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## Fifth Semester MCA Degree Examination, June/July 2018
## Object Oriented Modeling and Design Patterns

Time: 3 hrs.                                    Max. Marks:100

**Note:** *Answer any FIVE full questions.*

1   a.   Explain object oriented themes.              **(06 Marks)**
    b.   Discuss purposes served by model.           **(04 Marks)**
    c.   Differentiate between association, aggregation and composition.       **(10 Marks)**

2   a.   Explain state diagram behavior.            **(10 Marks)**
    b.   Explain types of concurrency supported by objects with appropriate example.     **(10 Marks)**

3   a.   Discuss the components of activity model with an example.       **(10 Marks)**
    b.   Explain use case relationship with an example.         **(10 Marks)**

4   a.   Briefly discuss software development stages.          **(10 Marks)**
    b.   What are the questions to be asked while preparing a problem statement? Discuss the same take ATM case study.         **(10 Marks)**

5   a.   Explain the steps in eliminating unnecessary attributes? Write the class diagram for ATM by adding attributes.         **(10 Marks)**
    b.   Explain steps in constructing application class model.         **(10 Marks)**

6   a.   What is a library? How library should be organized so that it can be easily reused? **(10 Marks)**
    b.   Explain the steps in designing algorithms.         **(10 Marks)**

7   a.   What is a pattern? Briefly explain pattern categories.         **(10 Marks)**
    b.   Explain structure and dynamics of client Dispatcher server pattern.      **(10 Marks)**

8      Write short notes:
    a.   Operation and methods.
    b.   Association end names.
    c.   Constraints.
    d.   Batch transformation.               **(20 Marks)**

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