

Total No. of Questions : 5]

SEAT No. :

PE-13387

[Total No. of Pages : 2

[6554]-51

F.Y. M.C.A. (Integrated) (Management Faculty)
BCP-101-MJ : BASIC OF C PROGRAMMING
(2025 Pattern) (NEP 2020) (Semester - I)

Time : 3 Hours]

[Max. Marks : 60

Instructions to the candidates :

- 1) *Draw neat Diagram wherever necessary.*
- 2) *All question carry equal marks.*

Q1) Solve Any Two :

- a) Explain the history and features of C programming language. Why is C called a middle-level language? **[6]**
- b) Explain Datatypes in C. Discuss different types with examples. **[6]**
- c) Explain various types of operators in C with suitable examples. **[6]**

Q2) Solve Any Two :

- a) Write a short note on loops in C. Explain nested for loop with a suitable example. **[6]**
- b) Explain the switch statement in C. Compare it with if-else using suitable examples. **[6]**
- c) Write a C program to display the following pattern using nested loops : **[6]**

```

          1
        1 2 3
      1 2 3 4 5
    1 2 3 4 5 6 7
  1 2 3 4 5 6 7 8 9
```

Q3) Solve Any 2 :

- a) Explain recursion Function .Write a C program to find factorial of a number using recursion Function. **[6]**
- b) Explain parameter passing in C. Differentiate between call by value and call by reference with examples. **[6]**
- c) Write a C program to display given number is palindrome or not. **[6]**

P.T.O.

Q4) Solve Any Two :

- a) Write a C program to display prime numbers Between 1 to 100 using a pointer to function method. **[6]**
- b) What is a pointer in C? Explain pointer declaration, initialization, and pointer arithmetic with examples. **[6]**
- c) What is a Array in C? Explain types of Array with examples. **[6]**

Q5) Solve Any Two :

- a) Explain array of structures and nested structures with suitable examples.**[6]**
- b) Differentiate between structure and union in C with suitable examples.**[6]**
- c) Write a C program to store details of Employees–Employee ID, Name, Salary using a structure and display them. **[6]**



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SEAT No. :

PE-13403

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[6554]-52

M.C.A. - I (Integrated)(Management Faculty)
FOC - 104 - MJ : FUNDAMENTALS OF COMPUTER
(2025 Pattern) (Semester - I)

Time : 2 Hours]

[Max. Marks : 60

Instructions to the candidates :

- 1) *Draw neat diagram wherever necessary.*
- 2) *All questions carries equal marks.*

Q1) Solve any Two.

- a) Explain the evolution of early calculating devices before modern computers. **[6]**
- b) Define a computer. Explain any four characteristics of computer. **[6]**
- c) What is the role of the Control Unit (CU) and Arithmetic Logic Unit (ALU) in a computer. **[6]**

Q2) Solve any Two.

- a) Explain any two types of System Software with examples. **[6]**
- b) What is a compiler? Explain its working with a simple example. **[6]**
- c) Differentiate between Machine Learning and Assembly Language. **[6]**

Q3) Solve any Two.

- a) Explain the importance of data representation in computing. Give real-life examples. **[6]**
- b) Perform following binary arithmetic (Show all steps): **[6]**
 11011×101 and $11100 - 1011$
- c) Solve following conversions. **[6]**
 $3F_{(16)} \rightarrow \text{Binary}$ and
 $10101101_{(2)} \rightarrow \text{Decimal}$

P.T.O.

Q4) Solve any Two.

- a) Explain the concept of memory management in computer systems. [6]
- b) Explain PROM and EPROM with suitable examples. [6]
- c) Define Algorithm. List its characteristics [6]

Q5) Solve any Two.

- a) Define a Computer Network and explain its importance. [6]
- b) Differentiate between Wired and Wireless Networks. [6]
- c) Describe different network topologies. [6]



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PE-13404

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[6554]-53

F.Y. M.C.A. (Integrated)

DMA-105-MJ : DISCRETE MATHEMATICS - I
(2025 Pattern) (Semester - I)

Time : 2 Hours]

[Max. Marks : 60

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Draw neat diagram wherever necessary.

Q1) Attempt any Two of the following : [12]

- a) Construct the truth table for the compound proposition:
 $[(p \rightarrow q) \wedge (q \rightarrow r)] \rightarrow (p \rightarrow r)$ Hence Determine whether the statement is a tautology, contradiction or contingency.
- b) Verify using truth table whether the two statements are logically equivalent.
 $P \wedge (q \vee r)$ and $(p \wedge q) \vee (p \wedge r)$.
- c) Write the Boolean Expression $f(x, y, z) = (x \wedge y) \vee (\bar{x} \wedge z) \vee (\bar{y} \wedge z)$ in conjunctive normal form (CNF) using truth table.

Q2) Attempt any Two of the following : [12]

- a) Verify Demorgan's Law $(A \cup B)' = A' \cap B'$ with respect to the following sets.
 $A = \{1, 2, 3, 4, 5\}$, $B = \{3, 4, 5, 6, 7\}$, $C = \{5, 6, 7, 8\}$ and $U = \{1, 2, 3, 4, 5, 6, 7, 8\}$
- b) Prove that cartesian product $A \times B$ and $B \times A$ is not commutative where $A = \{1, 2\}$ and $B = \{a, b, c\}$
- c) If $U = \{1, 2, 3, \dots, 100\}$ $A = \{x \in U / x \text{ is multiple of } 2\}$
 $B = \{x \in U / x \text{ is multiple of } 3\}$ and $C = \{x \in U / x \text{ is multiple of } 5\}$
then find :
 - i) $n(A \cup B \cup C)$
 - ii) $n(\text{Exactly one of } A, B, C)$
 - iii) $n(\text{none of these})$

P.T.O.

Q3) Attempt any Two of the following :

[12]

- a) If $A = \begin{bmatrix} 1 & 2 & 3 \\ 0 & 1 & 4 \\ 5 & 6 & 0 \end{bmatrix}$ then find A^{-1} using Adjoint Method.
- b) If $A = \begin{bmatrix} 2 & -1 \\ 3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 2 \\ 0 & -3 \end{bmatrix}$ then verify $(AB)^T = B^T \cdot A^T$
- c) Show that the matrix $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ satisfies the equation $A^2 - 5A + 7I_2 = 0$

Q4) Attempt any Two of the following :

[12]

- a) Find transitive closure of relation $R = \{(a, b), (b, a), (b, c), (c, d)\}$. Also draw diagram of the transitive closure.
- b) If the relation R on integers be defined as $a R b \Leftrightarrow a \equiv b \pmod{5}$ then prove that R is an equivalence relation.
- c) If $A = \{1, 2, 3, 4\}$ relation R on the set A as $R = \{(a, b) \in A \times A / a \text{ divides } b\}$ then find
- Relation R in roster form.
 - Represent the relation R using an Arrow diagram.
 - Represent the relation R using a matrix Representation.

Q5) Attempt any Two of the following :

[12]

- a) If the function $f : \mathbb{R} \rightarrow \mathbb{R}$ be defined by $f(x) = x^2 - 4x + 5$ then find.
- Domain and Range of the function.
 - State whether the function is one-one on $\mathbb{R}$ justify your answer.
- b) Determine whether the following functions are even, odd or neither :
- $f(x) = x^4 - 3x^2$
 - $g(x) = x^3 + x$
 - $h(x) = x^3 + 2x^2$
- c) If $f(x) = \frac{x-1}{x+2}$ $g(x) = 2x + 3$ then find
- $f \circ g(x)$
 - $g \circ f(x)$



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PE-13405

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[6554]-54

F.Y. M.C.A. (Integrated)

MAF-110-MJ - MANAGEMENT FUNDAMENTALS

(2025 Pattern) (Semester - I)

Time : 2 Hours]

[Max. Marks : 60

Instructions to the candidates :

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicates full marks.*

Q1) Solve any TWO :

[2 × 6 = 12]

- a) Explain line and staff organization
- b) Explain the levels of management with examples
- c) Explain the importance of management

Q2) Solve any TWO :

[2 × 6 = 12]

- a) Discuss the importance of management in an organization.
- b) Discuss the challenges faced by managers in IT firms.
- c) State and explain the main functions of management.

Q3) Solve any TWO :

[2 × 6 = 12]

- a) What are emerging trends in management?
- b) How are planning and controlling interrelated?
- c) Explain the role of planning in achieving organizational goals.

P.T.O.

Q4) Solve any TWO :

[2 × 6 = 12]

- a) What is the importance of team structure in IT projects?
- b) State any five principles of organization.
- c) Discuss the techniques used in decision making.

Q5) Solve any TWO :

[2 × 6 = 12]

- a) Why is controlling important in management?
- b) State the importance of staffing in an organization.
- c) Explain the importance of directing in management.



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SEAT No. :

PE-13406

[Total No. of Pages : 2

[6554]-55

M.C.A. (Integrated) (Management Faculty)
POA-111-MJ : PRINCIPLES OF ACCOUNTING - I
(2025 Pattern) (Semester - I)

Time : 2 Hours]

[Max. Marks : 60

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*

Q1) Solve any two :

- a) Distinguish between Book keeping and Accounting. [6]
- b) Explain users of accounting information and their needs. [6]
- c) Explain the need for accounting system in organizations. [6]

Q2) Solve any Two :

- a) Explain the importance of IFRS in global reporting. [6]
- b) Explain an four accounting concepts with example. [6]
- c) Discuss advantages and limitations of accounting principles. [6]

Q3) Solve any Two :

- a) Define the single entry and double entry system. Explain advantages.[6]
- b) Explain modern Approach to Accounting Rules. [6]
- c) Explain classification of accounts with examples. [6]

Q4) Solve any Two :

- a) Explain Going concern concept and accrual concept with example. [6]
- b) Explain meaning and objective of contra Entry. [6]
- c) Write short note with example : [6]
 - i) Debtors
 - ii) Petty cash

P.T.O.

Q5) Solve any Two :

- a) Discuss importance of Journal book in accounting process. **[6]**
- b) Journalize the following transactions in the books of ABC solutions Ltd. **[6]**
 - i) April 1 : Commenced business with cash ₹10,00,000 and goods ₹50,000.
 - ii) April 5 : Paid Interest worth ₹30,000.
 - iii) April 10 : Sold Goods to Ashwin Traders for ₹2,00,000 received cash.
 - iv) April 15 : Purchased goods from Ramesh traders worth ₹1,00,000 on credit.
 - v) April 17 : Purchased computer for office use worth ₹75,000.
- c) Journalize the following in the book of ADT Pvt. Ltd. **[6]**
 - i) Jan 1 : Started business with cash ₹1,50,000 and furniture ₹60,000.
 - ii) Jan 3 : Purchased goods from XYZ traders worth ₹1,00,000 paid GST 12% on cash.
 - iii) March 8 : Paid commission worth ₹10,000.
 - iv) March 10 : Sold goods to Rohit Enterprises for ₹85,000 paid 5% GST.
 - v) March 15 : Paid salary to employee ₹5,00,000.
 - vi) March 18 : Goods withdrawn for personal use ₹10,000.



Total No. of Questions : 5]

SEAT No. :

PE-13407

[Total No. of Pages : 2

[6554]-56

M.C.A. - I (Integrated) (Management Faculty)
DGM-112-MJ : DIGITAL MARKETING - I
(2025 Pattern) (Semester - I)

Time : 2 Hours]

[Max. Marks : 60

Instructions to the candidates:

- 1) *Draw neat diagram wherever necessary.*
- 2) *All questions carries equal marks.*

Q1) Solve any Two :

- a) Differentiate between Digital Marketing and Traditional Marketing. [6]
- b) Explain the types of digital marketing. [6]
- c) Explain the importance of digital marketing in the modern business environment. [6]

Q2) Solve any Two :

- a) Explain SEO tools for analysis and monitoring. [6]
- b) Write future trends in SEO. [6]
- c) Explain any five on-page SEO techniques. [6]

Q3) Solve any Two :

- a) Differentiate between local SEO and voice search. [6]
- b) How do you evaluate web analytic to measure SEO performance. [6]
- c) How do you determine the "Search intent" behind a keyword to ensure content relevance. [6]

Q4) Solve any Two :

- a) Explain the role of social media in digital marketing. [6]
- b) What would you improve about our current social media strategy to increase ROI. [6]
- c) How do we determine the right platform (Instagram, TikTok, LinkedIn, etc.) for our target demographic. [6]

P.T.O.

Q5) Solve any Two :

- a) Explain key Curation strategies. **[6]**
- b) Explain content marketing types with examples. **[6]**
- c) Explain future trends in content and Social Media Marketing. **[6]**



Total No. of Questions : 5]

SEAT No. :

PE-13408

[Total No. of Pages : 2

[6554]-57

MCA - I (Integrated) (Management Faculty)
PFP-113-MJ: Personals Financial Planning - I
(2025 Pattern) (Semester - I)

Time : 2 Hours]

[Max. Marks : 60

Instructions to the candidates :

- 1) *Draw neat Diagram wherever necessary*
- 2) *All Question carries equal marks*

Q1) Solve any TWO :

- A) Define Financial Goals. Explain types of financial goals with examples.[6]
- B) Explain the importance of early financial planning. [6]
- C) Explain the role of a financial planner in simple terms. [6]

Q2) Solve any TWO :

- A) State the advantages and disadvantages of investing in shares. [6]
- B) Explain the features of bank deposits and post office saving schemes.[6]
- C) Explain the factors to be considered while selecting an investment option. [6]

Q3) Solve any TWO :

- A) How can diversification reduce risk? Explain with example. [6]
- B) Define risk profiling. Why is it important? [6]
- C) Explain types of financial risk. [6]

P.T.O.

Q4) Solve any TWO :

- A) Discuss the consequences of excessive borrowing. [6]
- B) Explain the steps in preparing a personal budget. [6]
- C) Explain the concept of EMI. How does it affect personal budgeting? [6]

Q5) Solve any TWO :

- A) Write Short Notes on: [6]
 - i) Inflation and its impact on savings
 - ii) Liquidity
- B) Ms. Priya earns ₹45,000 per month. She spends ₹32,000 per month. [6]

She wants to save 25% of her income for investment.

 - 1) Calculate the amount she plans to save every month.
 - 2) Calculate her total savings in one year.
 - 3) Interpret whether her savings plan is realistic based on her expenses.
- C) A 30-year-old individual wants to plan for buying a house after 5 years.

Suggest suitable investment options and justify your answer. [6]

