COURSE STRUCTURE, SYLLABUS AND SCHEME OF EXAMINATION

FOR

BACHELOR OF COMPUTER APPLICATION

(BCA)

2014-15 Onwards

Department of Computer Applications

VBS PURVANCHAL UNIVERSITY, JAUNPUR

DEPARTMENT OF COMPUTER APPLICATIONS
VBS PURVANCHAL UNIVERSITY, JAUNPUR

STUDY & EVALUATION SCHEME

BCA (Bachelor of Computer Applications)
Effective from session: 2014-2015

SEMESTER I

SUB CODE	SUBJECT	L	T	P	TA/CT/ESE	TOTAL
BCA-101	PC SOFTWARE	3	1	0	10/20/70	100
BCA-102	COMPUTER ORGANIZATION	3	1	0	10/20/70	100
BCA-103	PROGRAMMING PRINCIPLES & C LANGUAGE	3	1	0	10/20/70	100
BCA-104	FUNDAMENTAL OF IT	3	1	0	10/20/70	100
BCA- L11	PC SOFTWARE LAB	0	0	3	30/70	100
BCA- L12	PROGRAMMING IN C LAB	0	0	3	30/70	100
					TOTAL	600

SEMESTER I

PC SOFTWARE
BCA 101

Unit-I
Introduction:
Definition of a PC and its components, Concept of software, Hardware and firmware, Types of software, Difference between a program and software.
Unit-II
MS DOS:
Basic Operating system concept, CUI, Concept of files and directories, Booting of the system, Internal and External DOS commands, Partition of disk, Limitation of DOS.
Unit – III
MS Windows:
Basic multiprogramming concept, GUI, Folders, Concept of login and logout, My Document, My Computer, My Network, Recycle Bin, Start Button, Task Bar, Date and Time setting, Calculator, WordPad, System tools.
Unit – IV
MS-Office:
MS World: Opening, Creating, Saving a document, Editing, Finding and Replacing Texts, Using the Interface (Toolbars and Menus)
MS Excel: Concept of Workbook, Opening, Creating, Saving a workbook and organization of worksheets in a workbook, Data entry in cell, Selecting/Copying/Moving data in a worksheet.
MS Power Point: Business presentation and their advantages. Opening, Creating, saving a presentation.
Unit – V
Macromedia Flash:
Macromedia products, Basic drawing techniques, Animation techniques, Creating combining interactivity and multiple scenes, Creating transparency effects using text in Flash, Flash animation.

Books:

1. Office 2000
2. Sanjay Saxena : A first course in Computers

SEMESTER I

COMPUTER ORGANIZATION
BCA 102

Unit – I

Number System

Introduction, Binary, Octal & Hexadecimal number system, Conversion form decimal to binary, octal & hexadecimal ect, Representation of numbers in computer and various character codes.

Unit – II

Logic Gates

Boolean algebra, Minterms, Maxrerms, Simplification of Boolean functions, K-Map simplification, Half adder, Full adder, Decoder, Encoder, Multiplexer, Demultiplexer, Binary counters, Flip-Flops.

Unit – III

Memory Organization

RAM, ROM, Auxiliary memory, Memory Hierarchy, Associative memory, Virtual memory, Cache memory, Memory management hardware.

Unit – IV

Input-Output Organization

Peripheral devices, I/O interface, Direct memory access, Type of commands, Modes of transfer, Asynchronous data transfer, Strobe control, Handshaking, DMS transfer, IOP

Unit – V

Processor Organization

Formats, Single Accumulator organization, General register organization, Stack organization, Addressing modes, data transfer and manipulation.

Book:

1. Computer System Architecture, M. Mano(PHI)
2. Computer Organization, Vravice, Zaky & Hamacher (TMH Publication)
3. Structured Computer Organization, Tannenbaum(PHI)
4. Computer Organization, Stallings(PHI)
5. Computer Organization, John P.Hayes (McGraw Hill)

SEMESTER I

PROGRAMMING PRINCIPLES AND C LANGUAGE
BCA 103

Unit – I

Introduction

Algorithm, Flowcharts, Introduction of programming languages, History of C, Basic structure of C Programming, Executing C Program

Data Types

Constant, variables, Identifiers, Keywords, Tokens, Declaration of Variables, Assigning values to variables.

Operators

Arithmetic, Relational, Logical, Assignment, Increment, Decrement operators, Condition, Bit wise operators, Arithmetic expressions.

Unit – II

Branching & Looping

Decision making with if, If-else, Switch Statement, GOTO statement, While loop, Do While loop, FOR Loop, Break and Continue statements.

Array

One dimensional array, Two dimensional array, Multidimensional array, Initializing array.

Unit – III

Function

Function declaration, calling a function, The form of C function, Return values and their type, No arguments, no return value, arguments but no return, recursion, Nesting of function.

Pointers

Accessing address of a variable, declaring and initializing pointers, pointer expression, pointer and array, pointer and function, pointer and structure, pointer to pointer

Unit – IV

Structure & Union

Structure definition, giving values to members, structure initialization, Array of structure, structure within structure, Size of structure, Union definition

Unit – V

File Handling

Defining and opening file, closing a file, I/O operations on file. Random access to file, Error handling in file.

Dynamic memory allocation

Allocating and reallocating memory, allocating memory for structure and array

Books:

1. Programming in C: Gottfried
2. Programming in ANSI C: E. Balaguruswamy
3. Let us C : Y. Kanetkar

SEMESTER I

FUNDAMENTAL OF INFORMATION TECHNOLOGY
BCA 104

Unit – I

Introduction

Definition of an Electronic Digital Computer, characteristics, capabilities and limitation of computer, Generation of computers, Types of computers, Classification of computers on size, Computer Hardware components and their functions, Characteristics and Applications of Computers.

Unit – II

Operating system concepts

Introduction to OS, components of OS, Types of OS, multiprogramming, multitasking & time sharing, File & Directories & their use in different OS, DOS operating system, Window operating system, Unix operating system

Unit – III

Software:

Need, Types of software – System software, Application software, Utility programs, Introduction to programming languages, Assembler, Compiler and Interpreter, Programming languages – Assembly language, Machine level language, High level language. Application software.

Unit – IV

Data Communication & networks:

Types of Network – LAN, MAN, WAN, Internet, Intranet, Topologies of LAN – Ring, Bus, Star, Mesh and Tree.

Unit – V

Tools for Program Development:

Algorithms, Flow charts – symbols, Rules for making flow chart, Types of flow chart, advantage and disadvantage, Pseudo codes, Programming techniques – Top Down, Bottom-up, Modular, Structured.

Books:

1. Computer & Languages: A. Arora & S. Bansal
2. Computer Fundamental: B. Ram
3. Information Technology: D. Cyganski & J.A. Orr
4. fundamentals of information technology: Leon & Leon