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Name of the Course : B.Sc. (Programme): DSE 1B
Name of the Paper : Internet Technology
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Duration : 2 Hours
Maximum Marks : 75
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Instructions for candidates:

Attempt any four questions out of six questions. All questions carry equal marks.

- Q1. Suppose you have an image “picture.gif”. Create 4 different clickable areas of “picture.gif” such that each clickable area links to different document. Write an HTML code to achieve the same.

Also, add CSS code to achieve the following:

add image “picture.gif”

add border of image “picture.gif”

- Q2. Write JavaScript code to find sum of series

$1/2+3/4+5/6+7/8+\dots$

Take input for number of terms in series in an input textbox. (e.g. - number of terms in the example above is 4). Also write validation script to check whether the input field is not blank and that only numeric values are entered.

Display an image on the webpage. If the mouse is clicked over the image, call a JavaScript function that prompts the user for his age.

Predict the output of the following JavaScript function given that function is called as func(18906). Justify your answer.

```
<script>
function func(num)
{
    var n = num.value
    var answer = 0;
    while ( n > 0) {
        var r = n%10
        if (n%2 == 0)
            answer = answer + r
        n = Math.floor(n/10)
    }
    alert("answer =" + answer );
}
</script>
```

- Q3. Find the error(s) in the given JAVA code, correct the code and give the output of the corrected code.

```
class A {
    public int i;
    private int j;
}
class B extends A {
    void show()
    {
        super.j = super.i + 1;
        System.out.println(super.i + " " + super.j);
    }
}
class simple {
    public static void main(String args[]);
    {
        B obj = new B();
        obj.i = 1;
        obj.j = 2;
        obj.show();
    }
}
```

Write a JDBC code to find the number of rows in a ResultSet.

When a SELECT query result just has one column of integer type then what would be the result of `resultSet.getInt(0)`. Suppose there are 25 rows in a ResultSet named `rs`. Currently the virtual cursor is positioned at the row No. 12. At which row the virtual cursor positions after the execution of each of the following statement. Assume the statements executed in sequence.

```
rs.relative(5);
```

```
rs.last();
```

```
rs.previous();
```

```
rs.absolute(12);
```

- Q4. Give the output of the following JAVA code:

```
public class Simple
{
    public static void main(String[] args)
```

```

    {
        A a = new B();
        B b = new B();
        System.out.println("Output is");
        System.out.println(a.c + " " + a.getValue()
            + " " + b.getValue() + " " + b.getSuperValue());
    }
}

class A
{
    protected char c = 'A';
    char getValue()
    {
        return c;
    }
}

class B extends A
{
    protected char c = 'B';
    char getValue()
    {
        return c;
    }
    char getSuperValue()
    {
        return super.c;
    }
}

```

How to invoke parent class's parameterized constructor from child class? Whether it is possible to refer static variable of parent class from child class using super keyword? Can we use both "**this**" and "**super**" in constructor?

Write a JAVA program to create an abstract class named Vehicle that contains two integers and an empty method named print Mileage(). Provide three classes named Car, Truck and Bus such that each one of the classes extends the class Vehicle. Each one of the class contains only the method print Mileage() that print the mileage of the given vehicle.

- Q5. Write a JSP program using JSTL that checks whether the first and last characters of a string match. The string should be entered by the user in a text box.

An HTML form contains the following input textbox.

```
<input type="text" name="emailaddr"> <br/>
```

In the following JSP statement, fill in the blanks with the appropriate value so that the variable 'email' is set with the value entered by the user in the textbox. Also fill appropriate scope so that the variable 'email' is available to all users of the application.

```
<c:set var="email" value="_____" scope="_____" />
```

Consider a relational schema with table **Student**(sno, name, age). Assume data source object is set using the following statement:

```
<sql:setDataSource var="ds"
  driver="com.mysql.jdbc.Driver"
  url="  jdbc:mysql://localhost/test"
  user="root" password="password" />
```

Write JSTL action statements for the following queries:

Retrieve the name of all students using SELECT statement.

Update name of student with sno=105 to "Rashee".

Q6. Write an HTML code to create form with following elements:

Label	Name	Type
Fname	txt1	Textbox
Mname	txt2	Textbox
Lname	txt3	Textbox
OK	btnOK	Button

Also create JSP page to display the concatenation of the entered values of HTML form with '-'(hypo).

What are the steps to be involved for the processing of a JSP page say, first.jsp in HTTP request response model?