



M.E DEGREE EXAMINATIONS: JAN 2015

(Regulation 2014)

First Semester

COMPUTER SCIENCE & ENGINEERING

P14CST104: Advanced Database Technologies

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. The main characteristics of the database approach versus the file processing system is / are [K₁]
- a) Self describing nature of the database system, support of multiple view of data
- b) Insulation between programs, data and the data abstraction
- c) Both a & b
- d) Less over head for providing security
2. [K₁]
- a)Data Sharing
- i) Data is of vital importance to an organization and may be confidential.
- b)Data Integrity
- ii) capacity to change the schema at one level of a database system without having to change the schema at the next
- c)Data Security
- iii) A database allows the sharing of data under its control by any number of application programs or users
- d)Data Independence
- iv) Data integrity means that the data contained in the database is both accurate and consistent.
- a) a-iii,b-iv,c-i,d-ii
- b) a-ii,b-iii,c-iv,d-i
- c) a-iii,b-ii,c-i,d-iv
- d) a-iv,b-ii,c-iii,d-i

- a) Prone to single point failure b) both c & d
 c) an object query language d) Network partitioning

8. _____ optimization takes account of statistical information to find a near-optimal execution plan. [K₁]

- a) Local b) Global
 c) Query d) Data

9. The design is not static but evolves through time. [K₁]

- a) True b) Partial True c) Subjective d) False

10. Match the following [K₂]

1.wisconsin bench mark	a) Processor performance
2.TPC-A	b) Detailed measure of OODBMS performance
3.Dhrystone	c) To measure on-line transaction processing
4.OO7	d)To allow comparison of particular DBMS features

- a) 1-c,2-a,3-b,4-d b) 1-c,2-a,3-b,4-d
 c) 1-d,2-c,3-a,4-b d) 1-b,2-c,3-a,4-d

PART B (10 x 2 = 20 Marks)

11. Summarize the overhead cost of using DBMS. [K₂]
 12. Outline the various DBMS interfaces. [K₂]
 13. Define degree of relationship type. [K₁]
 14. Classify various possible constraints on specialization. [K₂]
 15. Outline the functions of DDBMS. [K₂]
 16. Define failure transparency. [K₂]
 17. What is the use of recovery protocols? [K₂]
 18. Compare synchronous with asynchronous replication. [K₂]
 19. What do you mean by swizzling techniques? [K₁]
 20. Outline the disadvantages of OODBMS. [K₂]

PART C (6 x 5 = 30 Marks)

21. Illustrate the advantages of using DBMS approach and also explain the [K₂]

capabilities that a good DBMS should possess.

22. Compare the following [K₄]
a) Composite versus Simple(atomic) attributes
b) Single-valued versus Multivalued Attributes
23. Explain the reference architecture for a DDBMS with suitable block diagram. [K₂]
24. What do you mean by locking protocol? Analyze various locking protocols. [K₂]
25. State and explain the weaknesses of RDBMS. [K₁]
26. Summarize the advantages of OODBMS. [K₂]

PART D (4 x 10 = 40 Marks)

27. Make use of the suitable block diagram to explain the database system environment. [K₃]
28. Compare and Contrast second, third and Boyce-codd normal forms with an example. [K₄]
29. Analyze the distributed deadlock management along with wait-for-graphs. [K₃]
30. What are all the issues involved in OODBMS. Explain with an example. [K₄]
