DEPARTMENT OF INFORMATION TECHNOLOGY
KUMAUN UNIVERSITY, NAINITAL

SEMESTER-I (2016-17)

Scheme and syllabus for B. Com. (Information Technology)

Note: - For B. Com., there will be one paper of 100 marks. Out of which 75 marks will be allotted for semester end examination and 25 marks will be earmarked for internal assessment.

SEMESTER-I	**Practical**	**Internal**	**External**	**Total**
FUNDAMENTALS OF IT & OFFICE AUTOMATION	**-**	**25**	**75**	**100**
TOTAL MARKS:				**100**
SEMESTER -II				
COMPUTER ORGANIZATION & NETWORKS	**-**	**25**	**75**	**100**
TOTAL MARKS:				**100**

PAPER I-FUNDAMENTALS OF IT& OFFICE AUTOMATION

Section-A

Unit-I General Concepts:

Defining IT, Information Systems, Data and Information, Representation of Information, Elements of electronic data processing, Types of processing, Block structure of a computer, Characteristics of computers and Problem solving with computers. Classification of computers: On the basis of capacity, purpose, and generations, Computer languages: Machine language, Assembly language, High level language, 4GL.

Unit-II Input and Output Units:

Keyboard, Mouse, Monitor (CRT and LCD), Light pen, Joystick, Mouse, Touch screen, OCR, OMR and MICR
Plotters and Types of Printers: Impact, non-impact, working mechanism of Drum printer, Dot Matrix printer, Inkjet printer and Laser printer.

Unit-III Overview of storage devices:

Floppy disk, Hard disk, Compact disk and Tape
Memory Types: Magnetic core, RAM, ROM, Secondary, Cache, Bubble Memory.
Introduction: Compiler, Interpreter, Assembler, System Software and Application Software.

Section B

Unit-I DOS and Windows Environment:

DOS organization, DOS commands Internal and External.

Unit-II Operating System:

Batch, multi-programming, Time sharing, Networks operating system, On-line, Real time operating system, Distributed operating system, Multi-processor and Multi-tasking.

Unit-III Graphical OS:

Fundamentals of windows, Types of windows, Anatomy of windows, Windows explorer, Customizing windows, Control panel, Taskbar setting, Open Network and sharing centre.

Section-C

Unit-I Word Processor:

Applications of word processor, Common packages, Creating and saving documents, Editing documents, Formatting text and paragraphs, Use of header footer, Insert table, Edit table, Mail merge, Macros.

Unit-II Spread Sheet:

Concept of worksheets and workbooks, Creating workbook, Editing a work sheet, Formatting data, Doing basic calculations using formulae, Using simple statistical functions, Inserting charts, Printing workbook.

Unit-III Power Point:

Templates, Views, Formatting slide, Slides with graphs, Animation, using special features, presenting slide shows.

Suggested Books:

1. Computers Today: D. H. Sanders, Fourth Edition, McGraw Hill, 1988.
2. Fundamentals of Computers: V. Rajaraman, Second Edition, Prentice Hall of India,New Delhi, 1996.
3. Information Technology: Satish Jain, Paperback Edition, BPB 1999.
4. Information Technology Inside and Outside: David Cyganski, John A. Orr, Paperback Edition, Pearson Education 2002.
5. Computer Fundamentals: B. Ram, Third Edition, Wiley, 1997.
6. Fundamentals of Information Technology: Chetan Srivastva, Third edition, Kalayani Publishers
7. Computers, Larry long & Nancy long, Twelfth edition, Prentice Hall
8. R.K. Taxali: Introduction to Software Packages, Galgotia Publicaions.
9. MS–Office 2003, Compiled by SYBIX.
10. MS–Office 2003, BPB Publications.
11. Introduction to Computer, P.K. Sinha.
12. Fundamental of Computers – By V. Rajaraman B.P.B. Publications

DEPARTMENT OF INFORMATION TECHNOLOGY
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SEMESTER-II (2016-17)

Paper I- Computer Organization & Networks

Section A

Unit-I Processing Unit:

Von Neumann Architecture, Concept of CPU, Control Unit, Arithmetic and Logic Unit, Instruction Set, General Register Organization, Stack Organization, Instruction Format, Addressing Modes, Data Transfer and Manipulation, RISC,CISC.

Unit-II Input-Output Organization:

Input-Output Interface, Asynchronous Data Transfer, Modes of Transfer, Direct Memory Access, Input-Output Processor.

Unit-III Memory Types and Organization:

Magnetic core, RAM, ROM, Secondary, Cache and Bubble Memory. Memory Hierarchy, Associative Memory, Cache Memory, Virtual Memory

Section –B

Unit-I Representation of Data:

Digital versus analog, Concept of number system, Binary, Octal, Decimal, Hexadecimal numbers, Conversion from one form to another, Fractional numbers, Signed numbers, Complements.

Unit-II Binary Arithmetic:

Addition, subtraction and multiplication

Unit-III Computer Communication:

Concept of communication, Data communication, Data transmission, Types of signals in communication, Methods and modes of data transfer, Simplex, Half duplex and full duplex.

Section-C

Unit-I Networks:

Network components, Network topologies, Switching techniques, Three layers of networking components (application software, network software, network hardware) and ISO model.

Unit-II Types of networks:

LAN, WAN, MAN, VAN, types of LAN, LAN implementation, LAN topologies, LAN devices (repeater, hub, bridges, routers, gateways).

Unit-III TCP/IP and Internetworking:

Examples of TCP/IP operations, related protocols, IP address structure, major features of IP, IP datagram, Major IP services, Importance of transport layer, TCP, Major features of TCP, Route discovery protocol, Examples of root discovery protocols, Ipv6.

Suggested Books:

1. Digital Computer Electronics, Malvino, Second Edition, Mc-Graw Hill
2. Modern Digital Electronics, R. P. Jain, Fourth Edition, TMH
3. Digital Logic & Computer Design, D. Morris Mano, Second Edition, PHI
4. Digital and Electronic Circuits, T. C. Bartee, McGraw Hill
5. Computer System Architecture, M.M. Mano, Third Edition, PHI
6. Computer Organization and Architecture, J.P. Hayes, Third Edition, TMH
7. Computer Organization and Architecture, Stallings, Eighth Edition, PHI
8. Computer Networks, Tanenbaum, Andrew, Fifth Edition, PHI
9. Data Communication and Networking, Behrouz A. Forouzan, Fourth Edition
10. Data Communication System, Black, Ulysse, Third Edition, PHI
11. Data and Computer Communications, Stalling, Ninth Edition, PHI