Enrollment No._____

NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Engineering and Technology
Program/s: BTech-IT
Year: 3rd **Semester:** 5th
Examination: End Semester Examination
Examination year: December - 2021

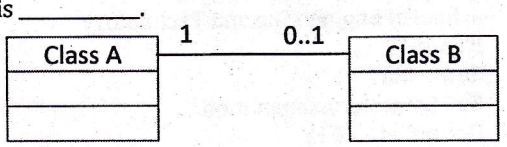
Course Code: IT311 **Course Name:** **System Modelling**
Date: 02/12/2021
Time: 08:30 am to 10:30 am

Total Marks: 40
Total Pages: 2

Instructions:

- *Write each answer on a new page.*
- *Use of a calculator is not permitted.*
- ** COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping*

Q. No.	Details	Marks	COs*	BTL#
Q.1	**Multiple Choice (Answer ALL).**	10		
	I. _____ class has no instance (Super/Derived/Root/Abstract)		CO4	BT1
	II. _____ diagram shows the exchange of messages among a set of objects over the time. (Sequence/Activity/Context/Class)		CO3	BT1
	III. In context diagram, number of processes is _____. (one/two/any)		CO2	BT1
	IV. In activity diagram, the flow can be sequential, branched, or concurrent. (True/False)		CO3	BT1
	V. Error message cannot be shown in sequence diagram. (True/False)		CO3	BT1, BT2
	VI. In DFD, _____ symbol is used to represent the process. (Circle/Rectangle/Square/Diamond/Arrow headed line)		CO2	BT1
	VII. An activity diagram can show both sequential and concurrent flow of control while the traditional flowchart cannot. (True/False)		CO3	BT1
	VIII. A road connects two cities. This is the example of _____ relationship. (Generalization, Aggregation, Composition, Association).		CO4	BT1, BT2
	IX. Movie class and Movie-Theater class have composition relationship. (True/False)		CO4	BT1, BT2
	X. A good module should have _____ coupling and _____ cohesion features. a. weak, weak b. weak, strong c. strong, weak d. strong, strong Select the right option.		CO4	BT1, BT2
Q.2	**Fill in the blank (Answer ALL).**	5		
	I. Context Diagram is used to show the relationship between the system and _____ entities.		CO2	BT1
	II. In class diagram, _____ symbol is used for the protected visibility.		CO4	BT1

	III. _____ diagram is very useful to model the parallel behavior of a business process. IV. _____ diagram can have more than one bull's eye. V. In the figure, the multiplicity of the association of Class B with respect to Class A is _____. 		CO3 CO3 CO4	BT1, BT2 BT1, BT2 BT1, BT2
Q.3	**Answer any FIVE.** I. a) Draw a Context diagram for Hotel Reservation System. Write two benefits of the Context diagram. II. b) Draw the notations and purposes of the following components in sequence diagram: Lifeline, Scope, Self-message, Message with constraint, Acknowledgement. III. Draw an activity diagram which describes return of a book followed by issuing a book in Library Management System. Indicate fork and join in the diagram. IV. Draw a sequence diagram to describe the placement of an order in an Online Garment Shopping System. V. Prepare an activity diagram that elaborates the details of logging into an email system. Note that entry of the user name and the password can occur in any order. VI. Define multiplicity. Describe different types of multiplicities with example diagram. VII. Describe the followings with example (any two): a) Swimlanes b) Object flows c) Coupling d) Cohesion	**5X5=25**	CO2 CO3 CO3 CO3 CO4 CO4	BT2, BT3, BT1 BT1, BT2 BT2, BT3, BT2, BT3, BT2, BT3, BT1, BT2 BT1

**********End of Question Paper**********