Tribhuvan University
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN
2021

Bachelor in Computer Applications
Course Title: Web Technology
Code No: CACS205
Semester: III

Full Marks: 60
Pass Marks: 24
Time: 3 hours
Batch: 2020

Candidates are required to answer the questions in their own words as far as possible.

Group B

Attempt any SIX questions. [6×5 = 30]

2. Create the following table using the HTML elements. [5]

Magic Table		
8	7	80
20	40	
	25	50
60	90	30

3. What are the various font-related attributes in CSS? Explain with suitable example. [2+3]

4. How does Tier Technology function inside the architectural framework of a web application? [5]

5. How does a web server process and handle HTTP requests and responses with example? [5]

6. Create a server site script to use cookie variables for the login and logout process without using databases. [5]

7. Use server-site scripting to calculate the x^n using the data from two text boxes. [5]

8. What are the new form elements introduced in HTML5 and how do they differ from previous versions? [5]

Group C

Attempt any TWO questions. [2×10 = 20]

9. Given an XML document that contains a list of **products** with the following elements: **productname, category, price, and quantity**, write an XSLT stylesheet that: [2+2+2+2+2]

    a) Filters out any products that have a quantity less than 10

    b) Groups the remaining products by category and creates a new XML document with a new element called "category" that contains the products within that category as child elements.

    c) Within each category element, sorts the products by price in descending order.

    d) Transforms the element "productname" into an attribute of each product element.

    e) Add a new element called "total-price" to each product element, which contains the total price of the product (price * quantity)

10. Make a script for the server site to display the following data by reading from a database and saving any new values that the user has updated. Think about the specifications of your own database, if any.

```
┌─UpdateForm─────────────────────────────────────────┐
│  Choose ID : [1 ▾]                                  │
│  UserName :                                         │
│  ┌──────────────────────────┐                       │
│  │ Superuser                │                       │
│  └──────────────────────────┘                       │
│  Password :                                         │
│  ┌──────────────────────────┐                       │
│  │ ••••••••                 │                       │
│  └──────────────────────────┘                       │
│  Confirm Password :                                 │
│  ┌──────────────────────────┐                       │
│  │ ••••••••                 │                       │
│  └──────────────────────────┘                       │
│  Email :                                            │
│  ┌──────────────────────────┐                       │
│  │ admin@gmail.com          │                       │
│  └──────────────────────────┘                       │
│                                                     │
│  [ Update ]                                         │
│                                                     │
└─────────────────────────────────────────────────────┘
```
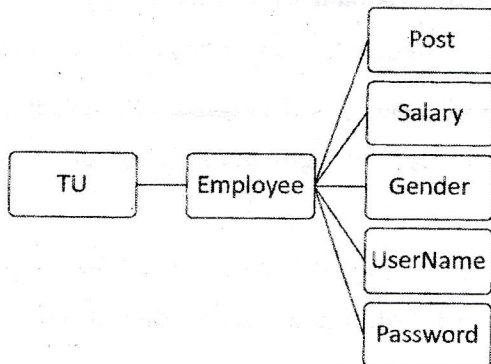
11. Make a well-formed XML document as per the diagram below, then use an appropriate XSD document to validate it in consideration with below restrictions. [2+2+2+2+2]

```
                              ┌──────────┐
                          ┌──│   Post   │
                          │   └──────────┘
                          │   ┌──────────┐
                          ├──│  Salary  │
                          │   └──────────┘
┌──────┐   ┌──────────┐   │   ┌──────────┐
│  TU  │──│ Employee │──┼──│  Gender  │
└──────┘   └──────────┘   │   └──────────┘
                          │   ┌──────────┐
                          ├──│ UserName │
                          │   └──────────┘
                          │   ┌──────────┐
                          └──│ Password │
                              └──────────┘
```

XSD Restrictions:

   a) The username must have a minimum of 8 characters.

   b) The character limit for posts is 5 to 8.

   c) The password must be 8 characters long and begin with Aa-Zz.

   d) The gender must be one of male, female, or other.

   e) The salary should range from Rs. 25,000 to Rs. 50,000.