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# P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester, B.E. - Information Science and Engineering

Semester End Examination; May/June - 2018

Object Oriented System Development

Time: 3 hrs

Max. Marks: 100

Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.

## UNIT - I

- 1 a. With respect to object oriented modeling and design, explain the concept of Object Oriented (OO) themes. 7
- b. Explain the three models useful to model a system and the relationship among them. 6
- c. How can we decompose N-ary associations into Binary associations? 7
- 2 a. Explain the concept of generalization and Inheritance. Write a class model for geometric figures. 10
- b. Write a short notes on :
- i) Enumerations                      ii) Multiplicity 10
- iii) Scope                              iv) Visibility

## UNIT - II

- 3 a. What is an event? Explain different types of events along with UML notation for each. 7
- b. What do you mean by concurrency? Explain the different types of concurrency among objects. 7
- c. Draw a sequence diagram for a stock purchase using an online stock broker system. 6
- 4 a. Define nested states. Draw a nested state for a phone line. 8
- b. What are the usecase model? Give the guidelines for constructing a usecase model. 6
- c. What is an Activity diagram? Explain with an example. 6

## UNIT - III

- 5 a. Explain how to find classes and keep right classes in domain class model with ATM example? 10
- b. Describe the questions that need to be answered for a system conception of an ATM. 10
- 6 a. Explain the steps required to construct an application state model. 10
- b. List the steps to construct an application intersection model. Explain any four. 10

## UNIT - IV

- 7 a. List the various decisions to the made during system design. Explain any two. 10
- b. Describe the steps to design algorithm with examples. 10
- 8 a. Explain three steps used to improve the organization of class design. 6

- b. In detail, explain the batch transformation and continuous transformation architectural styles suited for the system design. 10
- c. Write a short note on handling boundary conditions in system design. 4

**UNIT - V**

- 9 a. Explain the dynamics of client-dispatcher-server design pattern with a neat diagram. 10
- b. What is pattern? Explain briefly the template for pattern description. 10
- 10 a. Illustrate with a neat diagram the static relationship in forwarder and receiver. 10
- b. Explain in-process quality metrics with an example. 10

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