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Total No. of Pages: 02

Total No. of Questions: 09

**M.Sc. (IT) / PGDCA (Sem. – 2)**

**SOFTWARE ENGINEERING**

**Subject Code: PGCA-1912**

**M Code: 77841**

**Date of Examination : 19-12-2022**

**Time: 3 Hrs.**

**Max. Marks: 70**

**INSTRUCTIONS TO CANDIDATES:**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION - B & C** have **FOUR** questions each, carrying **TEN** marks each.
3. **Attempt any FIVE** questions from **SECTION B & C**, selecting atleast **TWO** questions from each of these **SECTIONS B & C**.

**SECTION-A**

1. Write briefly:

- a) Define software engineering.
- b) Mention advantage and disadvantage of using waterfall process model.
- c) What are concurrent models?
- d) What are the different design approaches?
- e) Differentiate black box and white box testing.
- f) What is debugging in software testing.
- g) Outline the concept of aspect-oriented software development.
- h) Define software metric and justify its role in software development.
- i) How verification differ from validation in software development process.
- j) What is forward and reverse engineering?

## **SECTION-B**

2. Outline the complete process of software engineering with a neat and clean diagram along with description of its components.
3. Explain the requirement analysis process and its importance for building an analysis model.
4. What is the unified process? Describe the working of Personal and Team process models.
5. Elaborate the following with respect to Design Model:
  - a) Architectural Design Elements
  - b) Deployment-Level Design Elements

## **SECTION-C**

6. Take an example code and explain the concept of unit testing and integration testing.
7. Explain how software maintenance is an essential phase in software development.
8. Why is software measurement important? Explain the different types of metrics used in the design and requirement phase in detail.
9. Write short notes on following:
  - a) Software Reengineering and Software Restructuring
  - b) Control Structure testing and Basis Path Testing

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