DR. A P J ABDUL KALAM UNIVERSITY, INDORE

B.Sc Under Graduate Annual System Syllabus

(W.e.f. session 2017-2018)

Class: - B.Sc.
Subject: - Computer (BCS101T)
Paper- Ist
Title: - Fundamental of Computer

Marks: 42.5

Unit 1

Block diagram of computer: input unit , output unit , CPU, memory unit, generations of computers, types of Computers: desktop, laptop, palmtop and workstations & super computers. All types of input and output devices, hardware software and firmware.

Windows: features of windows- desktop, start menu, control panel , my computer, window explorer, accessories. Managing multiple windows, arranging icons on the desktop, creating and managing folders, managing files and drives , logging off and shutting down windows.

Unit 2

Word: what is word processing, creating documents in MS- Word, formatting features of MS-Word, standard toolbar, drawing toolbar, tables and other features. Mail – merge, insertion of files , pictures , clipboard, graphs, print formatting , page numbering and printing documents.

Excel- Introduction to workbook and worksheet. Entering information in a worksheet-numbers, formula etc, saving a workbook, editing cells, using commands and functions, moving and copying, inserting and deleting rows and columns, creating charts. Page setup: Margins, adding headers & footers before printing, print preview of worksheet, removing grid lines from printout, printing the title rows.

Unit 3

Number system: decimal, binary, octal, hexadecimal, conversions from one base to another base. Codes: ASCII code, EBCDIC code, Gray code, Boolean algebra, de-Morgan's theorem, binary arithmetic: addition, subtraction, multiplication & division , unsigned binary numbers, signed magnitude numbers, 1's complement & 2's complement representation of numbers , 2's complement arithmetic. Boolean functions & truth tables , SOP , POS form, minterms/ maxterms, simplification of logic circuits using Boolean algebra and karnaugh maps. Logic gates:- AND, OR, NOT ,NAND,

NOR, X-OR and X – NOR gates, their symbols and truth tables, circuit design with gates: adder / substrator circuit.

Unit 4

Memory cell, primary memory: RAM , static and dynamic , RAM, ROM , PROM , EPROM , EEPROM , cache memory, secondary memory and its types, virtual memory concept, memory accessing methods: serial and random access. Data bus, control bus & address bus. Word length of a computer , memory addressing capabilities of a CPU , processing speed of a computer , microprocessors, single chip microcomputers (microcontrollers).

Unit 5

General architecture of a CPU , instruction format and data transfer instructions , data manipulation instructions and program control instructions. Types of CPU organization : accumulator based machine , stack based machine and general –purpose register based machine , addressing modes , data transfer schemes : (i) programmed data transfer: synchronous , asynchronous and interrupt driver data transfer (ii) direct memory access data transfer: Cycle stealing block transfer and burst mode of data transfer.

Text Books:

1. Digital Logic and Computer Design by Malvino leach.
2. Computer System Architecture by M Morris Mano.
3. PC Software for windows by R K Taxali
4. Fundamentals of computers by P K Sinha
5. Computer Organization and Architecture by Stallings.
6. Computer today by Suresh K Basandra.
7. Computers Fundamentals and Architecture by B.Ram

Suggested Readings:

1. Create a banner of college using MS-Word
2. Design a greeting card using WORD ART
3. Create your biodata and use page boarders and shading in MS – Word.
4. Create a document, insert header, footer, page title, page number using MS-Word
5. Implement Mail-merge
6. Insert table in MS-Word document.
7. Create a mark sheet using MS-Excel.
8. Creation and printing of types of graphs in Excel.
9. Built –in function in Excel.
10. Create Faculty Timetable.

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B.Sc. Under Graduate Annual System Syllabus

(W.e.f. session 2017-2018)

Class: - B.Sc
Subject: Computer (BCS102T)
Paper- IInd
Title:-Programming in C

Marks: 42.5

Unit 1

Classification of programming language: procedural languages, problem oriented languages, non-procedural languages. Structured programming concepts: modular programming: top-down analysis, bottom – up analysis, structured programming. Problem Solving using computers: problem definition and analysis, problem design, coding, compilation, debugging and testing, documentation , implementation and maintenance.

Unit 2

Introduction to C language: constants, variables, keywords, data types, operators, expressions, operator precedence and associatively. Structure of C program: variables declaration, pointer to arithmetic, array of pointers. Structures: declaring, accessing, initializing, array of structures.

Unit 3

Managing: Input / output. Operators: Formatted and unformatted. Control Statements: Branching, Humping & Looping, Scope Rules, Storage Classes.

Unit 4

Arrays (one and two: dimensional). Functions: user desired function, standard function, categories in functions, passing arguments to a function, recursion. Pointers: Operators, declaration, pointer to arithmetic, array of pointers. Structures: declaring, accessing, initializing, array of structures.

Unit 5

File handling in e: opening and closing a data file, inserting data to data file. Graphics programming – introduction, functions, stylish lines, drawing and filling images, palettes and colors, justifying text, bit of animation.

Text Books:

1. How to solve it by computers by R G Drony, PHI.
2. Let is C by Yashwant Kanetkar IV Edition.
3. ANSI C by E Balagurusamy.
4. Programming in C by S S Bhatia.

Suggested Readings:

1. How to design Programs – An introduction to programming and computing – Felleism , et al PHI Publication.
2. Introduction to Algorithms by cormen , PHI.
3. Programming in C : Denis Richie..

B.Sc Under Graduate Annual System Syllabus

(W.e.f. session 2017-2018)

Class: - B.Sc (CS)
Practical

Max Marks: - 50

Suggested list of programs for practical
1. Write a program to print digits of entered number in reverse order.
2. Write a program to print sum of two matrices.
3. Write a program to print subtraction of two matrices.
4. Write a program to print multiplication of two matrices.
5. Write a program to demonstrate concept of structures.
6. Write a program for finding the root of a Quadratic Equation.
7. Write a program to for Mark sheet.
8. Write a program for finding the sum of given matrices of order m x n.
9. Write a program for finding the multiplication of given matrices of order m x n.
10. Write a program to generate even/ odd series from 1 to 100.
11. Write a program to find area of a circle, rectangle , square using case.
12. Write a program to check whether a given number is prime or not.
13. Write a program for call by value and call by reference.
14. Write a recursive program to calculate factorial of given number.
15. Write a program to generate a series
    1+1/1!+2/2!+3/3!+ _____ + n/n!
16. Write a program to create a pyramid structures

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17. Write a program to create a pyramid structure

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1
12
123
1234
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18. Write a program to create a pyramid structure

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1
22
333
4444
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19. Write a program to reverse a string.

20. Write a program to find whether a given string is PALINDROME or not.
21. Write a program to input 10 numbers add it and find it's average.
22. Write a program to generate series
23. $1+1/2! +3/3!+$_____$+n/n!$
24. WAP to print table of any number.
25. WAP to print Fibonacci series.
26. WAP to find length of string without using function.
27. WAP to perform all arithmetic operations using case statement.
28. WAP to check entered number is Armstrong or not.