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MCS-034

**MASTER OF COMPUTER
APPLICATIONS (MCA) (Revised)**

Term-End Examination

June, 2023

MCS-034 : SOFTWARE ENGINEERING

Time : 3 Hours

Maximum Marks : 100

Weightage : 75%

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

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

1. (a) With the help of corresponding diagrams, explain the following software engineering models : 10
 - (i) Build and fix model
 - (ii) Interactive Enhancement model
 - (iii) Prototyping model
- (b) Explain Putnam's model and Statistical model for cost estimation. 10

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- (c) On the basis of their activities, sometimes CASE tools are classified as Upper, Lower and Integrated CASE tools. Explain all the three categories briefly. 10
- (d) Describe the software reengineering life cycle covering all its phases. 10
2. (a) What is a capability maturity model ? What are its objectives ? Explain briefly Level-1 to Level-5 maturity levels. 10
- (b) Define a testing tool. List and explain different categories of tools these are used for testing. Also describe briefly any *two* software testing tools along with their essential features. 10
3. (a) With the help of a block diagram, explain the features of Risk Manager tool. 10
- (b) What is the significance of a software project plan ? List and explain all the important steps involved in it. 10
4. (a) List and discuss all the major issues involved in management of web based projects. 10

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- (b) Define formal methods with respect to formal methods. Explain the following two components : 10
- (i) Formal language
 - (ii) Formal specifications.
5. Write short notes on the following : 5×4=20
- (a) Application area of formal methods
 - (b) Class-room Software Engineering (principles, strategy and process overview)
 - (c) Mutation Testing
 - (d) Software Metrics