Paper ID : 61031 **Total Pages : 2**

BCA (Semester-I) Examination, 2022

(Session : 2022-25)

COMPUTER APPLICATION

[Paper Code : BCA-104]

(C-Programming)

Time : Three Hours] **[Maximum Marks : 80**

Note : Candidates are required to give their answers in their own words as far as practicable. The questions are of **equal** value. Answer **any five** questions.

1. What is an Array? How a single dimension and two dimension array are declared and initialize? Also write a program to illustrate two dimensional array.

2. Write a C program using function to swap two numbers using global variables concept and call by reference concept.

3. What is a Pointer? Explain how the pointer variable declared and initialized. Write a program using pointer.

4. What is pre-processor directives used in C programming language? Explain different categories of pre-processor directives used in C.

5. Define Flowchart. Explain the various characteristics of algorithm and also write an algorithm to calculate average of three numbers.

6. What is Loop? Explain different types of loops in C syntax.

7. What is Dynamic Memory Allocation? Mention the limitation of static memory allocation. Also explain malloc ( ) and calloc ( ) function.

8. What is Union? Write a C program to demonstrate the use of union. Also differentiate a union and a structure.

9. Write a C program to compute addition of two matrix.

10. What is operator in C programming language? Explain the bitwise AND, OR and NOT operation.

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Paper ID : 61030 **Total Pages : 2**

BCA (Semester-I) Examination, 2022

(Session : 2022-25)

COMPUTER APPLICATION

[Paper Code : BCA-103]

(Business Communication and Information System)

Time : Three Hours] **[Maximum Marks : 80**

Note : Candidates are required to give their answers in their own words as far as practicable. The questions are of **equal** value. Answer **any five** questions.

1. What are the different phases of system implementation?

2. What is OAS? Explain the role of OAS in organisation.

3. Explain the different phases of system development life cycle (SDLC).

4. Explain the information and data biasing.

5. What is SAD? What is the need of it on organisation?

6. Explain MIS implementation and evaluation.

7. What do you mean by Business Communication? Explain its various types.

8. Explain the role of chairman in formal meeting.

9. What do you mean by Group Discussion? Explain its various types.

10. Write short notes on (Any two) :

(a) Non-Verbal Communication

(b) Methods of Oral Presentation

(c) Guidelines of efficient filing system

(d) Barriers of Communication

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Paper ID : 61029 **Total Pages : 2**

BCA (Semester-I) Examination, 2022

(Session : 2022-25)

COMPUTER APPLICATION

[Paper Code : BCA-102]

(Computer Fundamentals)

Time : Three Hours] **[Maximum Marks : 80**

Note : Candidates are required to give their answers in their own words as far as practicable. The questions are of **equal** value. Answer **any five** questions.

1. Explain memory of computers. Also discuss the types of memory used in digital computers.

2. Draw the diagram of CRT monitor. Also explain the function of CRT monitor.

3. What is an application software? Write down the types of application software which is commonly used in an office.

4. Explain the programming Logic technique like branching and looping.

5. What is system software? Explain the types of system software in detail.

6. Explain real time operating system. Also discuss the types of real time operating system.

7. Explain the concept of computer security and virus. Also explain the types of computer virus.

8. Explain top down and bottom up programming techniques approach with example.

9. Explain assembly level, machine level and 4GL language. Also discuss the merits and demerits of these language.

10. Write notes on **any two** of the following :

(i) Recursion

(ii) Rules for making flowcharts

(iii) Optical disks

(iv) Spreadsheet Package

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Paper ID : 61028 **Total Pages : 4**

BCA (Semester-I) Examination, 2022

(Session : 2022-25)

COMPUTER APPLICATION

[Paper Code : BCA-101]

(Mathematical Foundation)

Time : Three Hours] **[Maximum Marks : 80**

Note : Candidates are required to give their answers in their own words as far as practicable. The questions are of **equal** value. Answer **any five** questions.

1. Find the eigen value and eigen vector

$$A = \begin{bmatrix} 8 & -6 & 2 \\ -6 & 7 & -4 \\ 2 & -4 & 3 \end{bmatrix}$$

2. If $y^{1/m} + y^{-1/m} = 2x$, Prove that

$$(x^2 - 1)y_2 + xy_1 - m^2 y = 0.$$

3. Evaluate $\int_0^z \int_0^x (x^2 + y^2)\,dy\,dx$.

4. If $A = \begin{bmatrix} 2 & 3 \\ -1 & 5 \end{bmatrix}$, $B = \begin{bmatrix} 3 & 5 \\ 1 & -2 \end{bmatrix}$,

$C = \begin{bmatrix} x+y & 8 \\ 0 & x-y \end{bmatrix}$ and $A + B = C$.

Find the value of x and y.

5. Solve

$$(x^2 - y^2)\frac{dy}{dx} = 2xy$$

6. Integrate :

$$\int_0^{\pi/2} \sqrt{1 + \sin x}\,dx$$

7. Find the inverse of the matrix

$$A = \begin{bmatrix} 1 & 0 & 2 \\ 2 & 3 & 0 \\ 0 & 3 & 4 \end{bmatrix}$$

8. Apply Maclaurin's theorem to obtain the expansion of

$$\log(1+\tan x)$$

9. Solve $\frac{d^2y}{dx^2} + y = \sin 2x$.

10. Solve $\frac{d^2y}{dx^2} + \frac{3dy}{dx} + 2y = e^{2x}$.

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