Registration no: ⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜

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MCA
MCC502

5th Semester Regular / Back Examination 2017-18
Object Oriented Analysis & Design with UML
BRANCH : MCA
Time: 03 Hours
Max Marks: 70
Q.CODE : B706
Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

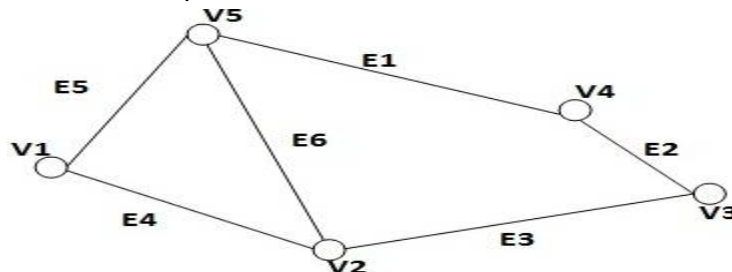**Q1**   **Answer the following questions:**   **(2 x 10)**

a) Describe Association Class.

b) What is Multiplicity?

c) What do you mean by Reification?

d) Differentiate between Bag and Sequence.

e) What is Qualified Association?

f) Explain role of Actor in use case diagram.

g) What is N-ary Associations?

h) What is Swim lane?

i) Describe Packages in UML.

j) What is Race Condition?

Q2 a) What is a class diagram? Draw a class model diagram for a windowing system.   **(5)**

b) What do you mean by Association Ends? Explain its properties.   **(5)**

Q3 a) Explain the difference between Aggregation and Composition in UML with suitable example.   **(5)**

b)   **(5)**

Prepare a class diagram to describe the above undirected graph. Your diagram should capture only the structure of the graph (i.e., connectivity) and need not be concerned with a layout such as location of vertices or length of edges.

Q4 **(a)** **(5)**

Prepare a class diagram from the object diagram represented in the above figure.

(b) Using your prepared class diagram for the previous question, prepare an object diagram for two triangles with a common side under the following conditions. **(5)**

A point belongs to exactly one polygon.

A point belongs to one or more polygons.

Q5 **a)** What is State Diagram? Draw the State diagram for a telephone line. **(5)**

b) Describe Metadata with suitable example. **(5)**

Q6 **a)** What is Use Case Model? Explain with an example of a vending machine, how use case modeling is used to describe its functional requirements, identify the actors and use cases for the example. **(5)**

b) What is Sequence Model and how it is helpful in designing object oriented modeling? **(5)**

Q7 **a)** Explain steps to construct a Domain Class Model. **(5)**

b) Describe the procedures involved in Class Design. **(5)**

Q8 **Write Short notes on (Any TWO) :** **(5 x 2)**

a) Testing of Software

b) Events in State Modeling

c) Difference between C++ and Java

d) Abstract Classes