

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026  
(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            | Which of the following is NOT a software life cycle model?<br>a) Spiral Model<br>b) Waterfall Model<br>c) V-Model<br>d) Binary Model                                                                            | K1      | CO1 |
|            | 2            | Give the main objective of software engineering _____.<br>a) Produce software with low cost<br>b) Produce reliable and efficient software<br>c) Produce error-free programs<br>d) Produce maximum documentation | K2      | CO1 |
| 2          | 3            | Identify the expansion of SRS _____.<br>a) Software Requirements Specification<br>b) System Requirement Study<br>c) Software Review Standard<br>d) None of these                                                | K1      | CO2 |
|            | 4            | Clarify the Quality of Good software design emphasizes _____.<br>a) High cohesion and low coupling<br>b) Low cohesion and high coupling<br>c) Only cohesion<br>d) Only coupling                                 | K2      | CO2 |
| 3          | 5            | Identify the expansion of UML _____.<br>a) Unified Management Language<br>b) Unified Modeling Language<br>c) Universal Markup Language d) User Management Language                                              | K1      | CO3 |
|            | 6            | Associate which diagram is used to model interactions between objects?<br>a) Use Case Diagram b) Activity Diagram<br>c) Sequence Diagram d) State Chart Diagram                                                 | K2      | CO3 |
| 4          | 7            | State the other name of white box testing<br>a) Functional Testing b) Structural Testing<br>c) Black-box Testing d) Regression Testing                                                                          | K1      | CO4 |
|            | 8            | Explain how to ensure software quality<br>a) Frequent testing b) Correct design and reviews<br>c) User feedback d) Documentation                                                                                | K2      | CO4 |
| 5          | 9            | Define Agile development<br>a) Following rules strictly b) Responding to changes quickly<br>c) Writing documents only d) Ignoring customers                                                                     | K1      | CO5 |
|            | 10           | Interpret the use of software Reverse Engineering.<br>a) To recover lost code b) To test the software<br>c) To design the code d) To ensure Quality                                                             | 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 the classical waterfall model.                                                           | K2      | CO1 |
|            |              | (OR)                                                                                             |         |     |
|            | 11.b.        | Describe the spiral model with a neat diagram.                                                   |         |     |
| 2          | 12.a.        | Define SRS. Determine the characteristics of a good SRS.                                         | K3      | CO2 |
|            |              | (OR)                                                                                             |         |     |
|            | 12.b.        | Illustrate cohesion and coupling with suitable examples.                                         |         |     |
| 3          | 13.a.        | Construct UML diagrams (use case, class, and activity) for a Student Course Registration System. | K3      | CO3 |
|            |              | (OR)                                                                                             |         |     |
|            | 13.b.        | Demonstrate how to draw a data flow diagram with an example.                                     |         |     |
| 4          | 14.a.        | Analyse the general issues associated with testing.                                              | K4      | CO4 |
|            |              | (OR)                                                                                             |         |     |
|            | 14.b.        | Examine SEI capability Maturity Model.                                                           |         |     |
| 5          | 15.a.        | Analyse the characteristics of software maintenance.                                             | K4      | CO5 |
|            |              | (OR)                                                                                             |         |     |
|            | 15.b.        | Explain Extreme programming(XP) under agile development.                                         |         |     |

**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           | Explain prototyping and Evolutionary life cycle models with suitable examples.                  | K4      | CO1 |
| 2          | 17           | Compare object- oriented and function – oriented software design.                               | K4      | CO2 |
| 3          | 18           | Design UML diagrams for an Online Shopping System. Explain how they support the design process. | K4      | CO4 |
| 4          | 19           | Explain software Quality management system in brief.                                            | K4      | CO5 |
| 5          | 20           | Analyze the role of agile process models in modern software engineering.                        | K4      | CO3 |

Z-Z-Z

END