



**INTERNATIONAL CENTRE FOR APPLIED SCIENCES
MAHE, MANIPAL**

B.Sc. (Applied Sciences) in Engg.

**End – Semester Theory Examinations – May 2021—Repeaters 2018 Batch
III SEMESTER – SOFTWARE DESIGN USING OBJECT ORIENTED PARADIGM [ICS 233]
(Branch: Computer Science)**

Time: 3 Hours

Date: 29 May 2021

Max. Marks: 100

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- ✓ **Answer any FIVE FULL questions.**
 - ✓ **Missing data, if any, may be suitably assumed or calculated**
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- 1A.** Explain Unified Process Model in detail with help of a diagram. [10]
- 1B.** What are Package Diagrams? Explain. [10]
- 2.** Explain Noun Phrase Approach, Common Class Patterns Approach, CRC Approach with Examples. [20]
- 3A.** Explain Coupling and Cohesion between Classes. [10]
- 3B.** Explain with diagram Iterative Model. What are its advantages and disadvantages? [10]
- 4.** Explain GRASP. [20]
- 5.** Explain the following in Sequence Diagrams with help of Diagrams. [20]
- (i) opt
 - (ii) alt
 - (iii) par
 - (iv) loop
- 6A.** Explain the basic procedure to define the use cases. [10]
- 6B.** Explain Noun-Phrase Approach and apply the same for a Library Book Issue example. Develop the example on your own. [10]
- 7A.** What do you mean by stereotypes in UML? Explain each type with an example. [10]
- 7B.** Explain the differences between sequence diagram and collaboration diagram with an example. [10]
- 8A.** Explain with an example. [15]
- i) Inheritance
 - ii) Encapsulation
 - iii) Polymorphism
- 8B.** Differentiate between Class and Objects. [5]
