Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

M.Sc.(IT) (2015 Batch) (Sem.–3)

SOFTWARE ENGINEERING & PROJECT MANAGEMENT

Subject Code : MSIT-302

Paper ID : [74067]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students has to attempt any ONE question from each SECTION.**
2. **SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**
3. Use of non-programmable **scientific calculator** is allowed.

SECTION-A

1. What is the relationship between a process model, process specification, and process for a project? Provide three examples of software projects that would be amenable to the

   a. Spiral Model

   b. Prototyping

2. a. Explain the project management process.

   b. Which of the development process models would you employ for the following projects? Justify.

      1. A data entry system for office staff who have never used computers before. The user interface and user-friendliness are extremely important.

      2. A spreadsheet system that has some basic features and many other desirable features that use these basic features.

SECTION-B

3. Develop a complete use case for the following activities :

   a. Buying a stock using an on-line brokerage account

   b. Searching for books (on a specific topic) using an on-line bookstore

4. a. List some practices that you will follow while developing a software system using an object-oriented approach to increase cohesion and reduce coupling.

   b. What are the main components of an SRS?

SECTION-C

5. List and explain the major risks that a typical software project will face. Propose risk management strategies for each.

6. a. What are the different levels of testing and the goals of the different levels?

   b. Explain how Equivalence Class Partitioning is used to select the test cases. Give example.

SECTION-D

7. What are the four elements that exist when an effective SCM system is implemented? Discuss each briefly.

8. Write short notes on :

   a. CASE tools

   b. Change control process

SECTION-E

9. Write briefly :

a. What are the different attributes of software quality?

b. What is a spike solution in XP?

c. What are the main criteria for evaluating the quality of an SRS?

d. Write the software equation.

e. Write a short note on 'program evaluation and review technique'.

f. Explain LOC based estimation with example.

g. Differentiate between validation and verification.

h. List any five software configuration items.

i. List the cohesion metrics.

j. Define re-engineering.