**Seat No: _____** **Enrollment No: _____**

# PARUL UNIVERSITY

## FACULTY OF ENGINEERING & TECHNOLOGY

## M.Tech. Winter 2017 - 18 Examination

**Semester: 1** **Date: 26/12/2017**
**Subject Code: 03201101** **Time: 02.00pm to 4.30pm**
**Subject Name: Advance Database System** **Total Marks: 60**

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**Instructions:**
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Answer the following questions**.

A) Explain architecture of shared memory parallel database. **(05)**

B) In the context of Internet (Web) database, state the differences between XML Schema and XML DTD. **(05)**

C) Give difference between distributed database and parallel database. **(05)**

**Q.2 Answer the following questions**. (Attempt any three) (Each five mark) **(15)**

A) Explain steps to build data warehouse.

B) Explain two phase commit protocol in detail.

C) Give the DTD or XML Schema for an XML representation of the following nested-relational schema:

Emp = (ename, ChildrenSet setof(Children), SkillsSet setof(Skills))
Children = (name, Birthday)
Birthday = (day, month, year)
Skills = (type, ExamsSet setof(Exams))
Exams = (year, city)

D) Consider the following recursive DTD:

```
<!DOCTYPE parts [
<!ELEMENT part (name, subpartinfo*)>
<!ELEMENT subpartinfo (part, quantity)>
<!ELEMENT name ( #PCDATA )>
<!ELEMENT quantity ( #PCDATA )>
] >
```

Show how to map this DTD to a relational schema. You can assume that part names are unique; that is, wherever a part appears, its subpart structure will be the same.

**Q.3** A) Write application and issues in data mining. **(07)**

B) What is BCNF? What is difference between 3NF and BCNF? **(08)**

**OR**

B) How triggers are useful? Explain different types of trigger with examples. **(08)**

**Q.4** A) What is nested table? Explain with suitable example. **(07)**

**OR**

A) What is partition of table? How it is useful? Explain with suitable example. **(07)**

B) Define transaction. Explain ACID property of transaction with example. Also explain about various transaction states. **(08)**