BCA - Computer Application (MAJOR)

COURSE 1 : COMPUTER FUNDAMENTALS AND OFFICE AUTOMATION

Semester-I

MODEL PAPER

Time: 3 hours **Total Marks: 70**

SECTION-A

Answer any five questions and each question carries 4 marks [5 X 4 = 20]

1. Convert the decimal number 156 to binary, octal, and hexadecimal.
2. Differentiate between the first and fifth generations of computers with two examples each.
3. Draw and label the block diagram of a computer system.
4. Explain the difference between LAN, MAN, and WAN with one example each.
5. List and describe any four keyboard shortcuts used in MS Word or Google Docs.
6. What is the difference between relative, absolute, and mixed cell referencing in spreadsheets?
7. Write the syntax and purpose of the following functions: LEFT, CONCAT, AND, OR.
8. What is a Pivot Table? Mention two advantages of using Pivot Tables in data analysis.

SECTION-B

Answer ALL questions and each question carries 10 marks [5 X 10 = 50]

9 a) Explain the evolution of computers from mechanical devices to modern-day systems. Include key milestones.

(or)

b) Describe the five generations of computers in detail, highlighting their technologies, characteristics, and examples.

10 a) Explain the memory hierarchy in a computer system with examples. Why is it important?

(or)

b) Discuss various network topologies (Star, Ring, Bus) with diagrams, advantages, and disadvantages.

11 a) Describe the process of creating a mail merge document in MS Word or Google Docs with an example.

(or)

b) Explain the steps to design a professional presentation using PowerPoint or Google Slides, including animations and transitions.

12 a) Explain the use of the following logical and lookup functions in spreadsheets with examples
IF, AND, OR, VLOOKUP, INDEX

(or)

b) Describe the process of creating and formatting charts in spreadsheets. Include types of charts and their use cases.

13 a) What is a Dashboard in spreadsheets? Explain how to create an interactive dashboard using Pivot Tables and slicers.

(or)

Discuss the use of What-If Analysis tools -Goal Seek and Scenario Manager with practical examples.

BCA- Computer Applications (MAJOR)

COURSE 2: PROBLEM SOLVING USING C

Semester-I

MODEL PAPER

Time: 3 hours **Total Marks: 70**

SECTION-A

Answer any five questions and each question carries 4 marks [5 X 4 = 20]

1. Differentiate between compiler and interpreter with suitable examples.
2. Draw a flowchart to find the largest of three numbers.
3. Explain the syntax of else-if ladder with an example.
4. Write a C program using a switch statement to display the day of the week based on user input (1–7).
5. What is the difference between one-dimensional and two-dimensional arrays in terms of declaration and memory representation?
6. Explain the concept of pointer arithmetic with a simple example.
7. List and explain any four storage classes in C.
8. Differentiate between structures and unions in C with examples.

SECTION-B

Answer ALL questions and each question carries 10 marks [5 X 10 = 50]

9 a) Explain the differences between machine-level, assembly-level, and high-level programming languages. Include examples and use cases.

(or)

b) Discuss the various C tokens with examples. Explain the rules for constructing variable names and the role of data types and operators.

10 a) Write a C program to find whether a number is prime or not using decision-making and loop control statements. Explain the logic used.

(or)

b) Explain the use of break, continue, and goto statements in C with suitable examples. Discuss their impact on program flow.

11 a) Write a C program to perform matrix addition using two-dimensional arrays.

(or)

b) Explain string handling functions in C with examples.

12 a) Explain the concept of recursion in C with an example program to calculate factorial. Discuss its advantages and limitations.

(or)

b) Describe the differences between parameter passing by value and by address. Illustrate with suitable C programs.

13 a) Explain the use of malloc, calloc, realloc, and free functions in C with syntax and examples.

(or)

b) Write a C program to copy data from next text file to another.