



4th Sem (Regular)
WT & IT-2004
B.Tech[CS/IT/CSCE]

SPRING MID SEMESTER EXAMINATION-2020

4th Semester B.Tech & B.Tech Dual Degree

WEB TECHNOLOGY[IT-2004]

Time: 1hr 30min

Full Marks: 20

Answer any FOUR questions including question No.1 which is compulsory.

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable and all parts of a question should be answered at one place only.

1.

[5 x1=5]

(a) Consider the HTML table definition given below:

```
< table border=3>
<tr>
<td rowspan=2> ABC </td>
<td colspan=2> DEF </td>
</tr>
<tr>
<td>MNO</td>
<td rowspan=2> PQR</td>
</tr>
<tr> <td colspan=2> XYZ </td>
</tr>
</table>
```

How many number of rows in **each** column and the number of columns in **each** row present in the above table?

(b) What will be the output of the program?

```
class Count{
    int x=0;
    static int y=0;
    Count(){
        x++;
        y++;
        System.out.println(x+y);
    }
    public static void main(String args[]){
        Count c1=new Count();
        Count c2=new Count();
        Count c3=new Count();
    }
}
```

(c) Why main method should be declared as **static**?

(d) How does **Destructor** work in Java?

(e) Can Abstract Classes have constructors? Justify your answer

2.

[2 x 2.5]

(a) Create a html form using the following fields

Name	-textbox
Password	-password
DateOfBirth	-select option (three separate option for Date, month and year)
Gender	-radio button (form male and female)
Hobbies	-checkbox (minimum three hobbies)
Address	-textarea
Submit Button	-button
Reset Button	-button

(b) Explain the following **characteristics of Java**

A)Simple B)Architecture Neutral C)Portable D)Robust E) Platform Independent

3.

[2 x 2.5]

(a) Write a program in java to create a class Account having data members Bank Name,Account ID,Account Name,Balance and password, it contains member functions
Get_Account_Details()--to input account details, Display()-- to display account details,
With_Draw()--to withdraw money from the account, Deposit()--to deposit money into the account,
Validate_password()--to check 4 digit user entered password is valid or not for withdraw or deposit money into his/her account.Create object of the Account class and access all the functions of the class through it.

(b) Write a program in java to receive 5 integers as command line arguments and count number of prime numbers in them.

4.

[2 x 2.5]

(a) Illustrate the execution of constructors in multi-level inheritance with three Java classes – plate(length,width), box(length,width,height) and woodbox(length,width,height,thick).Create object for Woodbox, make use of **super constructor** to initialize the data members of base classes and display the data member values of each class.

(b) Write a program in Java having a class called Address with 2 methods called getAddress() and setAddress(). The Address class will have three child classes named HomeAddress, OfficeAddress and SchoolAddress having same functions as Address class.**use dynamic method dispatch concept to override the derived class methods** and display the address of home, office and school accordingly.

5.

[2 x 2.5]

(a) Write a Java program to find all pairs of elements in an array whose sum is equal to a specified number.**(Hint: No of elements and specified number are entered by the user using Scanner class)**

(b) Write a program in java to create a class complex having data members real and imaginary and member functions add(complex c2)-- used to add two complex numbers and display()-- used to display result of added complex numbers.

6. Write short notes on any two of the following.

[2 x 2.5]

(a) OOPs principles with real time examples

(b) Internal and External Style Sheet with example

(c) final keyword with respect to inheritance