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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)
B.C.A. Sem – I : WINTER- 2022
SUBJECT : FUNDAMENTALS OF INFORMATION TECHNOLOGY

Day : Tuesday

Time : 02:00 PM-05:00 PM

Date : 13-12-2022

W-25952-2022

Max. Marks : **100**

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N.B.

- 1) Attempt any **FIVE** questions from Section – I and any **TWO** questions from Section – II.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Answers to both the sections should be written in the **SAME** answer book.
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SECTION – I

- Q.1** What is Transmission Media? Explain various Transmission media in detail. **(12)**
- Q.2** Define Computer. Explain various applications of computer with its limitations. **(12)**
- Q.3** What is Secondary Storage? Explain Magnetic disk as a secondary storage with suitable diagram. **(12)**
- Q.4** What is Application Software? How it differs from System software? Explain Operating system as system software. **(12)**
- Q.5** What is Computer? Explain types of computers in detail **(12)**
- Q.6** What is Output device? Explain various types of Printers in detail. **(12)**
- Q.7** Write a short notes on any **THREE** of the following: **(12)**
- a) First Generation of Computer
 - b) RAM
 - c) Assembly language
 - d) MICR

SECTION – II

- Q.8** As a network administrator, you have to design a Local Area Network of 70 computers. List the minimum hardware requirement to build this network. Which topology will you prefer and why? **(20)**
- Q.9** Global English Medium School (GEMS) is one of the leading school. GEMS want to do advertise of their school. Explain various steps to do advertise using power point presentation. **(20)**
- Q.10** “MS-Word plays an important role in an Organization.” Justify with proper example. **(20)**

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)
B.C.A. Sem – I : WINTER- 2022
SUBJECT : C PROGRAMMING

Day : Thursday

Time : 02:00 PM-05:00 PM

Date : 15-12-2022

W-25953-2022

Max. Marks : **100**

N.B.:

- 1) Attempt **ANY FIVE** questions from Section-I. Each questions carries 12 marks.
 - 2) Attempt **ANY TWO** questions from Section-II. Each question carries 20 marks.
 - 3) Figures to the right indicate **FULL** marks.
 - 4) Answers to both the sections should be written in **SAME** answer book.
 - 5) Draw a labeled diagram **WHEREVER** necessary.
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SECTION-I

- Q.1** Explain the features and structure of a 'C' program in detail. (12)
- Q.2** Explain Built in I/O functions in 'C'. (12)
- Q.3** Explain the standard string library functions with its example (At least six). (12)
- Q.4** Explain Looping statements used in C. (12)
- Q.5** What is pointer? Explain declaration and initialization of a pointer. (12)
- Q.6** Write short notes on **ANY TWO** of the following: (12)
- a) Storage classes
 - b) Union
 - c) Dynamic Memory Allocation

SECTION-II

- Q.7** a) Write a C program to convert binary number to decimal number. (10)
- b) Write a C program to store student data using structure. (10)
- Q.8** a) Write a C program to print multiplication table. (10)
- b) Write a C program to access Array elements using pointer. (10)
- Q.9** a) Write a C program to find transpose of Matrix. (10)
- b) Write a C program to sort array elements in ascending order. (10)

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)

B.C.A. Sem – I : WINTER- 2022

SUBJECT : ORGANIZATION OF IT BUSINESS

Day : Saturday

Time : 02:00 PM-05:00 PM

Date : 17-12-2022

W-25954-2022

Max. Marks **100**

N.B.

- 1) Attempt any **FIVE** questions from Section – I and attempt any **TWO** questions from Section – II.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Both sections should be written in **SAME** answer book.
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SECTION – I

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|------------|--|-------------|
| Q.1 | Define Business. Explain in detail Objectives of Business. | (12) |
| Q.2 | What factors are required for success in Business? | (12) |
| Q.3 | What is Joint Stock Company and Co – operative Organization? Explain its merits and demerits. | (12) |
| Q.4 | How to start new Business? Explain with proper example. | (12) |
| Q.5 | Explain in detail beginning and growth of Indian Business. | (12) |
| Q.6 | What factors are affecting while choosing form of ownership. | (12) |
| Q.7 | Write short notes on any TWO of the following:
a) Industrialization in India
b) Sole proprietorship
c) Articles of Association | (12) |

SECTION- II

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|-------------|---|-------------|
| Q.8 | “ Information Technology plays an important role in Modern Organization” explain with proper example. | (20) |
| Q.9 | Explain in detail various IT strategy used in an Organization. | (20) |
| Q.10 | What is the role of resources in sustaining a business in competitive-edge? | (20) |

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)

B.C.A. Sem – I : WINTER- 2022

SUBJECT : DISCRETE MATHEMATICS

Day : Monday

Time : 02:00 PM-05:00 PM

Date : 19-12-2022

W-25955-2022

Max. Marks : 100

N.B.:

- 1) Attempt any **FIVE** questions from Section –I. Each question carries **12** marks.
- 2) Attempt any **TWO** questions from Section –II. Each question carries **20** marks.
- 3) Answers to both the sections should be written in **SAME** answer book.
- 4) Use of non-programmable **CALCULATOR** is allowed.

SECTION-I

- Q.1** Define set. Explain various operations of sets with appropriate examples. (12)
- Q.2** Let the functions f and g be defined by $f(x) = x^3$ and $g(x) = x^2 - 1$. (12)
Find i) $f \circ f$ ii) $f \circ g$ iii) $g \circ g$
- Q.3** Find the truth tables for the following statements: (12)
i) $(p \rightarrow q) \vee (\sim p \vee \sim q)$ ii) $(p \wedge q) \rightarrow (p \vee q)$
- Q.4** Given $A = \begin{bmatrix} 2 & 3 & 1 \\ 4 & 7 & 2 \\ 1 & 2 & 3 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 3 & 2 \\ 4 & 6 & 1 \\ 1 & 0 & 2 \end{bmatrix}$, $C = \begin{bmatrix} 1 & -1 & 1 \\ 0 & 2 & 4 \\ 3 & 4 & 5 \end{bmatrix}$ (12)
find matrix X , such that $3A - 2B + 4X = 5C$
- Q.5** Explain the Sum Rule principle and Product Rule principle with appropriate example. (12)
- Q.6** Two fair coins are tossed. Find the probability of getting: (12)
i) atleast one tail ii) atleast one tail iii) no tail
- Q.7** Write short notes on any **TWO** of the following: (12)
a) Representation of matrix in computers
b) Relation
c) Conditional probability

SECTION-II

- Q.8** What is the logic gate? Explain OR, NOT logic gates. (20)
Draw a logic circuit for i) $AB + AC$ ii) $(A + B)C$
- Q.9** Find the inverse of matrix by Adjoint method. (20)
 $A = \begin{bmatrix} 1 & 0 & -4 \\ 0 & -1 & 2 \\ -1 & 2 & 1 \end{bmatrix}$
- Q.10** A bag contains six white marbles and five red marbles. Find the number of ways, four marbles can be drawn from the bag if: (20)
i) they can be any colour
ii) two must be white and two red.
iii) they must all be of same colour.
iv) three must be white and one red.