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MCS-213

MASTER OF COMPUTER APPLICATIONS

(MCA-NEW)

Term-End Examination

December, 2025

MCS-213 : SOFTWARE ENGINEERING

Time : 3 Hours

Maximum Marks : 100

Weightage : 70%

Note : (i) *Question No. 1 is compulsory.*

(ii) *Attempt any **three** questions from
the rest.*

1. (a) Explain the Spiral Model in software engineering. Discuss its advantages and disadvantages as compared to the Waterfall Model. 10
- (b) Discuss the principles of software design and the importance of architectural design in software development. 10
- (c) Explain the concept of software maintenance. Explain any *two* different types of maintenance activities. 10
- (d) Explain the process of software project scheduling. Explain any *two* tools used for scheduling. 10
2. (a) Discuss the importance of Human-Computer Interaction (HCI) in software design. Explain the key principles of HCI design. 10

- (b) Explain the concept of software quality metrics and discuss different types of metrics used to measure software quality. 10
3. (a) Define Software Project Management. Explain the COCOMO Model for software project cost estimation. 10
- (b) Discuss the challenges of managing global software development teams. How can these challenges be addressed? 10
4. (a) Explain the concept of software testing and explain any *two* different types of testing techniques. 10
- (b) What is risk analysis in software engineering? Explain the steps involved in risk analysis and provide an example of a risk assessment matrix. 10

5. Write short notes on the following : $4 \times 5 = 20$

- (a) Software Process Improvement (SPI)
- (b) Software Configuration Management (SCM)
- (c) Software Reuse
- (d) Reverse Engineering

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