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UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR

END OF SEMESTER EXAMINATION
YEAR FOUR SEMESTER ONE EXAMINATION

FOR THE DEGREE OF
(INFORMATION TECHNOLOGY)

COURSE CODE: BIT 416

COURSE TITLE: ENTERPRISE APPLICATION
DEVELOPMENT

DATE: 18/12/2023 TIME: 2.00P.M- 4.00P.M

INSTRUCTIONS

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSORY) [30 MARKS]

- a) Differentiate between the following
- i) marshaling and un-marshaling (3mks)
 - ii) servlet and CGI program (3mks)
- b) i) Outline any three common characteristics that are used to assess a distribute system (3mks)
- ii) Give any three features of java (3mks)
- c) With an aid of a diagram briefly describe the following java environments
- i) JVM (3mks)
 - ii) JDK (3mks)
- d) Explain briefly the following container as used in middle tier layer.
- i) Web container (2mks)
 - ii) EJB container (2mks)
- e) i) State the any two types of JDBC statement interfaces (2mks)
- ii) Outline three characteristics of a java beans. (3mks)
- f) Give the three component of Remote method invocation (3mks)

QUESTION TWO [20 MARKS]

- a) Use the java code snippet that implements use of java beans below to answer the following questions;

```
Package model;
public class EmployeeBean implements Serializable{
    Private string firstName;
    Private string lastName;

    public EmployeeBean() {

    }
    Public EmployeeBean(String firstName, String lastName){
        This.firstname=firstName;
        This.lastname=lastName;
    }
}
```

- i. write a accessor code method for firstname property (3mks)
 - ii. Write a mutator code method for lastname property (3mks)
- b) Using a diagram explain the remote method invocation architecture (6mks)
- c) Outline the seven steps of JSP life cycle (8mks)

QUESTION THREE [20 MARKS]

```
public class myJDBC {
public static void main(string [] args){
1.Connection connection=DriverManager.getConnection(“jdbc:mysql://localhost:3306”);
2.Statement statement=connection.createStatement();
3.Resultset resultset=statment.executeQuery(“select *from table”);
4.While(resultset.next()){
System.out.println(resultset.getstring(“”);
}
}
}
```

- a) Using the java code snippet that implements use JDBC above ,give a brief explanation of code lines 1-4. (4mks)
- b) Give any four function of an object adapter as applied in Corba (4mks)
- c) Explain briefly the three tiers of J2EE architecture (6mks)
- d) Outline any six common characteristics of a distributed systems (6mks)

QUESTION FOUR [20 MARKS]

- a) Briefly explain the following types of JDBC interfaces
- i) driver ii)connection iii)statement (6mks)
- b) State the six steps one has to take when writing a RMI java application (6mks)
- c) Using a well labeled diagram, describe the COBRA architecture standard (8mks)

QUESTION FIVE [20 MARKS]

- a) Outline four merits of implementing SOA (4mks)
- b) Differentiate between a centralized and a distributed system (4mks)
- c) Briefly describe the three types of J2EE Enterprise beans (6mks)
- d) Using a diagram, briefly explain the life-cycle of a java servlet (6mks)