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MCS–213

MASTER OF COMPUTER APPLICATIONS

(MCA) (NEW)

Term-End Examination

December, 2023

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.*

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1. (a) Describe the architectural design and modular design aspects of software design along with suitable diagrams. 10

(b) With the help of an example for each, explain the following Behavioral UML diagrams : 10

(i) Activity diagram

(ii) Use-case diagram

(c) Describe all the phases involved in data science life cycle. 10

(d) Define the re-engineering process. Narrate the process of re-engineering along with a block diagram and an example of use-case diagram. 10

2. (a) Define requirements engineering. What are the various tasks and processes involved in it ? Discuss functional and non-functional requirements in context to requirements engineering. 10

(b) Define software quality. List and elucidate some of the attributes of software quality. 10

3. (a) With reference to change control, briefly discuss the following : 10

(i) Change Management Process

(ii) Change Request

(iii) Change Control Report

(iv) Change Control Authority

(v) Engineering Change Order

(b) Define risk management. With reference to risk management, discuss risk manager tool, risk avoidance, risk detection and risk control. 10

4. (a) Discuss the project management related optimizations and development related optimization of First Time Right (FTR) framework. 10

(b) What are the basic drivers for innovations in software engineering ? Also list and discuss any *two* emerging trends in software engineering. 10

5. Write short notes on the following : 4×5=20

(a) Conversational Interfaces

(b) Rapid Mobile Application Development

(c) Prototype Model

(d) Putnam's model for estimation