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**220304**

**December, 2019**  
**MCA 3rd Sem, MCA-17-207**  
**Software Engineering**

Time : 3 Hours]

[Max. Marks : 75

*Instructions :*

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

**PART - A**

1. (a) Define software testing and list its objectives. (1.5)
- (b) Explain the need of verification. (1.5)
- (c) What is data testing? (1.5)
- (d) Differentiate static and dynamic testing. (1.5)
- (e) Name the essential features of software security. (1.5)

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- (f) What is the need for foreign language testing? (1.5)
- (g) Define validation. (1.5)
- (h) Explain Object oriented Analysis. (1.5)
- (i) Define Object oriented design. (1.5)
- (j) What is unified modelling language. (1.5)

### **PART - B**

- 2. (a) Explain Testing Maturity Model in details using its architecture. (10)
- (b) Explain functional and non-functional software system requirement. (5)
- 3. (a) Justify the significance of formal technical reviews. (5)
- (b) Explain incremental process model. Justify that it is appropriate for the business software system but less appropriate for real time system. (10)
- 4. Explain between white box testing and black box testing. Explain in detail about both testing tool using suitable examples. (15)

5. (a) Explain the system development life cycle (SDLC) in detail. (5)
- (b) Explain Risk Management in detail. (10)
6. (a) Explain the components of Process development. (5)
- (b) Explain spiral model with advantages and disadvantages. (5)
7. What are the different testing techniques in each phase of software development? Discuss in detail using suitable examples. (15)
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