



PGDCA (Post Graduate Diploma in Computer Applications)
PGDCA Semester-II

Course Code	PS02CDCA51	Title of the Course	Multimedia Technology
Total Credits of the Course	4	Hours per Week	4

Course Objectives:	<ol style="list-style-type: none">1. To introduce students to the multimedia technology.2. To impart fundamental knowledge on working with graphics, audio and video.3. To introduce students to animation software tools.
--------------------	--

Course Content		
Unit	Description	Weightage* (%)
1.	Multimedia Technology - I <ul style="list-style-type: none">– Introduction to Multimedia with its applications– Multimedia facets– Multimedia hardware & software– Introduction of digital medium– Digital audio, multimedia texts & hypermedia	25
2.	Multimedia Technology - II <ul style="list-style-type: none">– Graphics– Animation: two-dimensional and three-dimensional animation– Digital video and basic concept for color display– Multimedia project design / development concepts– Multimedia authoring, characteristics of authoring tools, authoring methodologies and multimedia programming	25
3.	Working with Audio and Video <ul style="list-style-type: none">– Introduction digital audio, characteristic of digital audio, various audio file formats, application of digital audio, popular software for creating digital audio– Working with digital audio software : components, producing digital audio, various audio effect, mixing multiple audios, etc.– Introduction digital video, characteristic of digital video, various video file formats, application of digital video, popular software for creating digital video– Working with digital video software : components, producing digital video, various operations on digital video	25





4.	Animation Software Tool <ul style="list-style-type: none">– Introduction to animation software tool, examples of animation software tools– Application and features of animation software tool– Environment of tool : components, menus, canvas, toolbox, drawing facility, shapes, objects, texts, color– Creating simple animation, creating effective animation using layers, gradients, filters, distortions, transformations	25
----	---	----

Teaching-Learning Methodology	Blended learning approach incorporating traditional classroom teaching and online /ICT-based teaching practices.
--------------------------------------	--

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	understand multimedia technology.
2.	understand graphics, audio and video.
3.	understand animation software tools.

Suggested References:	
Sr. No.	References
1.	S. Gokul: Multimedia Magic, BPB Publication, 1998.
2.	Manuals of Audio & Video Software
3.	Tay Vaughan: Multimedia Making it Work , McGrawHill, Eight Edition, 2011.





4.	Prabhat K. Andeigh, Kiran Thakrar : Multimedia Systems Design, Pearson, 2015.
----	---





PGDCA (Post Graduate Diploma in Computer Applications)
PGDCA Semester-II

Course Code	PS02CDCA52	Title of the Course	Network Fundamentals
Total Credits of the Course	4	Hours per Week	4

Course Objectives:	To introduce students to <ul style="list-style-type: none">• data communication fundamentals.• protocol hierarchies, reference models and transmission techniques.• local network technology.• basics of the Internet.
--------------------	---

Course Content		
Unit	Description	Weightage* (%)
1.	Introduction And Data Communication Fundamentals <ul style="list-style-type: none">– Computer Networks – definition and advantages– Transmission Technology in Broadcast Networks and Point-to-Point Networks– Introduction to Local Area Networks, Metropolitan Area Networks, Wide Area Networks– Transmission Media – Guided and Unguided– The Theoretical basis for data communication	25
2.	Protocol Hierarchies, Reference Models and Transmission Techniques <ul style="list-style-type: none">– Protocol Hierarchies, Design Issues for the Layers– The OSI Reference Model– The TCP/IP Reference Model– Multiplexing– Circuit Switching, Message Switching, and Packet Switching Techniques	25
3.	Local Network Technology <ul style="list-style-type: none">- Local Area Network Topologies and Characteristics- Carrier Sense Multiple Access Protocols- The IEEE Standard 802.3 and Ethernet- Network devices	25





4.	The Internet <ul style="list-style-type: none">– Introduction to World Wide Web– Electronic Mail – Architecture and Services– Domain Name System(DNS), The DNS Name Space, Name Servers, URL– Introduction to Satellite Networks , Geosynchronous Satellites , Medium-orbit satellites, Low-Orbit Satellite	25
----	---	----

Teaching-Learning Methodology	Blended learning approach incorporating traditional classroom teaching and online /ICT-based teaching practices.
-------------------------------	--

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	understand data communication fundamentals.
2.	understand protocol hierarchies, reference models and transmission techniques.
3.	understand local network technology.
4.	understand basics of the Internet.

Suggested References:	
Sr. No.	References
1.	Tanenbaum A. S.: Computer Networks, 5th Edition, Prentice-Hall of India Pvt. Ltd., New Delhi, 2016.
2.	Forouzan B. A.: Data Communications and Networking, 4th Edition, Tata McGraw-Hill, 2017.





3.

Stallings W.: Data and Computer Communications, Pearson Education India; 9th Edition (2013).





PGDCA (Post Graduate Diploma in Computer Applications)
PGDCA Semester-II

Course Code	PS02CDCA53	Title of the Course	Object Technology
Total Credits of the Course	4	Hours per Week	4

Course Objectives:	To introduce students to <ul style="list-style-type: none">• object modeling and fundamentals of the Unified Modeling Language (UML).• basics of the Java programming language.• fundamental concepts related to classes, objects and methods.• inheritance, interfaces and exception handling.
--------------------	--

Course Content		
Unit	Description	Weightage* (%)
1.	Object Modeling <ul style="list-style-type: none">- Key concepts of Object Modeling- Introduction to UML, Types of UML diagrams - structural and behavioral- Structural UML Diagrams - Class diagram, Object diagram- Behavioral UML Diagrams – Use case diagram, Activity diagram, Sequence diagram	25
2.	Basic Java Programming Concepts <ul style="list-style-type: none">- Structure of Java Program- Concept of Bytecodes and platform independence- Primitive Data Types, Variable Names, Scope, Operators, Expressions- Control Flow Statements- Arrays	25
3.	Classes, Objects and Methods <ul style="list-style-type: none">- Class, Object, Object reference, Constructor, Constructor Overloading,- Method Overloading, Passing and Returning object form- Method, new operator, this and static keyword, finalize() method, Access- Control Modifiers, Nested class, Inner class	25
4.	Inheritance, Interfaces and Exception handling	25





	<ul style="list-style-type: none">- Use of Inheritance, Inheriting Data members and Methods, constructor in inheritance, Multilevel Inheritance- Creation and Implementation of an interface, Interface reference- Introduction to the Concept of Exception Handling	
--	--	--

Teaching-Learning Methodology	Blended learning approach incorporating traditional classroom teaching and online /ICT-based teaching practices.
-------------------------------	--

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	understand object modeling and fundamentals of Unified Modeling Language (UML).
2.	understand basics of the Java programming language.
3.	understand classes , objects and methods.
4.	understand inheritance, interfaces and exception handling.

Suggested References:	
Sr. No.	References
1.	Patrick Naughton and Herbert Schildt, The Complete Reference Java 2, Seventh, Tata McGraw Hill Pub., 2007
2.	Ram Baugh J., etc., Object Oriented Modeling and Design, Prentice Hall of India, 1996.
3.	Mary Campione, Kathy Walrath and Alison Huml, Java Tutorial, third edition, Addison Wesley Pub., 1998.





PGDCA (Post Graduate Diploma in Computer Applications)
PGDCA Semester-II

Course Code	PS02CDCA54	Title of the Course	The .NET Technology
Total Credits of the Course	4	Hours per Week	4

Course Objectives:	To introduce students to <ul style="list-style-type: none">• .NET Technology and its architecture.• basics of C#.NET.• Object Oriented Programming using C#.NET.• database programming using ADO.NET.• fundamentals of Web application development using ASP.NET.
--------------------	---

Course Content		
Unit	Description	Weightage* (%)
1.	The .NET Technology <ul style="list-style-type: none">- Introduction to .NET Framework- Architecture of .NET framework – BCL (Base Class Library), CLR (Common Language Runtime), etc.- Types of applications supported by .NET Technology- .NET Languages - introduction	25
2.	C#.NET-I <ul style="list-style-type: none">- C#.NET – Introduction and features- General structure of C#.NET program- User interface development using Windows Forms- C#.NET – basic data types, variable, constant- C#.NET – statements (conditional and looping)- Type conversion - Boxing and Unboxing	25
3.	C#.NET-II <ul style="list-style-type: none">- Class fundamentals, OOPS concepts- Arrays, Lists, Collections and iterating over them, Exception handling,- Database programming – ADO.NET (architecture, connected and disconnected mode)- Generating reports	25





4.	ASP.NET <ul style="list-style-type: none">- Introduction to ASP.NET- ASP.NET Web Application Project – introduction, creation- ASP.NET Web form - introduction, creating web forms- ASP.NET Page – layout, lifecycle- ASP.NET Controls - adding server controls to a Web Form, adding event procedures to Web Server Controls, Implementing code-behind pages- Creating Master Pages, themes and skins	25
----	--	----

Teaching-Learning Methodology	Blended learning approach incorporating traditional classroom teaching and online /ICT-based teaching practices.
--------------------------------------	--

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand .NET Technology and its architecture.
2.	Understand basics of C#.NET.
3.	Understand Object Oriented Programming using C#.NET.
4.	Understand database programming using ADO.NET.
5.	Understand fundamentals of web application development using ASP.NET.

Suggested References:	
Sr. No.	References





SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.25))
Syllabus with effect from the Academic Year 2021-2022

1.	C# 2010 Programming covers .NET 4.0, Black Book, Dreamtech Press.
2.	Beginning Microsoft Visual C# 2008, Wrox Publication.
3.	C# 4.0 in a Nutshell, Authors: Joseph Alabari & Ben Alabari, O'Reilly.
4.	Documentation of relevant software packages.





PGDCA (Post Graduate Diploma in Computer Applications)
PGDCA Semester-II

Course Code	PS02CDCA55	Title of the Course	Web Technology
Total Credits of the Course	4	Hours per Week	4

Course Objectives:	<ol style="list-style-type: none">1. To introduce students to Web browsers and basics of HTML2. To introduce students to Web page designing using HTML3. To introduce students to basics of JavaScript
--------------------	--

Course Content		
Unit	Description	Weightage* (%)
1.	Web Browsers and HTML Editors <ul style="list-style-type: none">- Introduction to web browsers, Client server technology- Basics of HTTP, HTML, URL and IP Addresses.- HTML editors (Macromedia Dreamviewer, Microsoft Visual studio, Net beans etc.) with their different styling tools and uses.- Creation of sample HTML document using different HTML editors.	25
2.	Web Page Designing-I <ul style="list-style-type: none">- HTML Generator- HTML Documentation, Tag, Links and Examples- Manipulating Header, footer, Colours, Comments, Alignment, Paragraph, Tab, Images and Pictures- Order and Unordered Lists, Nested Lists	25
3.	Web Page Designing-II <ul style="list-style-type: none">- Tables Formatting and Editing Features- Defining different Styles, In-line, Internal, External Style Sheets, Linking of Sheets in HTML Documents, Working with Multiple Styles.- Definition of Frames, Framesets, Nested Framesets- Action, Method, Enctype attributes of Forms, Drop down lists and examples	25
4.	JavaScript <ul style="list-style-type: none">- Introduction to JavaScript, uses and applications- Syntax, functions, comments, variables, operators with examples- Dates, string and array with example.	25





	- Case study (Creation of sample web site with JavaScript and DHTML)	
--	--	--

Teaching-Learning Methodology	Blended learning approach incorporating traditional classroom teaching and online /ICT-based teaching practices.
-------------------------------	--

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand Web browsers and basics of HTML.
2.	Understand Web page designing using HTML.
3.	Understand basics of JavaScript.

Suggested References:	
Sr. No.	References
1.	Xavier C : World Wide Web Design With HTML, Tata McGraw Hill Publication, 2000.
2.	Beginning JavaScript Fifth Edition by Jeremy McPeak and Paul Wilton, Wrox Publication, 2017.
3.	Douglas E Commerce: The Internet, PHI, Second Edition, May 2000.
4.	Manuals of Suitable Packages.





PGDCA (Post Graduate Diploma in Computer Applications)
PGDCA Semester-II

Course Code	PS02CDCA56	Title of the Course	Practicals
Total Credits of the Course	5	Hours per Week	10

Course Objectives:	<ol style="list-style-type: none">1. To enable students to apply knowledge of Object Oriented Programming using Java language.2. To enable students to apply knowledge of C#.NET and ASP.NET.3. To enable students to apply knowledge HTML and Javascript.
--------------------	--

Course Content	
Description	Weightage* (%)
Part-1 : Practical based on PS02CDCA53	30
Part-2 : Practical based on PS02CDCA54	35
Part-3 : Practical based on PS02CDCA55	35

Teaching-Learning Methodology	Hands on training and programming using computer.
-------------------------------	---

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	develop programs using Java programming language.
2.	develop window-based applications and web-based applications.





3.	develop website using HTML and JavaScript.
----	--

