

Total No. of Printed Pages:2

**SUBJECT CODE NO:- P-8023**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**M.E.(Comp.Sci.&Engg.) Examination MAY/JUNE-2016**  
**Advanced Database Mgt. System**  
**(Revised)**

**[Time:Three Hours]**

**[Max Marks:80]**

“Please check whether you have got the right question paper.”

- N.B i) Solve 2 questions from each section.  
Section A
- Q.1 A. What are long duration transactions? What are the adverse effects of following concurrency protocols on long duration transactions? 10  
a) 2-phase locking  
b) Graph based protocol
- B. Consider an object-oriented database system based on client- server architecture, with the server acting as a data server. 10  
a) What is the effect of the speed of the interconnection between the client and the server on the choice between object and page shipping?  
b) If page shipping is used, the cache data at the client can be organized either as an object cache or a page cache. The page cache stores data in units of page, while the object cache stores data in units of objects. Assume objects are smaller than a page. Describe one benefit of an object cache over a page cache.
- Q.2 A. What form of parallelism (inter-query, inter-operation or intra-operation) is likely to be the most important for each of the following tasks: Increasing the throughput of a system with many small queries, increasing the throughput of a system with a few large queries, when the number of disks and CPUs is large. 15
- B. What is pipelined parallelism? What are the drawbacks of pipelined parallelism? 05
- Q.3 A. What are the main software modules of DDBMS? Discuss the main functions of each of these modules in context to client-server architecture. 10
- B. What is fragment of a relation? What are the main types of fragments? Why are fragments a useful concept in distributed database design? 10
- Section B
- Q.4 A. List the basic operations of the following built-in interfaces of the ODMG Object Model: Object, Collection, Iterator, Set, and List. 10
- B. What is the difference between persistent and transient objects? How persistence is handled in typical OO database systems? 10

- Q.5 A. What is the difference between attributes and elements in XML? List some of the important attributes used to specify elements in XML schema. 05
- B. Why are scripting languages popular for programming Web application? Where in the three-tier architecture does a PHP program execute? Where does a JavaScript program execute? 15
- Q.6 A. Explain various Mobile Transaction Models in detail. 10
- B. Explain various MDDMS components in detail. 10