Reg. No. | | | | | | | | | |

M.E. / M.TECH. DEGREE EXAMINATIONS, MAY/JUNE 2017

SECOND SEMESTER

COMPUTER SCIENCE AND ENGINEERING

CP16202 – ADVANCED DATABASES

(Regulation 2016)

Q. Code: 765700

Time: Three Hours **Maximum : 100 Marks**

Answer **ALL** questions

PART A - (10 X 2 = 20 Marks)

1. Define coarse-granularity parallelism and fine granularity parallelism.
2. Compare parallel and distributed databases.
3. What are the differences and similarities of EXTENDS and interface ":" inheritance?
4. Differentiate transient object, persistent object and atomic object.
5. How row-level and statement level active rules differ each other?
6. Define valid time database, transaction time database and bi temporal database.
7. Define Handoff in mobile database.
8. Why do we need multimedia database? State its advantages and disadvantages.
9. What is XML schema?
10. List the advantages of web database.

PART B - (5 X16 = 80 Marks)

11. (a) (i) What is I/O parallelism? Write down the different partitioning technique to achieve I/O parallelism. Also explain in detail How skew is handled while partitioning? **(8)**

(ii) Compare the following in Distributed database:

(a) Fragmentation and Replication. **(4)**

(b) Horizontal and vertical partitioning. **(4)**

(OR)

(b) Explain how are the transactions handled in distributed database. **(16)**

12. (a) (i) Discuss the general principles behind the C++ binding of the ODMG standard and also describe the steps for the object database design by EER to OO mapping. **(8)**

(ii) Distinguish object relational and object oriented database. **(8)**

(OR)

(b) Explain in detail how atomic objects are created with an example. **(16)**

13. (a) Explain how Declarative Language is used to specify the rules of deductive databases with an example. **(16)**

(OR)

(b) Explain about temporal database and TSQL2. **(16)**

14. (a) (i) Compare OLAP and OLTP. **(8)**

(ii) What is the difference between classification and association in terms of data mining? **(8)**

(OR)

(b) How to maintain continuous communication between two parties in the presence of mobility in mobile database? **(16)**

15. (a) (i) Write an xml schema for the following xml file. **(8)**

Book.xml

```
<BOOK>
<BOOK_NAME>Computer Networks</BOOK_NAME>
<AUTHOR>Andrew Tanenbaum</AUTHOR>
<PUBLISHER>Pearson Education</PUBLISHER>
<PUBLISHINGDATE>2010-02-10</PUBLISHINGDATE>
</BOOK>
```

(ii) Discuss the different approaches for querying XML documents in a database. **(8)**

(OR)

(b) (i) Explain the concept of geographic information system. **(8)**

(ii) Describe the characteristics of cloud computing environment. **(8)**