23ITU418N

**PSG COLLEGE OF ARTS & SCIENCE**
(AUTONOMOUS)

**BSc DEGREE EXAMINATION DECEMBER 2025**
(Fourth Semester)

Branch – **INFORMATION TECHNOLOGY**

**SOFTWARE ENGINEERING**

Time: Three Hours Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** marks (10 × 1 = 10)

| Module No. | Question No. | Question | K Level | CO |
|---|---|---|---|---|
| 1 | 1 | This type of maintenance is carried out to improve the performance of the system<br>a. adaptive b. corrective<br>c. perfective d. selective | K1 | CO1 |
| | 2 | A -------- is a toy and crude implementation of a system<br>a. module b. prototype<br>c. model d. design | K2 | CO1 |
| 2 | 3 | The SRS document is also called the ------ specification of the software being developed<br>a. grey-box b. black-box<br>c. white-box d. none of the above | K1 | CO2 |
| | 4 | The term ---- refers to presence of material not directly relevant to the software development process<br>a. error b. constraint<br>c. noise d. bug | K2 | CO2 |
| 3 | 5 | The statement 'A contains B' where A and B are two classes, defines-------<br>a. a composition b. an inheritance<br>c. an association d. an aggregation | K1 | CO3 |
| | 6 | The ------ is the is the most abstract data flow representation of a system<br>a. context diagram b. content diagram<br>c. sequence diagram d. system design | K2 | CO3 |
| 4 | 7 | A/An ----- is essentially any programmer action that later shows up as an incorrect result during program execution<br>a. error b. failure<br>c. mistake d. bug | K1 | CO4 |
| | 8 | During ----- the individual functions of a program are tested<br>a. unit testing b. integration testing<br>c. system testing d. acceptance testing | K2 | CO4 |
| 5 | 9 | ----- is the process of recovering the design and the requirements specification of a product from an analysis of its code<br>a. Software Reverse Engineering<br>b. Software Re-engineering<br>c. Software Engineering<br>d. None of the above | K1 | CO5 |
| | 10 | The ------ agile model adopts a "serial in the large" and "iterative in the small" approach for building computer-based systems<br>a. Scrum b. DSDM c. AM d. AUP | K2 | CO5 |

**Cont...**

## SECTION - B (35 Marks)

Answer **ALL** questions

**ALL** questions carry **EQUAL** Marks (5 × 7 = 35)

| Module No. | Question No. | Question | K Level | CO |
|---|---|---|---|---|
| 1 | 11.a. | Explain about the emergence of software engineering | K2 | CO1 |
| | | (OR) | | |
| | 11.b. | Illustrate the process of evolutionary model | | |
| 2 | 12.a. | Classify the different types of coupling and cohesion | K2 | CO2 |
| | | (OR) | | |
| | 12.b. | Outline the various functional and non-functional requirements required for a software system | | |
| 3 | 13.a. | Interpret the different primitive symbols used for constructing a DFD | K2 | CO3 |
| | | (OR) | | |
| | 13.b. | Demonstrate the various types of user interfaces | | |
| | 14.a. | Identify the different approaches to integration testing | K3 | CO4 |
| | | (OR) | | |
| | 14.b. | Distinguish between the five levels of capability maturity model | | |
| 5 | 15.a. | Explain about the process models of software maintenance | K3 | CO5 |
| | | (OR) | | |
| | 15.b. | Analyze the process of Scrum model for developing software | | |

## SECTION -C (30 Marks)

Answer **ANY THREE** questions

**ALL** questions carry **EQUAL** Marks (3 × 10 = 30)

| Module No. | Question No. | Question | K Level | CO |
|---|---|---|---|---|
| 1 | 16 | Analyze the working of a classical waterfall model | K3 | CO1 |
| 2 | 17 | Examine the characteristics of a good software design | K3 | CO2 |
| 3 | 18 | Explain the concepts of class diagrams | K3 | CO3 |
| 4 | 19 | Experiment with the different white box testing approaches | K3 | CO4 |
| 5 | 20 | Identify the functionalities of Extreme Programming (XP). | K3 | CO5 |

Z-Z-Z END