Program name	Program code	Name of the Course that include experiential learning through project work/field work/internship	Course code	Year of offering	Name of the student studied course on experiential learning through project work/field work/internship	Link to the relevant document
B.A.	1	Environmental Studies and Human Rights	3	2022-23	231	
B.Sc.	4	Environmental Studies and Human Rights	3	2022-23	48	
B.Com.	7	Environmental Studies and Human Rights	3	2022-23	34	
DCA	100	Project work	9	2022-23	30	
PGDCA	072	Project work	9	2022-23	40	

Principal
Govt. Degree College Dabhara
Distt- Sakti C.G.

Part- I

SYLLABUS FOR ENVIROMENTAL STUDIES AND HUMAN RIGHTS FOR UNDER GRADUATE

इन्वाहरमेंटल साइंस के पाठयक्रम को स्नातक स्तर भाग— एक की कक्षाओं मे 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 होगें एवं 25 अंक क्षेत्रीय कार्य (**Field Work**) पर्यावरण पर होंगे।

सैद्धांतिक प्रश्नों पर अंक — 75 (सभी प्रश्न इकाई आधार पर रहेगें जिसमें आंतरिक विकल्प रहेगा)

(अ)   लघु प्रश्नोत्तर   —   25 अंक

(ब)   निबंधात्मक   —   50 अंक

Field Work — 25 अंको का मूल्यांकन आंतरिक मुल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रायोगिक उत्तर पुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेगें।

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 में 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 पश्चात 10 (दस) दिनों के भीतर संबंधित महाविद्याय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधीक्षक, परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेंगे।

SHAHEED NANDKUMAR PATEL VISHWAVIDYALAYA RAIGARH (C.G.)

ENVIROMENTAL STUDIES

Part- I

SYLLABUS FOR ENVIROMENTAL STUDIES AND HUMAN RIGHTS FOR UNDER GRADUATE
(PAPER CODE – 0828)

M.M.75

UNIT - I THE MULTI DISCIPLINAITY NATURE OF ENVIRONMENTAL STUDIES:

Definition, Scope and Importance

Natural Resources:

Renewable and Non-renewable Resources:

Natural resources and associated problems

(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.

UNIT- II ECOSYSTEM   (12 Lecturer)

(a) Concept, Structure and Function of an ecosystem

- Producers, consumers and decomposers.

- Energy flow in the ecosystem

- Ecological succession.

- Food chains, food webs and ecological pyramids.

- Introduction, Types, Characteristic 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.

UNIT-III ENVIRONMENTAL POLLUTION (12 Lecturer)

Definition

(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 individual in prevention of pollution

- Disaster Management : floods, earthquake, cyclone and landslides.

(b) Environmental Management (12 Lecturer)

- 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.

- Environmental Protection Act : issues Involved in enforcement of environmental legislation.

- Role of Information technology in Environmental 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 woman.

Convection 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.   S.K. Kapoor - Human Rights under international Law and the 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.   Agrawal K.C. 2001 Environmental Biology, Nidhi Pub. Ltd Bikaner

8.   Bharucha Erach the Biodiversity of India, Mapin Pub. Pvt. Ltd. Ahmedabad 380013 India, Email : mapin@icenet.net (R)

9.   Buinner R.C. 1989, Hazardous Waste Incineration Mc Graw Hill Iinc. 480p

10.   Clark R.S. Marine Pollution Clanderson press Oxford (TB)

11.   Cuninggham 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 Environmental (R)

14.   Gloick. H.P. 1993 Water in crisis. Pacific Institute Ibr studies in Deve' Environment & Security. Stockholm Eng. Institute Oxlbrd LIniversity Press m 4T3p

15.   Hawkins R.E. Enc-vclopedia of Indian Natural History' Bombay Natural History. Society, Mumbai (R)

16. Heywood V.H. & Watson R.T. 1995 Global Biodliversity Assessment. Cambridge Uni. 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. Mhaskar A.K. Matter Hazardous, Techno-science Publication (TB)

20. Miller T.G. Jr. Environment Science. Wadsworth Publishing 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 Iand 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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YEAR WISE PLAN
PGDCA

S.N.	Subject Name	End Semester Examination Maximum Marks	End Semester Examination Minimum Passing Marks
1.	Fundamentals of Computer and Information Technology	100	40
2.	PC- Packages and Computerized Accounting System	100	40
3.	Data Communication and Computer Network	100	40
4.	Programming using 'C' & C++	100	40
5.	Relational Database Management System (Oracle)	100	40
6.	System Analysis & Design	100	40
7.	PC Package and Tally ERP Lab	50	17
8.	C,C++ and Oracle Lab	50	17
9.	Project	100	40

SYLLABUS (NEW COURSE)
P.G. DIPLOMA IN COMPUTER APPLICTION

PAPER-I
FUNDAMENTALS OF COMPUTER & INFORMATION TECHNOLOGY

UNIT- I

Introduction to Computer and Information Technology: Brief history of development of computer & generations of computer, Computer system characteristics. Capabilities and limitations block diagram of computer. Types of computer-Analog, Hybrid, digital, micro, mini, mainframe, super computer. Personal computer, types of PCs desktop, laptop, notebook, palmtop etc. Number system Data representation in computers, Number system of computers binary, octal, hexadecimal, representation & their conversion, Coding system ASCII, BCD, EDCDIC etc.

UNIT- II

INPUT/OUTPUT devices: keyboard, mouse, monitor, trackball, joystick, digitizing tablet, scanners, digital cameras, MICR, OCR, OMR, Bar-code reader, Voice recognition, light pen, touch screen, devices, printer, plotter.

UNIT- III

Storage device: Data storage and retrieval methods-sequential, direct and index sequential- various storage devices-magnetic tape, magnetic disks, cartridge tape, data drives hard disk drives, floppy disks, optical disks-CD, VCD, CDR, CDRW, DVD.

UNIT- IV

Computer software: types of software, system software, application software, operating system, utility program, assemblers, compilers and interpreter. Operating system functions, Types batch, single user, multi user, multiprogramming, multiprocessing, Programming languages, machine, assembly, high level, 4GL, their merits and demerits. Computer virus –types of virus, virus detection & prevention virus on network.

UNIT- V

Data Communication & networks: analog and digital signals, modulations, amplitude modular (am), frequency modulation (fm), phase modulation (pm), communication process, direction of transmission flow, simplex, half duplex, full duplex. Types of network LAN, WAN, MAN etc, Topologies of LAN ring, bus star, mesh and tree topologies, communication protocols TCP/IP protocol suit. Communication channels media twisted, coaxial fiber optic, serial and parallel communication, Network operating system (NOS), bridges, hub, routers, repeater and gateways. Modem working and characteristics. Types of connections- dialup leased lines, ISDN, broadband.

Text & Reference Books:

01. Computer fundamentals, P.K. Sinha, BPB
02. Computer today by S.K. Basandra Galgotia Publications.
03. Fundamentals of information by Axexos Leon & Mathews Leon, Vikas Publishing House, New Delhi

PAPER-II
PC PACKAGES & COMPUTERIZED ACCOUNTING SYSTEM

UNIT- I

Fundamental of DOS & Windows: Fundamental of DOS booting process, internal and external commands, creating and executing batch files and directories creating text files. Introduction to windows features, various versions of windows, origin of windows parts of windows screen types and anatomy of windows using.

UNIT- II

Introduction to word processing (MS-word): Advantages of word processing, editing a file using paragraphs, bullets, indentation, ect. Formatting features, printing the documents, it includes paper-size, margins, header and footer, page no., using macros. Advance word processing, header and footers. Finding text, mail merge and other application, mathematical calculations, table handing.

UNIT- III

Introduction to spread sheet (MS-Excel): Definition and advantages of electronic worksheet, working of spread sheet, range and related operations. Setting saving and retrieving work sheet file, inserting deleting coping & moving of data cells, inserting and deleting rows & columns, protecting cell printing a worksheet, erasing a worksheet, graphs, creation, types of graphs creating a chart sheet 3D column charts, moving and changing the size of chart, printing the chart.

UNIT- IV

Introduction to Powerpoint (MS- Powerpoint): Creating a presentation, inserting/deleting slides, different slide views, editing slides,. Slide transition & editing special effects inserting sound, picture, chart, organization chart.

UNIT- V

Accounting software Tally ERP 9: Basic principles of double entry accounting system, creating new company security controls, groups, ledger, voucher type, modifying, new company, voucher entry, generating profit & loss account, trial balance and balance sheet, backup & restore.

Text & Reference Books:

01. Comdex Computer Course Kit (Windows 7 with office 2010), Gupta vikas, Dreamtech Publication.
02. Mastering MS Office 2000, Professional Edition by Courter, BPB Publication.
03. MS Office 2000 Training Guide by Maria, BPB Publication.
04. PC Software, Ravi Taxalli, BPB
05. Computer Fundamental by P.K. Sinha
06. Financial Accounting with Tally 9.001 edition by Vikas Gupta.
07. Mastering Tally ... ERP 9 By A.K. Nandhani.

PAPER-III
DATA COMMUNICATION & COMPUTER NETWORK

UNIT- I

Introduction to Data Communication– Network models, protocols and architecture, standards organizations, line configuration, topology, transmission mode, classification of networks, OSI reference model, TCP/IP model.

UNIT- II

Analog and digital signals, Data encoding, parallel and serial transmission, modems, transmission media: guided media, unguided media, transmission impairment, performance, Synchronous and asynchronous transmission.

UNIT- III

Multiplexing, LLC, error detection and correction, flow control, HDLC, LANs- applications, architecture, Ethernet, 802.3 LANs, token ring, FDDI, IEEE 802.6, circuit switching, packet switching, message switching, connection oriented and connectionless services.

UNIT- IV

Principles of internetworking– connection– oriented, connectionless, Routing concepts, routing algorithms– distance-vector routing, link state routing, shortest path routing. Congestion control, QOS, internetworking, network devices.

UNIT- V

Network security requirements and attacks, public key and private key encryption and digital signatures, digital certificate, firewalls, IDS (Intrusion Detection System)

Text & Reference Books:

01. Computer networks– A.S. Tanenbaum. PHI
02. Data communication and networking – Behrous A. Forouzan. TMH

PAPER-IV
SYSTEM ANALYSIS AND DESIGN

UNIT- I

The system concept: characteristics, elements and types of a system, the system development life cycle, considerations, for candidate systems prototyping. The role of system analyst.

UNIT- II

System planning and initial investigation: Information Gathering, information gathering tools. Structured analysis, the tools of structured analysis (DFD, Data Dictionary, Decision tree and Pseudo codes Decision Tables), PROS and CONS of each tool, system performance definition description of outputs, feasibility study. Cost/ Benefit analysis, Data analysis, Cost/ Benefit analysis, the system proposal.

UNIT- III

Stages of system design: Design methodologies, development activities, input design, output design forms design, types of forms, basics of form design layout considerations and forms control.

UNIT- IV

File structure: File organization, objectives of database, data structure, system testing and quality assurance, why system testing, what do we test for, the test plan quality assurance, trends in testing, role of data processing auditor, training and documentation.

UNIT- V

Implementing and software maintenance: conversion combating resistance to change, post implementation review, software maintenance, hardware/software selection and the computer contract, suppliers, procedure for hardware/software selection, financial considerations in selection, the computer contract system security disaster recovery planning.

Text & Reference Books:

01. System analysis and design, Elias M. Awad, Galgotia Publication (P) Ltd.
02. System analysis and design, International Ed. Perry Edwards, McGraw Hill Pub.

PAPER-V
PROGRAMMING IN C & C++

UNIT- I

Introduction to "C" Language: Fundamentals, simple I/O statements, reading and writing, data types constants, variable, operators & expressions, library function, control statements, if-else, while, do-while, goto, for statements switch, break, looping statements, functions recursion, arrays, multidimensional arrays, strings & pointers.

UNIT- II

Programming in C++, functions, class, object, constructor and destructor: Call by reference, call by value, return by reference, inline function, constant argument, function overloading, static member function, static data member,. Classes: implementing class, classes and members, accessing class members, implementing class methods, array of object, friend function. Constructor & destructors: parameterized constructor, multiple constructor, constructor with default argument, copy constructor, destructor.

UNIT- III

Operator overloading & type casting: Operator overloading, unary operator overloading, binary operator overloading, manipulates string using operator overloading, type conversions: basic to class, class to basic, class to class.

UNIT- IV

Inheritance, ——————— : single inheritance, multilevel inheritance, multiple inheritance, hybrid inheritance, hierarchical inheritance, virtual base class, abstract class. Virtual function and pure virtual function.

UNIT-V

Pointer & File: Pointer to object, this pointer, Polymorphism File : opening and close file, detecting end of the file

Text Books:

01. Let us C by Yaswant Kanetkar BPB
02. Object oriented Programming with C++, E.Blagurusamy, Tata mc Graw-Hill
03. C++ Complete reference, Herbert Schildt, TMH.
04. ANSI C programming, E.Blagurusamy, TMH

PAPER-VI
RELATIONAL DATABASE MANAGEMENT SYSTEM (ORACLE)

UNIT- I

Overview of Database Management: Data, information, 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. Introduction to distributed database, client/server databases, object-relational databases, introduction to ODBC concept

UNIT- II

Relational Model: Entity relationship model as a tool for conceptual design-entities attributes and relationships. ER diagrams; concept of keys: candidate key, primary key, alternate key, foreign key; strong and weak entities, 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.

UNIT- III

Structured Query Language (SQL): 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, introduction to SQL constructs (SELECT...FORM, WHERE... GROUP BY... HAVING ... ORDERBY...), INSERT, DELETE, UPDATE, VIEW definition and use, temporary tables, nested queries, and correlated nested queries, integrity constrains: Not null, unique, check, primary key, foreign key, reference, triggers.

UNIT- IV

Relational database design: Normalization concept in logical model; pitfalls in database design, update anomalies: functional dependencies join dependencies, Normal forms (INF, 2NF, 3NF). Boyce code normal form, decomposition, multi-valued dependencies, 4NF, 5NF. Issues in physical design; concepts of indexes, file organization for relational tables, de-normalization,

UNIT- V

Introduction to Query processing and protection the database: parsing, translation, optimization, evaluation and overview of query processing. Protecting the database integrity, security and recovery, Domain constraints, referential integrity, assertion, triggers, security & authorization in SQL

Text & Reference Books:
01. Database system concept, H. Korth and A. Silberschatz,TMH
02. Data Base Management System, C.J. Date, Narosha Publication.
03. An Introduction to database systems – Bipin Desai, Galgotia Publication.
04. SQL,PL?SQL Evan Bayross (2nd edition) BPB publications.

PC Package & Tally ERP Lab - I
Note: Practical should be as per syllabus of theoretical papers.

C, C++ & Oracle Lab - II
Note: Practical should be as per syllabus of theoretical papers.

PROJECT

Note:
01. It is compulsory, that students would have group of maximum of two students and project should be done under Government sectors/ Public Sector/ Pvt. Limited S/W Company/ Software Technology park of India/ ISO 9001 certified company etc.
02. The students should not make any project under local or private institutions.
03. The students should make project themselves and project will not be copy of other project.

Steps for Live Project
01. Getting customer's requirements
02. Designs, database and business logics.
03. Developing software application project.
04. Testing and implementing the project.
05. Troubleshooting the project application after implementation.

The break-up of marks for Practical will be as under :			
Sr. No.	Argument	Maximum Marks	Minimum Passing Marks
1.	Lab Record	10	
2.	Viva-voce	20	
3.	Program Development & Execution	20	
	Total Marks	50	17

The break-up of marks for Practical will be as under :			
Sr. No.	Argument	Maximum Marks	Minimum Passing Marks
1.	Project Report	25	
2.	Viva-voce/ Presentation	25	
3.	Project Execution	50	
	Total Marks	100	40

Structure & Syllabi for One Year DCA Programme ,,

1. The title of the programme is "Diploma in Computer Application (DCA) and introduced from the academic year .2021-2022

2. **Objectives:** The objectives of the Programme shall be to provide sound academic base for proceeding career in Computer Application.

3. **Eligibility for admission**: In order to be eligible for admission to DCA a candidate must be (10+2) with minimum 40% marks in aggregate.

4. **Duration**: The duration of the DCA Programme shall be one year.

5. **The scheme of Examinations:** The DCA Examination will be of 800 marks as given Below:

    i. Theory Papers: 600 marks

    ii. Practical Papers: 200 marks

6. **The Standard of Passing and Award of Class**

    In order to pass in the examination the candidate has to obtain 33% marks out of 100. (Minimum 33% marks must be obtained separately in theoretical papers as well as practical papers of University Examination).

    The class/division will be awarded on the basis of aggregate marks obtained by the candidate for examinations.

7. The Medium of Instruction and Examination (Written and Viva) shall be English/Hindi.

8. **Instructions to Paper Setters:**

    a. In each theory paper, six questions are to be set and paper has maximum 100 marks. Question paper should be in English as well as Hindi.

    b. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 30 marks.

    c. Apart from Question No. 1, rest of the paper shall consist of five units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be 14 marks.

SCHEME OF EXAMINATION FOR ONE YEAR DCA PROGRAMME
w.e.f. Session 2017-18

Paper No.	Title of the Paper/s	Term End Examination Maximum marks	Total Maximum Marks	Minimum Passing Marks in Term End Examination
I	Fundamentals of Computers	100	100	33
II	Windows & PC Packages	100	100	33
III	Print Technology and Desktop Publishing	100	100	33
IV	Internet and Web Technology	100	100	33
V	Programming in C	100	100	33
VI	Introduction to Operating System	100	100	33
VII	LAB-I PC Package and DTP Lab	100	100	33
VIII	LAB-II Programming in C Lab	100	100	33
	Total Marks		800	

PAPER-I
FUNDAMENTALS OF COMPUTERS

UNIT-1

Brief History of Development of Computers ,Computer System Concept, Computer System Characteristics ,Capabilities and Limitations, Types of Computers-.,Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Computer organization: Basic Component of Computer system - Control Unit, ALU, I/O, Memory.

UNIT–II

Input Devices :Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR, OCR, OMR, Light pen, Touch Screen, Voice Recognition, Bar Code Reader, Output Devices Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers: Impact and Non Impact Printers, Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT–III

Bytes and Addressable Memory, Memory Sizes, Types of Memory: RAM, Cache, ROM, Flash Memory, CMOS, Memory Access Times, Expansion Slots And Adapter Cards, Removable Flash Memory, Ports And Connectors: USB Ports, FireWire Ports, Buses, Storage: Characteristics of a Hard Disk, RAID, NAS, External and Removable Hard Disks, Miniature Hard Disks, USB Flash Drives, Cloud Storage, Optical Discs: CDs, DVDs.

UNIT–IV

Software – Definition, Types of Software- System Software, Application Software, System Software- Operating System, Language Translator(Compiler, Interpreter), Utility Programs. Operating system- Definition, Function, Types of operating system- Batch Processing, Multiprogramming, Time Sharing Operating System, Multiuser, Multitasking, Multiprocessing Operating System.

UNIT–V

Network- Direction of Transmissions Flow-Simplex, Half Duplex Full Duplex, Types of Network-LAN, WAN, MAN etc. Topologies of LAN-Ring, Bus, Star, Mesh and Tree topologies. Computer Virus: Virus working principals, Types of viruses, Virus detection and Prevention Viruses on network, Antivirus software's.

Text Books: 1. Fundamentals of Computers, P. K. Sinha, BPB.
2. Fundamental of Computers, Raja Raman V. Prentice Hall of India, New Delhi.
3. Introduction to Computers, Norton, Peter, McGraw Hill.
4. Computer Fundamentals, B. Ram, New Age International Pvt. Ltd.
5. Fundamental of Computer & IT, S.Jaiswal, Wiley dreamtech India.
References: 1. A+ Certification All-in-One Desk Reference for Dummies, G. Clarke
  1. IBM PC & Clones: Hardware Trouble Shooting and Maintenance, B.Govindarajalu

PAPER-II
WINDOWS & PC PACKAGES

UNIT–I

Disk Operating System (DOS) and MS Windows 7: Introduction, History & Versions of DOS, DOS System Files. DOS Commands: Internal and External, Executable V/s Non Executable Files in DOS; **MS Windows 7:** Introduction to MS Windows; Features of Windows; Various versions of Windows & its use; Working with Windows; My Computer & Recycle bin ; Desktop, Icons and Windows Explorer; Screen description & working styles of Windows; Dialog Boxes & Toolbars; Working with Files & Folders; simple operations like copy, delete, moving of files and folders from one drive to another, Shortcuts & Autostarts; Accessories and Windows Settings using Control Panel- setting common devices using control panel, modem, printers, audio, network, fonts, creating users, internet settings, Start button & Program lists; Installing and Uninstalling new Hardware & Software program on your computer.

UNIT–II

MS Word 2007: Introduction to MS Office, Introduction to MS Word, Features & area of use. Working with MS Word, , Creating a New Document, Different Page Views and layouts, Applying various Text Enhancements, Working with -Styles, Text Attributes, Paragraph and Page Formatting, Text Editing using various features ; Bullets, Numbering, Auto formatting, Printing & various print options.

UNIT–III

Advanced Features of MS-Word 2007 : Spell Check, Thesaurus, Find & Replace; Headers & Footers, Inserting - Page Numbers, Pictures, Files, Autotexts, Symbols etc., Working with Columns, Tabs & Indents, Creation & Working with Tables including conversion to and from text, Margins & Space management in Document, Adding References and Graphics, Mail Merge, Envelops & Mailing Labels. Importing and exporting to and from various formats.

UNIT–IV

MS Excel 2007: Introduction and area of use, Working with MS Excel, concepts of Workbook & Worksheets, Various Data Types, Using different features with Data, Cell and Texts, Inserting, Removing & Resizing of Columns & Rows, Working with Data & Ranges, Different Views of Worksheets, Column Freezing, Labels, Hiding, Splitting etc., Using different features with Data and Text; Use of Formulas, Calculations & Functions, Cell Formatting including Borders & Shading, Working with Different Chart Types; Printing of Workbook & Worksheets with various options.

UNIT–V

MS PowerPoint 2007: Introduction & area of use, Working with MS PowerPoint, Creating a New Presentation, Working with Presentation, Using Wizards; Slides & its different views, Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists, Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Designing & Presentation of a Slide Show, Printing Presentations, Notes, Handouts with print options.

Text Books: 1. Comdex Computer Course Kit (windows 7 with office 2010), Gupta Vikas, Dreamtech Publication **2.** Mastering MS Office 2000, Professional Edition by Courter, BPB Publication. 3. MS Office 2000 Training Guide by Maria, BPB Publications. 4. MS Office complete by SYBEX. 5. PC Software Made Simple, Taxali, BPB.

PAPER-III
PRINT TECHNOLOGY AND DESKTOP PUBLISHING

UNIT–I

Print Technology: Introductions to Printing, Types of Printers, Inkjet and DM Printer, Screen Printing, Offset Printing, Working of offset Printing, Transparent Printout, Negative & Positives for Plate were making, Laser printers - Use, Types, Advantage of Laser printer in publication.

UNIT–II

Page Maker: Page Maker Icon and help, Tool Box, Styles, Menus etc., Different screen Views, Importing text/Pictures, Auto Flow, Columns, Master Pages and Stories, Story Editor, Menu Commands and short-cut commands, Spell check, Find & Replace, Import Export etc., Fonts, Points Sizes, Spacing etc., Installing Printers, Scaling (Percentages), Printer setup Use of D.T.P. in Advertisements, Books & Magazines, News Paper, Table Editor.

UNIT–III

Adobe Photoshop: Adobe Photoshop CS4: Menus and panels, Exploring the Toolbox, Working with Images: Working with Multiple Images, Rulers, Guides & Grids, Image Size Command, Adjusting Canvas Size & Canvas Rotation, Creating, Selecting, Linking & Deleting Layers, Painting with Selections, Red Eye Tool, Clone Stamp Tool, Color creation, Quick Mask Options, Creating Straight & Curved Paths, Creating Special Effects.

UNIT–IV

CorelDraw X4: CorelDraw X4 Command Bars & Tools, Drawing Area-Objects-Lines, Working with Text & Artistic Media Tool, Fills & Modifying Outlines, Drop Shadows, Importing and Editing OCR Text, Templates, Drawing and Editing Curves and Lines, Three-point Tools, Clipart, Special Characters and Creating Symbols, Working with Layers & Creating a Master Layer, Brush Tools and Adding Objects, Interactive Tools, PowerClip Feature and the Envelope Tool.

UNIT–V

Other Work in DTP: Scanning, Type of Scanner, Importing image, text from scanner, ABBY fine reader, Acrobat (PDF) to Word, and Word to PDF, PDF Editor, PDF Annotator, PDF Infix, Voice to word conversion.

Text Books: 1. How to Do Everything Adobe Photoshop CS4, Chad Perkins, TMH
2. Desktop Publishing Software: Adobe Creative Suite, Adobe Frame Maker, Adobe Indesign, Adobe PageMaker, Altsoft Xml2pdf, Bookmaking Software; Uni.press.org
3. Specifications of Adobe PageMaker (Paperback); Cede Publishing
4. Adobe Pagemaker 7.0 Inver 1st Edition, Kevin G. Proot, Ceneage Learning Pvt Ltd.
5. Corel Draw X4: The Official Guide, (Paperback), Gary David Bouton, TMH

Reference Books: 1. Corel DRAW X4, Deborah Miller, Pearson Education
2. Photoshop CS4 Quicksteps, Carole Matthews & Gary David Bouton, TMH

PAPER-IV
INTERNET AND WEB TECHNOLOGY

UNIT–I

Applications of Internet, History of Internet, WWW, Various Services , World Wide Web (WWW) History, Working, Web Browsers, Its function Concept of Search Engines, client server architecture

UNIT–II

Internet : Evolution, Protocols, Interface Concepts, Internet Vs Internet, Growth of Internet, ISP, Connectivity - Dial-up, Leased line, VSAT etc., URLs, Domain names, Portals, Applications.
E-Mail: Concepts, Basics of Sending & Receiving, E-mail, Free E-mail services.

UNIT–III

Transfer Protocols, Telnet & Chatting, Client/Server Architecture Characteristic, FTP & its usages. Telnet Concept, Remote Logging, Protocols, Internet chatting - Voice chat, text chat.

UNIT–IV

Searching the Web, HTTP, URLs, Web Servers, Web Protocols. Web Publishing Concepts, Domain Name Registration, HTML, Design Tools, HTML Editors, Image Editors.

UNIT–V

HTML Concepts of Hypertext, Versions of HTML, Elements of HTML Syntax, Head & Body Sections, Building HTML Documents, Inserting Texts, Images, Hyperlinks, Backgrounds And Colour Controls, Different HTML Tags, Table Layout and Presentation, Use of Font Size & Attributes, List types and its Tags.

Text Books:

1. Computer Networks, Andrew S. Tanenbaum, PHI / Pearson Education Inc.,
2. Computer Networking: A Top-Down Approach Featuring the Internet, James F. Kurose, Keith W. Ross, Pearson Education Inc., New Delhi.
3. Introduction to Data Communications and Networking, Wayne Tomasi, Pearson Edu
4. Data Communications and Networking, Curt White, CENGAGE Learning Pvt. Ltd.
5. Computer Networks, L. L. Peterson & B. S. Davie, Elsevier Inc,
6. Data Communication and Networking, Behrouz A. Forouzan, Tata McGraw-Hill.

References: 1. Data & Computer Communication, Black, PHI.
2. Data and Computer Communication, William Stallings, Pearson Education.
3. Computer and Communication Networks, Nader F. Mir, Pearson Education, 2007.
4. Communication Networks, Walrand, TMH.
5. Internetworking with TCP/IP, Douglas E. Comer, Prentice Hall India.
6. Computer Networks: Principles, Technologies and Protocols, Natalia Olifer & Victor Olifer, Wiley India Pvt. Ltd., New Delhi.

PAPER-V
PROGRAMMING IN 'C'

UNIT-I

C Language – Character set, Tokens of C - tokens-constant-keywords and identifiers - variables- data types- declaration and assignment of variables defining symbolic constants.- Operators and Expressions: Types of Operators- Arithmetic, Relational and Logical Operators Assignment, increment and decrement of operators - conditional bitwise and special operators - arithmetic expression and its evaluation - hierarchy of arithmetic operations - evaluations, precedance and associatively - mathematical functions.

UNIT-II

Control Branching and Decision-Making in C - If statement Switch statement - GOTO statement - The? : Operators. - Decision - Making and Looping, Types of Loop, nesting in a loop.

Arrays in C Single Two-dimensional and Multi-dimensional arrays. Handling of Character Set: Declaration & Initialization of string variables - reading from and writing to screen -Arithmetic operations - String handling functions.

UNIT-III

Functions: Definition, Library Functions User Defined Functions, Function Prototype, Function Definition, Function Call, Types of User Defined Functions, Arrays and Functions.

Structures and Unions: Definitions initialization and assigning values to members' arrays of structures and arrays within structures structure with in structure- unions - size of structures.

UNIT-IV

Declaration and initialization of pointers - pointer expression - pointer and arrays - pointer and character strings pointers and functions - pointers and structures pointer on pointers.

UNIT-V

File Maintenance in "C": Defining, Opening and closing a file - Input/Output operations on a file- random access to file - command line arguments.

Text Books:

1. Programming in "C" E Balgurusamy Tata mc Graw-Hill
2. The "C" Programming Language: Briain W. Kenigham & Dennis Ritchie
3. The Spirit of "C"- Henrry Mulis
4. Let Us C, Yashwant Kanetkar, BPB

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PAPER-VI
INTRODUCTION TO OPERATING SYSTEM

Unit – I
Introduction to Operating System

What is an Operating System, Operating Systems Architecture, Types of Operating Systems, Process Model, Process States and Transitions, System Calls.

Unit – II
Process Management

Processes: Process Scheduling, Cooperating Processes, Inter-process Communication, CPU Scheduling: Scheduling Criteria, Scheduling Algorithms, Process Synchronization: Background, Deadlocks.

Unit –III
Memory Management

Main Memory Management: Background, Logical versus Physical Address space, swapping, Contiguous allocation, Paging, Segmentation, Segmentation with Paging, Virtual Memory: Demand Paging.

Unit –IV
Device and StorageManagement

File-System Interface, Mass-Storage Structure, Device Management: Techniques for Device Management, Dedicated Devices, Shared Devices, Buffering, Multiple Paths, Secondary-Storage Structure: Disk Structure, Disk Scheduling, Disk Management.

Unit –V
File-System Implementation

A Simple File System, Logical & Physical File System, File-System Interface: Access Methods, Directory Structure, Protection, Free-Space Management, Directory Implementation.

Text Books:
1. Operating System Concepts, Silbersachatz and Galvin, Pearson Education Pub.
2. Operating Systems, Madnick E., Donovan J., Tata McGraw Hill,
3. Operating Systems, A. S. Tannenbaum, PHI

Reference Books:
1. Operating Systems Internals and Design Principle, William Stallings, Prentice Hall Publishers
2. Operating Systems - A Concept Based Approach, Dhananjay M. Dhamdhere, TMH

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PAPER-VII
LAB-I
PC PACKAGE AND DTP LAB

Note: - Practical should cover syllabus of respected theoretical papers.

The break-up of marks for Practical will be as under :

Sr. No.	Argument	Maximum Marks	Minimum Passing Marks
1.	Lab Record	20	
2.	Viva-voce	30	
3.	Program Development and Execution	50	
	Total Marks	100	33

PAPER-VIII
LAB-II
PROGRAMMING IN C LAB

Note: - Practical should cover syllabus of respected theoretical papers.

The break-up of marks for Practical will be as under :

Sr. No.	Argument	Maximum Marks	Minimum Passing Marks
1.	Lab Record	20	
2.	Viva-voce	30	
3.	Program Development and Execution	50	
	Total Marks	100	33

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