GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

COURSE CURRICULUM
COURSE TITLE: INTERNET TECHNOLOGY
(Code: 3341604)

Diploma Programmes in which this course is offered	Semester in which offered
Information Technology	4th Semester

1.   RATIONALE

Internet technology is widely used client-server technology for development of applications in industry and commerce. This course provides students the requisite knowledge and skills of different internet technologies like, HTML, Cascading Style Sheets, VB Script, Active Server Pages 3.0 and Active-x Data Object to create dynamic Websites/ Web based Applications. This course will also serve as a pre requisite for the ASP.NET technology, which students may learn in the next semester as an elective course.

2.   COMPETENCY

The course content should be taught and implemented with the aim to develop different types of skills so that students are able to acquire following competency:

• **Develop commercial and real life web based application.**

3.   COURSE OUTCOMES

The theory should be taught and practical should be carried out in such a manner that students are able to acquire different learning out comes in cognitive, psychomotor and affective domain to demonstrate following course outcomes.
   i.   Explain the terminologies of Internet Technology.
  ii.   Design interactive webpage using basic concepts of the HTML and CSS.
 iii.   Explain concepts of Active Server Pages.
  iv.   Write server side logic and script using VB Script.
   v.   Apply methods and properties of various objects and components of ASP in dynamic website.
  vi.   Develop Dynamic real life website using the concept of ADO and ASP.

4.   Teaching and Examination Scheme

Teaching Scheme (In Hours)			Total Credits (L+T+P)	Examination Scheme				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE	PA	ESE	PA	
3	0	4	7	70	30	40	60	200

Legend: L-Lecture; **T** – Tutorial/Teacher Guided Theory Practice; **P** - Practical; **C** – Credit **ESE** - End Semester Examination; **PA** - Progressive Assessment.

5. COURSE DETAILS

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
Unit – I **Introduction to Internet technology**	1a. Explain Internet technology.	1.1 Introduction to Internet 1.2 History of Internet 1.3 Internet Service Provider 1.4 Client/Server Architecture 1.5 Domain Name System 1.6 Web Server

Unit – II
 	
 Basics of HTML
	2a. Create static webpage using HTML tags.	2.1 Introduction to HTML
		 2.2 Syntax – Tags and Attributes
		 2.3 Formatting Text
		 (Head and Body Tag ,Text Styles-Bold, Italic, Underline ; Fonts-color, size, face; Paragraph; Heading; List tags)
		 2.4 Image Tag
		 2.5 Hyper linking using Anchor Tag
		 2.6 Creating and Formatting Tables
		 2.7 Frames
		 2.8 HTML Form
		   2.8.1 Form Object
		   2.8.2 Form Elements and its methods, properties and events
		 (Text, Text Area, Password, Button, Radio, Checkbox, List box, Reset and Submit buttons)

	2b. Apply CSS into webpage.	2.9 Introducing CSS 2.10 CSS Types (Inline Style, Embedded Style, Linked Style)
Unit – III **Active Server Pages 3.0**	3a. Explain concepts of ASP.	3.1 Introduction to ASP 3.2 Benefits of ASP 3.3 Advantages of ASP over HTML 3.4 Using scripting language 3.5 Setting primary scripting language 3.6 Including other files

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
		3.7.1 Using virtual keyword and File keyword 3.7.2 Including Files 3.7 Transferring data using GET and POST methods 3.8 Introduction to IIS
Unit – IV **Server side coding with VBScript and XML**	4a. Use VBScript for server side coding in ASP.	4.1 VBScript Variables 4.2 Subroutines and Functions 4.3 Built-In Functions and Methods 4.4 String Handling functions 4.5 Logical Structures 4.5.1 If-then, Select Case 4.6.1 Boolean Logic AND, OR, XOR, NOT 4.7 Looping; For-Next, While-Wend, Do- While
	4b. Use XML and XSL script.	4.8 Introduction to XML 4.8.1 Difference between HTML and XML 4.8.2 Use of XML, elements, tags and attributes 4.9 Introduction to XSL 4.9.1 Use of XSL
Unit – V **ASP Objects and Components**	5a. Use different objects of ASP.	5.1 ASP Objects 5.2 Response Object 5.2.1 Sending text with response object and embedded quotes 5.2.2 Response. Cookies collection 5.2.3 Response.AddHeader method and Redirect method 5.2.4 Properties of the response object(Expires, Expires absolute) 5.2.5 Methods of the Response object (Clear, Create Object, HTML_ Encode, MapPath,URLEncode)

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
	5b. Transfer values from one ASP web form to other web form using methods of objects of ASP.	5.3 Request Object Collections 5.3.1 Request. Server Variables 5.3.2 Request. Cookies 5.3.3 Request.QueryString 5.3.4 HTML Forms 5.3.5 Request. Form 5.3.6 Request. Client Certificate
	5c. Use methods and properties of application and server objects of ASP.	5.4 Application and Server Objects 5.4.1 Application variables 5.4.2 Application Lock/Unlock methods 5.4.3 Server Objects properties and Methods (Script Timeout, HTML Encode, URL Encode, Create Object, Execute, Include directive, Transfer, MapPath,GetLastError)
	5d. Manage session using session objects properties and methods.	5.5 Session Object 5.5.1 SessionID Cookie 5.5.2 global.asa file - session. Timeout Property - session. Abandon Method 5.5.3 Session variables
	5e. Apply Adrotator and Browser capability components in ASP web page.	5.6 Browser Capabilities Component 5.7 Ad Rotator Component
Unit – VI **Accessing databases with ASP and ADO**	6a. Explain different objects of ADO.	6.1 What is ADO? 6.2 Connection Object 6.2.1 Creating connections with OLEdb and ODbc 6.2.2 Creating System DSN, FileDSN 6.2.3 Opening and Closing connections 6.3 Recordset Object (Cursors, Locks using recordset) 6.4 Disconnected Recordset 1.4 Field Object

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
	6b. Develop Database driven web application using ASP.	6.5 Command Object 6.6 Reading from, writing into and updating database.

6. SUGGESTED SPECIFICATION TABLE WITH HOURS & MARKS (THEORY)

Unit No.	Unit Title	Teaching Hours	R Level	U Level	A Level	Total Marks
I	Introduction to Internet technology	2	3	3	0	6
II	Basics of HTML and CSS	6	0	4	6	10
III	Active Server Pages 3.0	6	4	6	2	12
IV	Server side coding with VBScript and XML	8	2	4	8	14
V	ASP Objects and Components	10	4	4	6	14
VI	Accessing databases with ASP and ADO	10	4	4	6	14
	Total	**42**	**17**	**27**	**28**	**70**

Legends: R = Remember; U = Understand; A = Apply and above levels (Bloom's revised taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

7. SUGGESTED LIST OF EXERCISES/PRACTICALS

The practical/exercises should be properly designed and implemented with an attempt to develop different types of skills **(outcomes in psychomotor and affective domain)** so that students are able to acquire the competencies/programme outcomes. Following is the list of practical exercises for guidance.

*Note: Here only outcomes in psychomotor domain are listed as practical/exercises. However, if these practical/exercises are completed appropriately, they would also lead to development of certain outcomes in affective domain which would in turn lead to development of **Course Outcomes** related to affective domain. Thus over all development of **Programme Outcomes** (as given in a common list at the beginning of curriculum document for this programme) would be assured.*
Faculty should refer to that common list and should ensure that students also acquire outcomes in affective domain which are required for overall achievement of Programme Outcomes/Course Outcomes.

S. No.	Unit No.	Practical/Exercises (outcomes in psychomotor domain)	Hrs. required
1	II	Create webpage using text formatting tags of HTML.	02
2	II	Create webpage using table tags and list tags of HTML.	02
3	II	Create webpage using HTML Hyper linking	02
4	II	Create webpage to include image using HTML tag.	02

5	II	Create employee registration webpage using HTML form objects.	02
6	II	Apply style sheet in Web page.	03
7	IV	Create web page in which XML tags are used.	02
8	IV & V	Create web page to display simple text message using VBScript in ASP.	02
9	IV & V	Create web page to generate grade sheet of student using VBScript in ASP.	04
10	V	Create web page to demonstrate use of different ASP objects.	03
11	V	Create webpage to transfer data filled through various HTML form controls and collection of the same in ASP.	06
12	V	Create webpage to Send text with response object and embedded quotes in ASP.	02
13	V	Create webpage to Send text using AddHeader method of Response object in ASP.	02
14	V	Create webpage to Send text using Request method of Response object in ASP.	02
15	V	Create webpage to transfer data using Request. Cookie collection of in ASP.	02
16	V	Create webpage to transfer data using Request.QueryString collection of in ASP.	02
17	V	Create webpage for Student Registration and validate data using Request. Form collection in ASP.	02
18	V	Create webpage to demonstrate use of Browser Capability and AdRotator components in ASP.	02
19	VI	Create webpage to add, update, delete records form database using objects of ADO.	04
20	V & VI	Develop small module of any real life application using ASP and ADO.	08
Total			**56**

8. SUGGESTED LIST OF STUDENT ACTIVITIES

Following is the list of proposed student activities such as:
  i. Develop programs related with unit vise topics in computer laboratory.
 ii. Develop a module related to an application useful in real life.
iii. Presentation of module developed by students.

9. SPECIAL INSTRUCTIONAL STRATEGIES (if any)
 i. Sessions should be conducted in interactive mode by way of Demonstration using projector and PC
 ii. Exercise, practical carried out by Students should be closely observed and guided by faculty members.

10. SUGGESTED LEARNING RESOURCES

A)   List of Books

S. No.	Title of Book	Author	Publication
1.	Mastering Active Server Pages 3	A. Russell Jones	BPB Publication
2.	Practical ASP	Ivan Bayross	BPB Publication
3.	Web Enabled commercial application development using HTML, DHTML, JavaScript, Perl, CGI	Ivan Bayross	BPB Publication

B)   List of Major Equipment/ Instrument with Broad Specifications

i. Computer with adequate configuration to serve and run ASP based applications.

ii. Multimedia Projector

C) List of Software/Learning Websites

i. ASP Tutorial - W3Schools
   www.w3schools.com/asp/

ii. Classic ASP Tutorials & Articles - Web Wiz
    www.webwiz.co.uk › *Knowledgebase*

iii. HTML Tutorial - W3Schools
     www.w3schools.com/html/

iv. CSS Tutorial
    www.csstutorial.net/

v. VBScript Tutorial - Tutorials Point
   www.tutorialspoint.com/vbscript/index.htm

vi. ADO Tutorial - W3Schools
    www.w3schools.com/ADO/default.asp

11. COURSE CURRICULUM DEVELOPMENT COMMITTEE
Faculty Members from Polytechnics

- **Prof. Parvez Faruki**, Lecturer in Information Technology, Government Polytechnic, Ahmedabad
- **Prof. (Mrs.) Rikita D. Parekh**, Lecturer in Information Technology, Government Polytechnic for Girls, Ahmedabad

Co-ordinator and Faculty Members from NITTTR Bhopal

- **Dr. R. K. Kapoor**, Associate Professor, Dept. of Computer Engineering and Applications.
- **Dr. M. A. Rizvi**, Associate Professor, Dept. of Computer Engineering and Applications.