

## **Computer Fundamental & Office Automation**

### **PART-A**

Q1-What are Computer Viruses? Explain the various categories of viruses.

Q2-What is Mail-Merge feature in MS-Word? Write the steps for creating a document using Mail-Merge.

Q3-What is Network Topology? Explain the advantages and disadvantages of any two network topologies.

Q4-Explain memory hierarchy in a computer system with the help of a diagram.

Q5-Write the differences between application software and system software.

### **PART-B**

Q1-What is Cache Memory? Explain the advantages of cache memory in a computer system.

Q2-Write short notes on the following:

(a) Packet Switching

(b) GUI

(c) EDI

(d) CSMA/CD

# **BCA-12**

## **Programming Principle & Algorithm**

### **PART-A**

Q1- Write a C program to count and print the number of words in a given string.

Q2- Write a program in 'C' language to implement Bubble Sort.

Q3- Write a program in 'C' language that accepts a file as input and prints the lines of that file in reverse order to standard output. That is, first line will be printed as last line, second line will be printed as last but one line. Make and list any assumptions.

Q4- Write a program in 'C' language that accepts a Matrix as input and prints the sum of all integers on diagonal to standard output. Make necessary assumptions.

Q5- Write a program in 'C' language that accepts a string as input and prints the number of vowels in it.

### **PART-B**

Q1- What is a sparse matrix ? Explain row-major order and column-major order with an example.

Q2- How can array elements be accessed using pointers in C ? Give example.

# **BCA-13**

## **Principle of Management**

### **PART-A**

**Q1-** What are Business Ethics ? Why are business ethics an important requirement for management ?

**Q2-** Explain the term "Discounted Cash Flow" (DCF). Discuss the relation between Discounted Present Value and Future Value.

**Q3-** What is Requirement Analysis ? Name the tools and methods used to perform Requirement Analysis.

**Q4-** Describe the term Decision Support System (DSS). What are the various levels of classification of DSS? How do the classified levels differ from one another ?

**Q5-** Briefly describe any five types of information systems by explaining their respective features like information inputs, processing, information output and users.

### **PART-B**

**Q1-** What do you mean by the term Intellectual Property ? What is the relevance of this concept in the corporate world and how do we protect it ?

**Q2-** Briefly discuss CRM and ERP. "Can CRM be ERP ?" Comment on this statement.

# **BCA-14**

## **BUINESS COMMUNICATION**

### **PART-A**

Q1-What is communication ? Write the process of communication.

Q2-What is written communication ? Give its advantages and disadvantage .

Q3-Gives in detail of importance of communication in business.

Q4-Describes barriers to communication .

Q5-What is principles of effectives communications ?

### **PART-B**

**Q1**-What is verbs? Write its classification.

Q2-Give 10 idioms and phrase with example.

**PART-A**

1. Find Eigen values of the matrix

$$\begin{bmatrix} 2 & -3 & 1 \\ 3 & 1 & 3 \\ -5 & 2 & -4 \end{bmatrix}$$

2. Test the consistency of following system of linear equations and hence find the solution

$$4x - y = 12, -x + 5y - 2z = 0, -2y + 4z = -8$$

3. Find the  $n^{th}$  derivative of  $\frac{x^2}{(x+2)(2x+3)}$

4. If  $y = (1 - x)^{-\alpha} e^{-\alpha x}$ , prove that

$$(1-x)y_{n+1} - (n+\alpha x)y_n - \alpha y_{n-1} = 0$$

5. Find rank and nullity of  $A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$

**PART-B**

1. If  $\frac{x^2}{a^2+u} + \frac{y^2}{b^2+u} + \frac{z^2}{c^2+u} = 1$ ,

Show that

$$\left(\frac{\partial u}{\partial x}\right)^2 + \left(\frac{\partial u}{\partial y}\right)^2 + \left(\frac{\partial u}{\partial z}\right)^2 = 2\left(x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} + z\frac{\partial u}{\partial z}\right)$$

2. Expand the following in powers of x

i)  $\sqrt{(1 + \sin x)}$

ii)  $e^x \cos x$

iii)  $\cos^{-1} \frac{x^2-1}{x^2+1}$