

**Fourth Semester B. E. (Computer Science and Engineering)
Examination**

OBJECT ORIENTED PROGRAMMING

Time : 3 Hours]

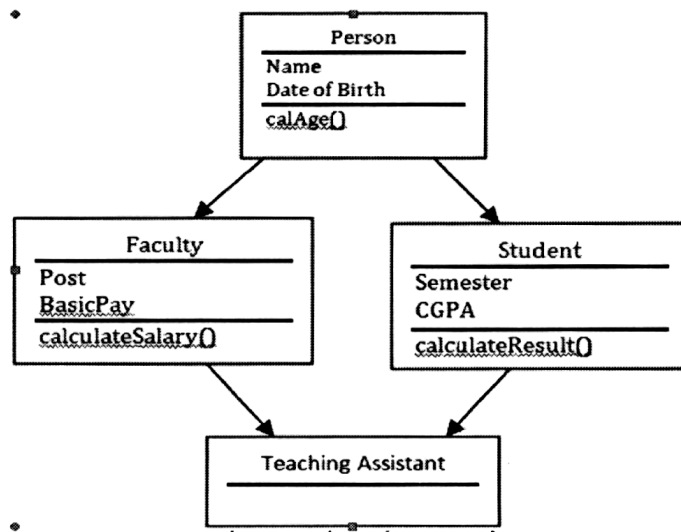
[Max. Marks : 60

Instructions to Candidates :—

- (1) Question no. **Two, Five** and **Six** are compulsory.
- (2) Internal choice is specified in rest of the questions.
- (3) Assume suitable data wherever necessary.

1. Solve any Two :—

- (A) Discuss about usage of constructor with an example. Also demonstrate the constructor overloading. 5 (CO 1)
- (B) Write a program to create a class Triples, with a method which takes input as an integer variable and triples the data. Similarly there is another method which takes input as employee object and triples the salary of employee. Consider class employee is already created with data members as employee_name and salary. Using the above example clarify on how java passes parameters to function. 5 (CO 1)
- (C) Design a class employee having employee_id and employee_name, salary and designation as data members. Define following
 - (a) Constructors
 - (b) A method to find and display all details of employee drawing salary more than 20000.
 - (c) Display method to display all details of employee and salary.
 - (d) main() to create array of class employee for storing these details of 10 employees. 5 (CO 1)



Design a set of classes to implement the above inheritance. Include proper constructors for initialization of data members, proper get methods and display methods in all the classes. Write proper main() to demonstrate all functionalities.

10 (CO 1)

3. Solve any **Two** :—

- (A) Explain generic methods with proper example ? Can we have generic interface ? Justify. 5 (CO 2)
- (B) Design a Comparator in Java to compare two employees based upon their age ? Demonstrate how this comparator can be used to sort the employee Array List. 5 (CO 2)
- (C) Create a class Account which stores basic information about user such as name, address, account number and balance. It provides functionalities for deposit, withdraw and display account information. In withdraw facility if the user tries to withdraw more money throw a user defined exception InsufficientFundException. Use proper exception handling techniques. Give proper working of exception class InsufficientFundException. 5 (CO 2)

4. Solve any **Two** :—

- (A) Design a class which takes directory name from the user. Include a method which counts number of files in the directories. Also specify how you would delete a certain file from the specified directory. 5 (CO 3)

- (B) Write a program to get the filename from user. Consider the file contains textual information. Rewrite the file in reverse order using byte based streams.
5 (CO 3)
- (C) State the two methods of creating a thread. What do you understand by synchronization among threads ?
5 (CO 3)
5. (A) Design a swing application with tabbed panes. Create 3 tabs. 1st tab should contain 3 checkbox and a button. When button is clicked it should display the selected items of checkbox. 2nd tab should contain 3 radio buttons and at a time only one radio button can be selected. 3rd tab should contain a table with columns as name and telephone number.
10 (CO 3)
6. (A) Consider a database for employee with Name, employee number, phone number, basic salary. Demonstrate how to insert 3 records in the database. Also construct a query to update salary of employee. Also display all the records of employee sorted on their salary in descending order.
6 (CO 4)
- (B) Discuss the following terms with example :—
- (i) Servlet request
 - (ii) Servlet response
 - (iii) get()
 - (iv) post()
- 4 (CO 4)