19/06/22 06:23 AM



दिनांक	21/06/2022
कार्यक्रम	अंतर्राष्ट्रीय योगदिवसकार्यक्रम
स्थान	पं. रविशंकर शुक्लविश्वविद्यालय



दिनांक	06/09/2022
कार्यक्रम	कैरियर काउंसिलिंग
स्थान	महाविद्यालय परिसर



Raipur, Chhattisgarh, India
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Long 81.640183°
06/09/22 10:26 AM GMT +05:30



Raipur, Chhattisgarh, India
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Lat 21.234995°
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दिनांक	17/09/2022
कार्यक्रम	स्वास्थ्य जागरूकता कार्यक्रम
स्थान	महाविद्यालय परिसर



Raipur, Chhattisgarh, India

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दिनांक	01/12/2022
कार्यक्रम	विश्व एड्सदिवस रैली
स्थान	नगरनिगम से कालीमंदिर, रायपुर



दिनांक	08/12/2022
कार्यक्रम	एड्स जागरूकता कार्यक्रम
स्थान	महाविद्यालय परिसर





दिनांक	24/01/2023
कार्यक्रम	हर घर योग
स्थान	महाविद्यालय परिसर

