

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-V(NEW) EXAMINATION – SUMMER 2022**

**Subject Code:3150711****Date:04/06/2022****Subject Name:Software Engineering****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

|            |                                                                                                               | <b>Marks</b> |
|------------|---------------------------------------------------------------------------------------------------------------|--------------|
| <b>Q.1</b> | (a) What is Software Engineering? List down different myths for it.                                           | <b>03</b>    |
|            | (b) What are different layers of Software Engineering? Draw and explain it in short.                          | <b>04</b>    |
|            | (c) Draw and explain the different phases of Waterfall Model.                                                 | <b>07</b>    |
| <b>Q.2</b> | (a) What is Agility? List down 12 principals of Agile Manifesto.                                              | <b>03</b>    |
|            | (b) Draw and explain different phases of Agile Process Model.                                                 | <b>04</b>    |
|            | (c) Draw and explain Spiral Model with its advantages.                                                        | <b>07</b>    |
| <b>OR</b>  |                                                                                                               |              |
|            | (c) What is Coupling? What is Cohesion? Explain different types of Cohesion and Coupling with proper example. | <b>07</b>    |
| <b>Q.3</b> | (a) What is Requirement Engineering? How it is carried out in a Software Organizations?                       | <b>03</b>    |
|            | (b) Create a SRS document for College Management System.                                                      | <b>04</b>    |
|            | (c) What is Software Testing? Explain Black-box and White-Box Testing in details along with examples.         | <b>07</b>    |
| <b>OR</b>  |                                                                                                               |              |
| <b>Q.3</b> | (a) What is Software Quality? List down different Software Quality Metrics?                                   | <b>03</b>    |
|            | (b) List down various Software Design Principles applicable to College Management System.                     | <b>04</b>    |
|            | (c) Write a short note on: (1) Function-Oriented Design (2) User Interface Design                             | <b>07</b>    |
| <b>Q.4</b> | (a) What is Software Maintenance? Explain different types of it in short.                                     | <b>03</b>    |
|            | (b) Create a list of Software Reverse Engineering phases for College Management System and explain in short.  | <b>04</b>    |
|            | (c) How version and change are controlled within and across organizations? Explain it.                        | <b>07</b>    |
| <b>OR</b>  |                                                                                                               |              |
| <b>Q.4</b> | (a) Define: Risk Identification, Risk Refinement, and Risk Mitigation.                                        | <b>03</b>    |
|            | (b) How software organization go from different maturity level of SEI CMM? Explain it.                        | <b>04</b>    |
|            | (c) How organization can get ISO 9000 certification? Explain the process.                                     | <b>07</b>    |
| <b>Q.5</b> | (a) What is DevOps? List down its toolchain for development process.                                          | <b>03</b>    |
|            | (b) How DevOps practice be adopted for software development process.                                          | <b>04</b>    |
|            | (c) Explain 7Cs of DevOps lifecycle.                                                                          | <b>07</b>    |

**OR**

- Q.5**
- (a) What is Component Based Software Engineering? What are its advantages? **03**
  - (b) How a typical software is being Reengineered? Explain why is required? **04**
  - (c) Explain Computer-Aided Software Engineering in detail. **07**