M.Sc. (Computer Science) (2016 & Onwards) (Sem.–3)
SOFTWARE ENGINEERING
Subject Code : MSC-305
M.Code : 72107
Date of Examination : 21-12-22

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.**

SECTION-A

1. Explain all the phases of Waterfall Model. Also write advantages and disadvantages of Waterfall Model.

2. a) Explain the Principles of Software Engineering in detail.

   b) Write a detailed note on Evolution of Software Engineering.

SECTION-B

3. Write a detailed note on DFD. How DFDs are significant for Software Engineering? Explain.

4. Write a detailed note on following :

   a) Principles for Structured Analysis

   b) Data Design

SECTION-C

5. Describe the following by taking suitable examples:

   a) Function Points and Lines of Codes

   b) COCOMO-I model

6. a) Explain in detail about Software testing principles.

   b) Write a detailed note on Black Box testing.

SECTION-D

7. Discuss the importance of software quality. What are different metrics available for measuring software quality? Explain .

8. Describe the process of Change Control in detail. When and why is it needed?

SECTION-E

9. **Answer Briefly :**

   a) Write at least two advantages of prototyping model.

   b) Define SRS. What are advantages of developing a SRS?

   c) What is Entity Relationship Diagram? List various symbols used in Entity Relationship Diagram.

   d) Define Requirement analysis.

   e) Differentiate between coupling and cohesion.

   f) Explain in brief about test cases.

   g) Define the term software testing. What is the advantage of starting with the Software testing from the very beginning of development process?

   h) Difference between Unit and System Testing.

   i) Differentiate between Forward Engineering and Reverse Engineering .

   j) What is the need for software reengineering?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.