**QP CODE: 23800325**

23800325

**Reg No : .....**

**Name : .....**

# INTEGRATED PG DEGREE EXAMINATION, DECEMBER 2023

## Third Semester

INTEGRATED MSC COMPUTER SCIENCE-ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

## CORE - ICSA3CR1 - ADVANCED COMPUTATION TECHNIQUES

2020 ADMISSION ONWARDS

E6B7D875

Time: 3 Hours Weightage: 30

**Part A (Short Answer Questions)**

*Answer any **eight** questions.*

*Weight **1** each.*

1. Define Strictly binary tree.
2. Define Preorder traversal.
3. What is indexed sequential file?
4. What is inverted list organization?
5. Write a short note on dependency preservation property and loss less join property.
6. Compare RDBMS and ODBMS.
7. Differentiate betwen mandatory access control and role based access control.
8. How can we declare and invoke triggers in SQL?
9. What is hashing?
10. Explain one method to implement sequential file organization.

(8×1=8 weightage)

**Part B (Short Essay/Problems)**

*Answer any **six** questions.*

*Weight **2** each.*

11. Explain different operation that can be performed on Binary tree.
12. Define Binary Search Tree.Draw binary search tree for 10,20,4,5,70,40,30,60. Consider 10 is a root.

13. Explain different terminologies related with a file.

14. Explain sequential files.

15. Explain the need of normalization in a database design.

16. Explain 3NF and BCNF with an example. Why BCNF is considered stronger than 3NF?

17. “Timestamps provide concurrency control”. How?

18. Explain indexing and data retrieval.

(6×2=12 weightage)

**Part C (Essay Type Questions)**

*Answer any **two** questions.*

*Weight **5** each.*

19. How to convert an expession into binary tree? Draw a binary Tree for the expression : A * B - (C + D) * (P /Q)

20. Explain different file operations.

21. Explain how database connectivity is done in a database?

22. Explain conflict serializability and view serializability.

(2×5=10 weightage)