

QP Code : 6308

Time: 3 Hrs

Max Marks: 80

N.B.: (1) Question No. 1 is compulsory.

(2) Attempt any **three** questions out of remaining **five**.

1. A distance learning institute decides to use e-learning software to ease its regular functioning of the program. Through this e-learning tool students can register to various courses, appear for online exams, download study material, upload assignments online, view lecture videos etc. The faculty can upload study materials, conduct exams, teach one or many courses. The institute can check student and faculty information, collect fees, pay salary, display results and so on. Create an SRS for the institute that includes the following 20
 1. Product perspective
 2. Scope and objective
 3. Functional requirements (atleast 3)
 4. Non-functional requirements
2. Attempt any four (04).
 - (a) Define Software Engineering. Explain in brief the software process framework. 5
 - (b) Discuss on Modularity and Functional Independence fundamentals of design concepts. 5
 - (c) Explain cyclomatic complexity. How is it computed? 5
 - (d) Discuss the different categories of risk that help to define impact values in a risk table. 5
 - (e) Briefly explain Unit and Integration Testing in the OO Context. 5
3.
 - (a) Explain in brief the different types of coupling and cohesion. Give one practical example of high cohesion and low coupling 10
 - (b) What is FTR in SQA? What are its objectives? Explain the steps in FTR. 10
4.
 - (a) What is Agility in context of software engineering? Explain Extreme Programming (XP) with suitable diagram. 10
 - (b) Explain different techniques in White Box Testing. 10
5.
 - (a) Explain the various steps in Risk Management with suitable diagram. Identify the risks associated with delayed projects. 10
 - (b) Explain different architectural styles with suitable brief example for each. 10
6.
 - (a) Explain the change control and version control activities in SCM. 10
 - (b) Explain TDD with its advantages. 10