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SEAT No. :

**P288**

**Oct./BE/Insem.-606**

[Total No. of Pages : 2

**B.E. (Information Technology)**

**SOFTWARE DESIGN AND MODELING**

**(2015 Pattern) (Semester - I) (414455)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.*
- 2) *Use UML 2.0 notations to draw UML diagrams.*
- 3) *Figures to the right indicates full marks.*

**Q1) a)** State and explain structural things in UML. **[5]**

b) Explain 4+1 view of software system. **[5]**

OR

**Q2) a)** Explain Rumbaugh's Object Modeling Technique (OMT) in detail. **[5]**

b) Explain Layered Approach to software development. **[5]**

**Q3) a)** What is Use case? Explain the concept of include and extend in use case modeling. **[5]**

b) What is the purpose of use case diagram? Draw use case diagram for following medical clinic scenario.

A patient calls the clinic to make an appointment for a yearly checkup. The receptionist finds the nearest empty time slot in the appointment book and schedules the appointment for that time slot. **[5]**

OR

**P.T.O.**

- Q4) a)** A company consists of departments. Departments are located in one or more offices.

One office acts as a headquarter. Each department has a manager who is recruited from the set of employees. Draw a class diagram which consists of all the classes in your system their attributes and operations, relationships between the classes, multiplicity specifications, and other model elements that you find appropriate. [6]

- b) Explain qualified association and generalization with example. [4]

- Q5)** Explain the concept of swimlanes, fork and join in Activity diagram using suitable example. [10]

OR

- Q6)** Draw a state Transition diagram using UML 2.0 notions for Document Publishing process in conference. What is Composite state. [10]

