বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

BCA 6th Semester Examination 2022

OBJECT ORIENTED ANALYSIS AND DESIGN (using UML)

PAPER–3201

Full Marks : 70

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Group – A

Answer any *four* questions.   4×15

1. What are the four things that a well-structured class diagram should have ? Draw the class diagram for library management system.   8+7

2. Distinguish between component diagrams & deployments diagrams. State and explain the common modelling techniques of class diagrams.   7+8

3. (a) Aggregation is a specialized kind of association. Justify the validity of the statement.

   (b) Discuss about identification of key mechanisms in classification.   8+7

4. (a) Draw a sequence diagram for a validated user in an ATM system, every user has to be validated with a PIN number to make a transaction. A customer is allowed three times to validate card giving the correct pin number.

(b) Explain collaboration diagram with an example. 8+7

5. (a) Draw the activity diagram for online shopping cart.

(b) Discuss clearly about different representations used in interaction diagrams.

8+7

6. (a) What is UML ? Briefly discuss its purpose. Discuss clearly about different Building Blocks of UML.

(b) What is a class diagram ? What are the common properties and uses of class diagrams ? 8+7

7. (a) What are the similarities and differences between sequence and collaboration diagrams ?

(b) Explain briefly about the following terms :
(a) Stereotypes, (b) Tagged Values, (c) Constraints. 8+7

8. (a) Draw the activity diagram for the following scenario. Booking a ticket on the Indian Railways e-ticket system (IRCTC).

(b) What is the purpose of state chart diagram ? Explain the basic elements of a state chart diagram through an example. 8+7

Group – B

Answer any *one* question.   1×10

9. (a) What is a purpose of an actor in use case diagram ?

(b) When can fork and join be used in activity diagram ?   5+5

10. What are Interfaces ? What do you mean by a package ? Discuss in detail about modelling packages in UML.   2+2+6

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