



SPRING END SEMESTER EXAMINATION-2019

6th Semester B.Tech (Open Elective-I)

INTRODUCTION TO WEB TECHNOLOGY

IT-3042

(For 2017(L.E), 2016 & 2015 Admitted Batches)

Time: 3 Hours

Full Marks: 60

Answer any SIX questions.

Question paper consists of four sections-A, B, C, D.

Section A is compulsory.

Attempt minimum one question each from Sections B, C, D.

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.*

SECTION-A

1. Write short answer. [2 × 10]
 - (a) Write down the use of atext and vtext attributes of <body> tag with suitable example.
 - (b) Write down the HTML code segment to display the following content using superscript and subscript tags
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 - (c) Explain the syntax of CSS rule with suitable example.
 - (d) Write down output. If there is error, specify your justification.
class A {
 int x;
 A(int p,int q,int r){ x=p;x=q;x=r;}
 public static void main(Sting z[]){
 A b= new A(10,20,30);
 System.out.println(b.x);
 } }
(e) Explain the relationship among JVM, JRE and JDK.

- (f) How method overloading supports polymorphism? Explain with example.
- (g) Differentiate between length instance variable and length() method.
- (h) Write down two uses of final keyword.
- (i) Write down output. If there is error, specify your justification
- ```
class A {
 static int x=10;
 static void square(){
 System.out.println(x*x);}
 static void cube(){
 System.out.println(x*x*x);}
 public static void main(String z[]) { A a=new A();
 square();
 a.cube();
 } }
```
- (j) Write down the syntax of for each statement.

## SECTION- B

2. (a) Implement a Feedback Form using HTML and the form has the following details [4]
- |              |                                                                                     |
|--------------|-------------------------------------------------------------------------------------|
| Name         | : Text Field                                                                        |
| Roll No      | : Text Field                                                                        |
| Semester     | : Radio Button(2 <sup>nd</sup> /4 <sup>th</sup> /6 <sup>th</sup> /8 <sup>th</sup> ) |
| Subject Type | : Drop down list ( Core / Elective)                                                 |
| Subject Name | : Text Field                                                                        |
| Feedback     | : Text area                                                                         |
| Submit       | : Submit Button.                                                                    |
- The form data must be forwarded to a server program address (<http://localhost:8080/Feedback.java>) using post method.
- (b) Explain the percentage, pixel and decimal notations to implement frames using suitable example. [4]

3. (a) What makes java a robust, portable and secure language? Explain in detail. [4]
- (b) Implement a class Rational having data members numerator and denominator. Include appropriate constructors and following methods [4]
- (i) Rational add( Rational) : is used to add two rational objects.
- (ii) void show() : is used to display the rational object in numerator/denominator (for example 1/2) format.
- Write an application class Demo where the functionality of Rational class is tested.

### SECTION-C

4. (a) Write a java program to find the sum, average and largest integer of a single dimensional integer array. The array elements must be provided through the command line arguments. [4]
- (b) What do you mean by nested class? Explain the property of Inner class. Explain the restriction if the nested class is static. [4]
5. (a) Implement a class Employee having data members Name, Emp\_ID, Basic\_Salary and Gross\_Salary. Include appropriate constructors and a method find\_GrossSalary() which is used to calculate gross salary. Two classes TechEmp and NonTechEmp are derived from the class Employee. TechEmp has data members HRA and DA whereas NonTechEmp has data member Year\_Of\_Experienced. Include appropriate constructors and find\_GrossSalary() method is overridden. The gross salary for TechEmp is summation of basic salary, DA( 120% of basic) and HRA(15% of basic). The gross salary for NonTechEmp is multiplication of basic salary and years of experience. Write an application class Demo where the [4]



gross salary of TechEmp and NonTechEmp object is calculated using dynamic method dispatch.

- (b) Explain two constructors from String and StringBuffer class with examples. "String object is immutable", Explain. [4]
6. (a) What is an Exception? A java program throws two types of exceptions and one exception is derived from another exception. Then what is the rule to handle those exceptions. If the rule is violated, what is the consequence?.Explain. [4]
- (b) Implement a package SUMMATION having a class Number. The class has a data member value. Include appropriate constructors and a method is\_Even() which returns true if value is even otherwise false. Write an application class Demo where the above package is imported. Demo class is used to calculate the square for the even and cube for the odd number. [4]

### SECTION-D

7. (a) How abstraction is exhibited by stream class? Write an application class Demo which is used to display the content of file. [4]
- (b) What is the advantages of Collection framework in java. Compare the ArrayList class with the array [4]
8. (a) Explain how the hiding of class variable by local variable is prevented inside a method in java? [4]
- (b) Everything is an Object in java. But still primitive types are used .Explain any one benefit associated with primitive type over object. What is Unicode? Also write down one advantage of Unicode. [4]

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