POKHARA UNIVERSITY

Level: Bachelor Semester: Spring Year : 2018
Programme: BE Full Marks: 100
Course: Object Oriented Design and Modeling Through UML Pass Marks: 45
Time : 3hrs.

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

The figures in the margin indicate full marks.

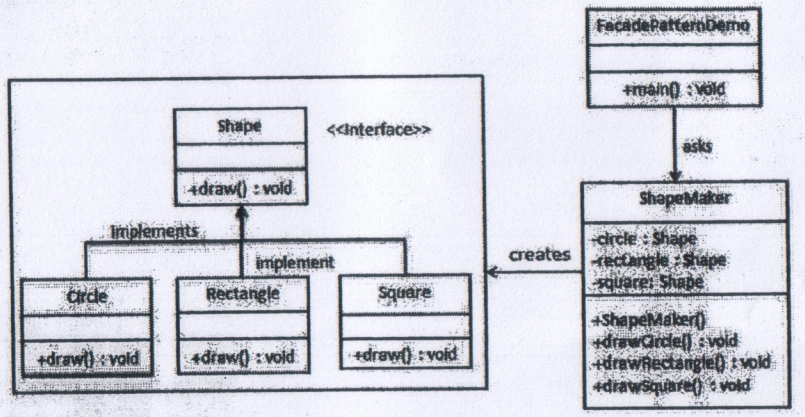
Attempt all the questions.

1. a) Why is it necessary to form abstractions? Explain the process of forming data and behavioural abstraction with suitable examples? 8
   b) Explain the difference between requirements specification and requirements elicitation? How are they performed? 7
2. a) Differentiate static and dynamic model used in software development life cycle with a concise diagram of each. 7
   b) **Yummy Online Food Ordering:** 8

In case of an Online Food Ordering System, the system allows customer to order food online. The system records the orders placed by the customers and generates a report at the end of every month that shows the order details. The system notes the customers who place orders more frequently and provides discount as per the published discount scheme. It also allows the system administrator to configure the system and print reports.

For the above mentioned scenario, come up with the potential use cases and elaborate them further by coming up with individual sequence diagrams for identifying the system events belonging to the individual scenario.

3. a) How do you come up with the Domain concept elements from the requirements specified by the customer? Your college is wanting to automate the manual tasks being conducted in the Exam section, come up with a domain model for this scenario by making the necessary assumptions. 7
   b) Explain system response, event and operation. Explain the purpose of SSD with an example. 8
4. a) How do the artifacts created during the Object Oriented Analysis phase of software development get converted into concrete design during the Object Oriented Design phase? Explain with an example. 7
   b) Differentiate between coupling and cohesion by drawing class diagrams of interconnected classes? When would you rather make use of the Information Expert Pattern than the Creator pattern for responsibility delegation to objects while designing an Object Oriented system? 8
5. a) Differentiate between sequence and communication diagrams with regards to their strength and weakness. Draw a diagram for mutually exclusive conditional path. 7
   b) What is class diagram? How class diagram can be drawn? Explain step by step methodology along with the notations used to create them. 8
6. a) On the basis of given figure, convert it to code using a complete source code. 8



   b) Differentiate between errors and exceptions. What features are provided by the UML for modeling exception handling? 7
7. Write short notes on: **(Any two)** 2×5
   a) Steps to create a domain model.
   b) Visibility of objects
   c) Creating class definitions from DCD's.