Adichunchanagiri University

PhD Entrance Examination – Jan 2019

Subject: Computer Science & Engg

Model Question Paper

- *Answer any 20 Questions from 1 –30 (1 Marks each)*
- *Answer any 10 questions from 31- 45 (2 Marks each)*
- *Answer any 5 questions from 46 - 55 (4 Marks each)*

MODEL QUESTION PAPER ()

1. Which statement that is executed automatically by the system as a side effect of the modification of the database?

2. Which of the command is used to delete a table in SQL?

3. Consider the relations r1(P, Q, R) and r2(R, S, T) with primary keys P and R respectively. The relation r1 contains 2000 tuples and r2 contains 2500 tuples. The maximum size of the join r1⋈ r2 is :----------

4. The maximum number of superkeys for the relation schema R(E,F,G,H) with E as the key is-------

5. Let r be a relation instance with schema R = (A, B, C, D). We define r1 = ΠA, B, C (r) and r2 = ΠA.D (r). Let s = r1 * r2 where * denotes natural join. Given that the decomposition of r into r1 and r2 is lossy is----------------------

6. Interrupts which are initiated by an instruction are called as what?

7. Which of the memory allocation scheme suffers from external fragmentation ?

8. Which is the Simplest way of deadlock recovery ?

9. _____ is an "umbrella" activity that is applied throughout the software engineering process.

10. The relationship of data elements in a module is called as----------

11. PC Program Counter is also called as -------------

12. _____ is used to choose between incrementing the PC or performing ALU operations

13. The number of comparisons done by sequential search is ....

14. What is the complexity of linear search algorithm?

15. Which data structure required for Breadth First Traversal on a graph ?

16. Which of the sorting methods would be most suitable for sorting a list which is almost sorted?

17. Give example for abstract data type?

18. Hiding the complexity is known as----------

19. IS A relationship in C++ is---------------

20. If you want to write multiple functions in a class with same name, then what C++ feature will you use?

21. Polymorphism types is/are ----------

22. If I want to have common functions in a class and want to defer implementations of some other functions to derived classes, then what we need to use?

23. Not using virtual destructor feature in a C++ object oriented programing can cause-------------------

24. Which C++ oops feature is related to re-usability?

25. Which of the following is an abstract data type?

26. Hiding the complexity is known as------------

27. For Cat and Animal class, correct way of inheritance is-----------

28. In a class, encapsulating an object of another class is called----------

29. Component level design is concerned with---------

30. RAD stands for _____.

31. What are the various kinds of interactions catered by DBMS?

32. symbolize the expression "x is the father of the mother of y"

33. Mention the OOPS concepts.

34. Give the difference between STACK and Queue

35. What is strictly binary tree? Give example.

36. Bring out the diff between Linear search and Binary search

37. Explain the concept of Multiple inheritance.

38. What is time complexity & Space complexity? Give example

39. What is SISD, IMD, SIMD, SPMD?

40. Explain the V- Model of developing software.

41. What are functions of Operating system?

42. What is dead lock ? explain with example

43. Give the Evidence for usefulness of OO development.

44. What is Interaction Modeling give example

45. What is BCNF?

46. Explain the 3 level architecture of DBMS

47. Write a C program to reverse a doubly linked list

48. Explain the ACID Properties.

49. Discuss the Relation algebra concepts.

50. Discuss the dead lock recovery methods.

51. Discuss the Rapid Software Development (Agile methods)

52. Explain the Accessing I/O Devices & Interrupts

53. Discuss n - Queens problem

54. Explain Warshall's Algorithm

55. What is Polymorphism & explain the types.

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