

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION - MAY 2024
(Fifth Semester)

Branch – COMPUTER SCIENCE

ELECTIVE-I: UNIFIED MODELING LANGUAGE

Time: Three Hours

Maximum: 75 Marks

SECTION-A (25 Marks)

Answer ALL questions

ALL Questions carry EQUAL marks (25 x 1 = 25)

1. a. What are the main components of UML?
- b. Write two differences between forward and reverse engineering.
- c. What do you mean by interaction diagram?
- d. Define threads.
- e. What is modeling processors?

Fill in the Blanks:

- f. A model is a _____ of reality.
- g. UML interfaces are used to _____.
- h. UML diagram that shows the interaction between users and system, is known as _____.
- i. The best kind of models helps to choose _____.
- j. Algorithmic and object-oriented are the two common ways for modeling _____.

Match the following:

- | | | | |
|---------------------|---|----------------------|-----|
| k. Models | - | Scope of the Project | () |
| l. System's actions | - | A role | () |
| m. Link | - | Visualize | () |
| n. Inception | - | Association | () |
| o. Actor | - | Behavior | () |

Say True/False:

- p. In UML an operation can be described as Object & Class.
- q. Multiplicity for an association is the number of instances with a multiple instance.
- r. The Activity diagram is used to show interactions between messages.
- s. Qualified and weak entities are represented in UML diagrams by using aggregations.
- t. In modeling, a person may function in one role per system.

Choose the Best Answer:

- u. Which one is used to display a set of objects and their relationships?
i) Object diagram ii) Class diagram iii) Use case diagram iv) Activity diagram
- v. Select from the following _____ has to be reverse-engineered.
i) Visibility ii) Relationship iii) Target iv) Constraints
- w. Which one of the following is not a structural thing?
i) Class ii) Package iii) Use case iv) Node

Cont...

x. which type they considered Activity diagram, use case diagram, collaboration diagram, and sequence diagram?

- i) Non-Behavioral ii) Non-Structural iii) Structural iv) Behavioral

y. Which among the following are not the valid notations for package and component diagram?

- i) Nodes ii) Box iii) Extension Mechanisms iv) Packages

SECTION - B (20 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 4 = 20)

- 2 a Describe a conceptual model of the UML.
OR
b Sketch out modeling different levels of abstraction
- 3 a Summarize the concept related to modeling web of relationships.
OR
b Outline modeling of object structures.
- 4 a Narrate overview of modeling a flow of control.
OR
b Show modeling flows of control by organization.
- 5 a Organize modeling a family of signals with an example.
OR
b State the outline of modeling timing constraints.
- 6 a Analyze modeling an API and source code.
OR
b Bring out the overview of client/server system.

SECTION -C (30 Marks)

Answer any THREE questions

ALL Questions carry EQUAL Marks

(3 x 10 = 30)

- 7 Examine software development life cycle with neat diagram
- 8 Compare static and dynamic modeling types with an example.
9. Enumerate modeling a workflow with an operation.
10. Survey the concept of modeling the distribution of objects.
11. Discuss in detail of modeling tables, files and documents.

Z-Z-Z END