PS – 389

II Semester M.C.A. Examination, November/December 2022
(CBCS) (2020-21 and Onwards)
COMPUTER SCIENCE
2MCA4 : Software Engineering

Time : 3 Hours Max. Marks : 70

***Instruction** : Answer **any five** from Section – **A** and **any four** from Section – **B**.*

SECTION – A

Answer **any five** of the following. **Each** question carries **six** marks. **(5×6=30)**

1. Compare and contrast the traditional and agile methods of software engineering.
2. List 3 important characteristics of agile software teams and discuss the need to assign roles for each team member in an agile project. What are the various role schemes in the Agile ?
3. Discuss the practices in Agile that support customer collaboration and user-centric development.
4. Explain the terms :
   a) Burn-up and burn-down charts
   b) Sustainable pace
   c) Team velocity with suitable examples.
5. Discuss ways in which software quality is expressed in software development environments.
6. Define constructivism. How does this approach support learning in the agile environment ?
7. What is Abstraction ? How is it expressed ? Is it important in software engineering ? Explain.
8. How can ethics be expressed in software engineering processes ? Illustrate your ideas with specific scenarios.

P.T.O.

SECTION – B

Answer **any four** of the following. **Each** question carries **10** marks. **(4×10=40)**

9. State the Agile Manifesto. Explain the basic practices in Agile Software Development and analyze them from the HOT perspectives.

10. a) Give the use case diagram and sequence diagram for a Bank ATM.

    b) Discuss dilemmas and rewards in team work.

11. a) Discuss the activities that take place in a Business Day. How is it different from a stand-up meeting ?

    b) What are the techniques used to ensure tightness of software projects ?

12. a) What are measures in Agile ? Discuss the various measures that suit large scale agile projects to verify that the goals of the project are met.

    b) Discuss the pros and cons of Test Driven Development. How does TDD help to solve inherent problems in testing ?

13. a) Choose any three agile practices and explain how they guide practitioners to move between abstraction levels during the development process of a software project.

    b) Suggest any 2 ideas from game theory that can be utilized for the understanding of software development in general and agile software development in particular.

14. Discuss the following :

    a) Describe your cell phone on any 2 levels of abstraction.

    b) Pair programming.

    c) Refactoring.

    d) User Centric Design.