

Vidya Vikas Mandal's
Shree Damodar College of Commerce & Economics, Margao-Goa
SY BCA, Semester-III, Supplementary Examination August 2022
Object Oriented Concepts (CAC109)

Duration: 2 Hours

Max. Marks: 60

Instructions:

- i. All Questions are compulsory.
- ii. Start each question on a fresh page
- iii. Figures to the right indicate Full Marks.

- Q1)A. Define the following. **05 Marks**
- a) Instance of a Class
 - b) Run-time Polymorphism
 - c) 'extends' keyword
 - d) 'catch' block
 - e) Checked Exception
- Q1)B. Answer the following in about 30 to 40 words. **05 Marks**
- a) What is a Derived Attribute in a Class Diagram?
 - b) What happens when there is no constructor defined inside a class?
 - c) State the purpose of 'this' keyword.
 - d) Give one point of difference between throw and throws in Exception Handling.
 - e) Mention the purpose of try block in exception handling.
- Q2) Answer the following. **10 Marks**
- A) Mention any 2 benefits of Object-Oriented Programming. 2
 - B) Explain the concept of class and object using a suitable example. 3
 - C) Draw activity diagram of ordering groceries online. Mention suitable assumptions if any. 5
- Q3) Answer the following. **10 Marks**
- A) Explain the importance of destructor in object oriented programming. 2
 - B) What is a Ternary Association Relationship? Give an example. 3
 - C) Based on the information provided below, draw a Class Diagram showing appropriate relationships and multiplicity. 5
- In a Bus Ticket Booking System, a passenger can book bus tickets to a particular destination through an Agent. The bus can be an AC Luxury, Non-AC Luxury, AC Sleeper, Non-AC Sleeper and Semi-Luxury. Booking details include the date and time of travel, passenger details and total number of seats. The ticket booking payment can be done through cards, cash or mobile banking. A booked ticket can be canceled by the passenger, for which only 70% of the amount is refunded.*
- Q4) Answer the following. **10 Marks**
- A) Mention the various components of activity diagram. 2
 - B) Mention the purpose of Use Case, Class Diagram and Activity Diagram. 3
 - C) Draw a use-case diagram for Hospital Reception module. Identify the actors and 5

various use cases with appropriate relations.

Receptionist schedules patient's appointment and admission to the hospital, collects information from the patient by phone and/or upon patient's arrival to the hospital. For the patient that will stay in the hospital ("inpatient") she or he should have a bed allotted in a ward. Receptionists might also receive patient's payments, record them in a database and provide receipts, file insurance claims and medical reports.

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| Q5) | Answer the following. | 10 Marks |
| A) | Mention the use of new and this operator in java programming language. | 2 |
| B) | Demonstrate with an example how User-Defined Exception is defined and used. | 3 |
| C) | Explain parameterized constructor and copy constructor along with an example of each. | 5 |
| Q6) | Answer the following. | 10 Marks |
| A) | Give 2 points of difference between Method Overloading and Method Overriding. | 2 |
| B) | Give 3 differences between Abstract Class and Concrete Class | 3 |
| C) | What is Multiple Inheritance? How is it implemented in Java | 5 |
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