CBCS SCHEME
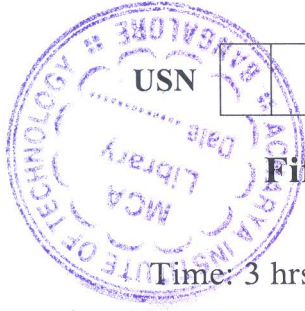
18MCA553

Fifth Semester MCA Degree Examination, Dec.2023/Jan.2024
Software Architecture

Time: 3 hrs.　　　　　　　　　　　　　　　　　　　　　　Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1　a. Define software architecture. Explain product recommendations of architecture. **(10 Marks)**
　　b. Define structure. Explain different categories of structures. **(10 Marks)**

OR

2　a. Explain the importance of software architecture according to Baker's dozen most important reasons. **(10 Marks)**
　　b. Explain in detail about the technical context and business context. **(10 Marks)**

Module-2

3　a. Explain seven categories of design decision. **(10 Marks)**
　　b. Explain the general scenario and tactics of the interoperability quality attribute. **(10 Marks)**

OR

4　a. Explain the general scenario and tactics of the modifiability quality attribute. **(10 Marks)**
　　b. Explain the general scenario and tactics of the usability quality attribute. **(10 Marks)**

Module-3

5　a. Explain a queuing model of performance for MVC with neat diagram. **(10 Marks)**
　　b. Discuss about
　　　i)　Thought experiment and Back-of the envelope analysis.
　　　ii)　Experiments, simulation and prototypes. **(10 Marks)**

OR

6　a. Explain gathering ASR's by interviewing stakeholders. **(10 Marks)**
　　b. Explain the categories of Business Goals **(10 Marks)**

Module-4

7　a. Explain generate and test process of architecture design with a neat diagram. **(10 Marks)**
　　b. Explain the steps involved in Attribute Driven Design (ADD) method. **(10 Marks)**

OR

8　a. Define view. Discuss about allocation view and quality view. **(10 Marks)**
　　b. Explain the notations available for documenting behavior. **(10 Marks)**

Module-5

9　a. Discuss layers pattern with respect to example, context, problem, solution and structure. **(10 Marks)**
　　b. Discuss pipes and filters architectural pattern with respect to context, problem and solution, structure. **(10 Marks)**

OR

10　a. Define Presentation-Abstraction-Control (PAC) architectural pattern. Discuss about structure and consequences of Presentation-Abstraction-Control pattern. **(10 Marks)**
　　b. Discuss Model-View-Controller (MVC) architectural pattern with respect to example, context, problem and structure. **(10 Marks)**

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