CD253-1-01-R25

M.Sc. DEGREE EXAMINATION, JULY/AUGUST-2026

FIRST SEMESTER

BRANCH: COMPUTER SCIENCES

PAPER-CS-101: COMPUTER ORGANIZATION

(New Syllabus Effective from the Academic year 2025-26)

(For C.D.O.E. Students only)

Max. Marks : 30

5x6=30

Write any Five questions. Each question carries Four marks.

1. Narrate the Instruction Cycle with neat diagram.
2. Write short notes on basic I/O operations.
3. What is meant by control memory? Write its features.
4. Give an example for instruction format.
5. List out various addressing modes.
6. Give an example for fixed point representation.
7. Discuss various types of Auxiliary memory.
8. Distinguish between SRAM and DRAM.
9. Show the steps of signed operand multiplication.
10. Give an example decimal arithmetic operation.

CD253-1-02-R25

M.Sc. DEGREE EXAMINATION, JULY/AUGUST-2026

FIRST SEMESTER

BRANCH: COMPUTER SCIENCES

PAPER-CS-102: OBJECT ORIENTED PROGRAMMING THROUGH JAVA

(New Syllabus Effective from the Academic year 2025-26)

(For C.D.O.E. Students only)

Max. Marks : 30

5×6 = 30

Write any Five questions. Each question carries Four marks.

1. Define Data Type. List out various data types available in Java.
2. Describe an identifier and give the rules to declare them.
3. Give the differences between Abstract class and Interface.
4. Give the definition and syntax of Class, Method and Object.
5. Write the importance of finally block.
6. What is Java Exception and its Types.
7. Write the difference between Text box and Text field.
8. What is an event listener? Give an example.
9. Give an example for an operator and operand.
10. Write a short note on OOPs.

CD253-1-03-R25

M.Sc. DEGREE EXAMINATION, JULY/AUGUST-2026

FIRST SEMESTER

BRANCH: COMPUTER SCIENCES

PAPER-CS-103: OPERATING SYSTEMS

(New Syllabus Effective from the Academic year 2025-26)

(For C.D.O.E. Students only)

Max. Marks : 30

5x6=30

Write any Five questions. Each question carries 4 marks.

1. What is an Operating System? Write its importance.
2. List the services provided by an Operating System ?
3. What are the advantages of Multiprogramming ?
4. Write the importance of semaphores.
5. What is critical section problem?
6. What requirement is to satisfied for a solution of a critical section problem?
7. What does PCB contain ? Discuss about it.
8. List the services provided by an Operating System ?
9. Write the difference between user level thread and kernel level thread?
10. Define deadlock. How it occurs ?

M.Sc. DEGREE EXAMINATION, JULY/AUGUST-2026

FIRST SEMESTER

BRANCH: COMPUTER SCIENCES

PAPER-CS-104: MATHEMATICAL FOUNDATIONS FOR COMPUTER SCIENCE

(DESCRETE MATHS)

(New Syllabus Effective from the Academic year 2025-26)

(For C.D.O.E. Students only)

Max. Marks : 30

5×6=30

Write any Five questions. Each question carries 4 marks.

1. Define Contingency with an example.
2. Define the predicates: C(x): "(x) takes a computer science course".
3. Prove that the set of connectives $(\neg, \wedge)$ is functionally complete.
4. Give an example for maximal and minimal elements.
5. Define a Lattice in terms of a poset.
6. A committee of 5 members is to be formed from a group of 6 men and 7 women. Find the number of ways to form the committee if:
   a) The committee must contain exactly 3 women.
   b) The committee must contain at least 4 men.
7. Using the Principle of inclusion-Exclusion, calculate how many integers between 1 and 500 (inclusive) are divisible by neither 4 nor 6.
8. Find the number of distinct ways to arrange the letters of the word "PERMUTATION" if:
   a) The arrangements must start with the letter P and end with N.
   b) All vowels (E, U, A, I, O) must always be adjacent to each other.
9. A connected planar simple graph has 20 vertices and each vertex has a degree of 3. Find the number of edges and the number of faces (regions) it splits the plane into.
10. State the Handshaking Lemma for undirected graphs.

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M.Sc. DEGREE EXAMINATION, JULY/AUGUST-2026

FIRST SEMESTER

BRANCH: COMPUTER SCIENCES

PAPER-CS-105: DESIGN AND ANALYSIS OF ALGORITHMS

(New Syllabus Effective from the Academic year 2025-26)

(For C.D.O.E. Students only)

Max. Marks : 30

5×6=30

Write any Five questions. Each question carries 4 marks.

1. What do you mean by algorithm? List some of the properties of it.
2. List out steps involved in performance analysis with example.
3. Compare between BFS and DFS techniques.
4. Analyze the time complexity of merge sort.
5. Write the importance of minimum cost spanning tree.
6. Write the algorithm of pseudo code for Kruskals algorithm.
7. Write the properties of binary trees.
8. Give the difference between queue and priority queue.
9. Write a short note on graph coloring.
10. Write the difference between P class and NP class.