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M.C.A. II-Sem. (Main/Back) Examination, June/July - 2025
MCA-204 Software Engineering and UML

Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates:

Attempt all Ten questions from Part A. All Five questions from Part B and Three questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (As Mentioned in form No. 205).

PART - A

(Word limit 25)

All questions are compulsory.

(10×2=20)

1. What is software engineering?
2. Distinguish between process and methods.
3. Define System Modeling.
4. What is meant by software prototyping?
5. What is data dictionary?
6. Define Behavioral Modeling.
7. How the requirements are collected for user interface of software?
8. What is Risk Management?
9. Distinguish between alpha and beta testing.
10. Define black box testing strategy.

PART - B

(Word limit 100)

All questions are compulsory.

(5×4=20)

1. With a neat diagram explain Incremental process models and Evolutionary process models.
2. Explain the different tasks which requirements engineering encompasses.
3. How can you design user interface? Explain.

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4. What are the main objectives of software verification and validation? Briefly explain different V and V techniques.
5. Write the UML activity diagrams for eliciting requirements.

PART - C

Answer any Three of the following questions.

(3×10=30)

1. Explain spiral model for software life cycle and discuss various activities in each phase.
 2. Explain the ways and means for collecting the software requirements and how are they organized and represented? <https://www.pyqonline.com>
 3. What are the characteristics of a good design? Describe different types of coupling and cohesion. How design evaluation is performed?
 4. Explain black box testing methods and its advantages and disadvantages.
 5. Explain object oriented design process using UML.
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