20SSP26

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc (SS) DEGREE EXAMINATION MAY 2023
(Fourth Semester)

Branch – **SOFTWARE SYSTEMS**
(Five Years Integrated)

SOFTWARE ENGINEERING TECHNIQUES

Time: Three Hours Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1. _____ is an incremental software process model that emphasizes a short development cycle.
   (i) Waterfall Model (ii) RAD Model
   (iii) Prototyping Model (iv) Spiral Model

2. Which technique is used to translate the needs of the customer into technical requirements for software?
   (i) Quality Function Deployment (ii) Business Process Engineering
   (iii) The concurrent Development Model (iv) Architectural Pattern

3. Which analysis considers data and the processes that transform the data as separate entities?
   (i) Interface analysis (ii) Bounded value analysis
   (iii) Structured analysis (iv) Analysis patterns

4. Software is divided into separately named and addressable components called ___.
   (i) Modules (ii) Patterns (iii) Segments (iv) Program Classes

5. The ____ testing is a systematic technique for constructing the software architecture while at the same time conducting test to uncover errors associated with interfacing.
   (i) Unit testing (ii) Validation testing
   (iii) System testing (iv) Integration testing

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6. a) Outline the need for software engineering.
   OR
   b) List out the five kinds of generic process framework applicable for the majority of software projects.

7. a) Discuss the different options to achieve reliable cost and effort estimates.
   OR
   b) What is a structural analysis and design technique? Discuss.

8. a) Describe the need for data dictionary in data modeling.
   OR
   b) Discuss the different steps followed by analyst to create a behavioral model.

9. a) Write notes on architectural design elements.
   OR
   b) Write a short note on decision tree. Give an example.

Cont...

10.a) State the various kinds of test strategies for conventional software.

OR

b) Show the details of system documentation manual.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11. a) Describe the various factors that influence the quality and productivity in software engineering.

OR

b) Explain the spiral model used for software development.

12. a) Illustrate the COCOMO Model used for software project estimation.

OR

b) Describe in detail the requirement engineering tasks.

13.a) Explain the interactive approaches to requirements analysis and modeling.

OR

b) Design the context level and level-1 DFD for the safe home security function.

14. a) Elaborate the various design concepts evolved for software engineering.

OR

b) Elucidate in details about the HIPO diagram.

15. a) Enumerate the black box testing technique.

OR

b) Formulate the role and importance of post implementation review for software implementation.

Z-Z-Z END