



Re-Accredited B++ 2.86 CGPA by NAAC

VEER NARMAD SOUTH GUJARAT UNIVERSITY

University Campus, Udhna-Magdalla Road, SURAT - 395 007, Gujarat, India.

વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી

યુનિવર્સિટી કેમ્પસ, ઉદ્ધના-મગદલા રોડ, સુરત - ૩૯૫ ૦૦૭, ગુજરાત, ભારત.

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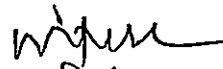
ક્રમાંક:ઓથો./પરિપત્ર/૧૦૦૭૯/૨૦૨૬
તા.૦૨/૦૬/૨૦૨૬

પ્રતિ,
વિભાગીય વડાશ્રી,
કોમ્પ્યુટર સાયન્સ વિભાગ,
વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી,
સુરત.

વિષય:-- Post Graduate Diploma in Computer Application (PGDCA) Sem-1 & 2 ના અભ્યાસક્રમ અંગે.

સુજાશ્રી,
સવિનય જણાવવાનું કે, શૈક્ષણિક વર્ષ ૨૦૨૬-૨૭ થી અમલમાં આવનાર Post Graduate Diploma in Computer Application (PGDCA) Sem.-1 & 2 નો પેટાસમિતિ દ્વારા તૈયાર કરવામાં આવેલ અભ્યાસક્રમ કોમ્પ્યુટર સાયન્સ વિષયની અભ્યાસ સમિતિની તા.૨૫/૦૩/૨૦૨૬ ની સભાના ઠરાવ ક્રમાંક:૧૧ થી મંજૂર કરી કોમ્પ્યુટર સાયન્સ ફેકલ્ટીને કરેલ ભલામણ કોમ્પ્યુટર સાયન્સ ફેકલ્ટીની તા.૨૮/૦૪/૨૦૨૬ ની સભાના ઠરાવ ક્રમાંક:૦૮ થી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ એકેડેમિક કાઉન્સિલની તા.૦૭/૦૫/૨૦૨૬ ની સભાના ઠરાવ ક્રમાંક:૫૧ થી મંજૂર કરેલ છે. જેનો અમલ કરવા આથી જાણ કરવામાં આવે છે.

બિડાણ: ઉપર મુજબ


કુલસચિવ

પ્રતિ,
(૧) ઈ.ચા.ડીનશ્રી, કોમ્પ્યુટર સાયન્સ વિદ્યાશાખા.
(૨) પરીક્ષા નિયામકશ્રી, પરીક્ષા વિભાગ, વીર નર્મદ દ. ગુ. યુનિવર્સિટી, સુરત.
.....તરફ જાણ તેમજ અમલ સારું.

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

Post Graduate Diploma in Computer Application

Name of Program	Post Graduate Diploma in Computer Application
Program Abbreviation	PGDCA
Duration	1 Year (Regular) – (2 Semesters)
Eligibility Criteria	Graduate degree in any faculty from a recognized university.
Pre-requisite	--
Medium of Instruction	English
Objective of Program	PGDCA programme is aimed towards building prospective career in the field of computer application. The programme is designed with the objective to provide knowledge and skills in the various aspects of computer applications and core programming. Students will also be trained in the latest trends of information technology.
Program Outcome (PO)	<p>PO1: Fundamental Knowledge Enrichment Program trains students with the core computer science and Information Technology (IT) knowledge domains. It also makes students capable of using core concepts in the conceptualization of domain specific application development.</p> <p>PO2: Critical Thinking Development The program develops the skills of critical thinking, problem solving, evaluative learning of various techniques, and understanding the essence of the problem.</p> <p>PO3: Advanced Emerging Technology Awareness The program trains students with the latest technologies that is being used in the industry. The continuous syllabi review adds value to the program for the outgoing students and make them ready to face challenging demands of the industry.</p> <p>PO4: Advanced Tools Usage The program teaches the students to apply the advanced tools to solve real world problems.</p> <p>PO5: Nurturing Project Planning and Management Capabilities The program trains students for designing and conceptualizing the software architecture, planning, and managing the product development process of complex and live software projects. It also makes students understand the decision making for selection of an appropriate project management capabilities.</p> <p>PO6: Real World Problem / Project Development Real world project provides the candidates exposure to work in the challenging and demanding environment of the industry. The project development training makes students employable and industry ready.</p> <p>PO7: Teamwork and Leadership Development Trains students to work in a team and also to take leadership of the of the project management team.</p>

<p>Program Specific Outcomes (PSO)</p>	<p>PSO1: Develop and strengthen fundamental core computing concepts required to analyse and solve practical problems efficiently.</p> <p>PSO2: Develop professional and entrepreneurial skills through independent logical and analytical thinking, teamwork, and leadership abilities.</p> <p>PSO3: Nurture the ability to investigate, design, and develop workable solutions for real-world computing problems.</p> <p>PSO4: Train students in self-learning techniques and equip them to handle challenging problem-solving situations effectively.</p> <p>PSO5: Enable students to use modern desktop applications, internet technologies, and web designing tools proficiently.</p> <p>PSO6: Inculcate a passion for continuous learning and professional development to build a successful career in the IT industry.</p> <p>PSO7: Develop competence in programming, database management, and software tools to create efficient and user-friendly applications.</p> <p>PSO8: Enhance ethical awareness, communication skills, and professional responsibility in the field of information technology.</p>								
<p>Mapping between Pos and PSOs</p>		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
PO1									
PO2									
PO3									
PO4									
PO5									
PO6									
PO7									

Structure of Program (Semester-I)

Course Code	Course Title	Marksheet Title in English	Teaching Hours/Week		Exam Duration		Credit		Internal Marks		External Marks		Total Makrs	
			TH	PR	TH	PR	TH	PR	TH	PR	TH	PR	TH	PR
101	Fundamentals of Computers and Introduction to Information Technology	Fundamentals of Computers and Introduction to Information Technology	4		3		4		30		70		100	
102	Database Management Systems	Database Management Systems	4		3		4		30		70		100	
103	Fundamentals of Python	Fundamentals of Python	4		3		4		30		70		100	
104	Introduction to Front End Technology	Introduction to Front End Technology	4		3		4		30		70		100	
105	Office Automation Tools	Office Automation Tools	4		3		4		30		70		100	
106	Practical – I	Practical - I		4		2		4		30		70		100
107	Practical – II	Practical – II		3		2		3		30		70		100
108	Practical – III	Practical – III		3		2		3		30		70		100

Structure of Program (Semester-II)

Course Code	Course Title	Marksheet Title in English	Teaching Hours/Week		Exam Duration		Credit		Internal Marks		External Marks		Total Makrs	
			TH	PR	TH	PR	TH	PR	TH	PR	TH	PR	TH	PR
201	Website development using WordPress	Website development using WordPress	4		3		4		30		70		100	
202	Open-Source Web based Technology (PHP/MySQL	Open-Source Web based Technology (PHP/MySQL	4		3		4		30		70		100	
203	Digital Marketing	Digital Marketing	4		3		4		30		70		100	
204	E-Commerce and Network Security Essentials	E-Commerce and Network Security Essentials	4		3		4		30		70		100	
205	Practical – IV	Practical – IV		4		2		4		30		70		100
206	Practical – V	Practical – V		3		2		3		30		70		100
207	Project	Project		--				8			200			200

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SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)								
Semester	I								
Course Code	101								
Course Title	Fundamentals of Computers and Introduction to Information Technology								
Credit	Theory:	4	Practical:	0	Total:	4			
Effective From	Academic Year : 2026-27								
Course Outcomes	<p>CO1 (Remembering / Understanding) Explain the basic organization of a computer system including hardware components, block diagram, input/output devices, primary memory, ports, and basic troubleshooting techniques.</p> <p>CO2 (Understanding / Applying) Describe and differentiate various secondary storage devices such as magnetic, optical, and portable storage devices, and explain their practical uses.</p> <p>CO3 (Understanding / Analyzing) Explain operating system concepts including history, types (single-user and multi-user), functions, file systems (FAT, NTFS), common file types, and BIOS/POST operations.</p> <p>CO4 (Applying) Demonstrate the use of GUI-based operating systems (Windows) by managing files and folders, using system components, configuring Control Panel settings, and performing system-level operations.</p> <p>CO5 (Understanding / Applying) Explain the fundamentals of the Internet including web browsers, URLs, web services (WWW, FTP, search engines), remote access technologies, and browser settings.</p> <p>CO6 (Applying / Analyzing) Use E-mail services effectively by composing, sending, replying, forwarding emails, managing attachments, handling spam, and distinguishing between offline mail clients (e.g., Outlook) and browser-based email services along with understanding email protocols (POP3, SMTP).</p>								
Mapping between Cos and PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
	CO1								
	CO2								
	CO3								
	CO4								
	CO5								
	CO6								
Course Content	<p>Unit 1. Basic Computer Organization</p> <p>1.1. Hardware parts of Computer</p> <p>1.2. Block diagram of Computer</p> <p>1.3. I/O devices: Keyboards, Monitors, Pointing Devices, Scanners, OMR, OCR, Printers</p> <p>1.4. Primary Storage: RAM, ROM (and its types), Cache Memory, Virtual Memory</p> <p>1.5. Ports: Serial, Parallel, PS2, USB</p> <p>1.6. Basic Troubleshooting</p>								

	<p>Unit 2. Secondary Storage</p> <ol style="list-style-type: none"> 2.1. Electro-Magnetic storage devices: FDD, HDD 2.2. Optical storage devices: CD, DVD, Blu-ray 2.3. Other portable storage devices <p>Unit 3. Operating System Concepts</p> <ol style="list-style-type: none"> 3.1. History and Evolution of OS 3.2. Need of OS 3.3. Single user & Multi-user OS 3.4. Elements and Functions of OS 3.5. File System (e.g., FAT, NTFS etc.) 3.6. Common File types (e.g., jpg, doc, txt, pdf etc.) 3.7. BIOS, POST Operation 3.8. Introduction to Windows and Windows User Interface 3.9. Windows versions, Wizard 3.10. Windows Components like Desktop, Start menu, My Computer, Recycle Bin, Notepad, Icons, Dialog Boxes & Toolbars etc. 3.11. Working with Files & Folders: File and Directory management, create, copy, delete, move files, Shortcuts, Types of files, File attributes, Windows Explorer 3.12. Setting Environment using Control Panel – Date & Time, Display, System, Printers, Audio, Network, Fonts, Users, Installing and uninstalling new Hardware & Software on your computer etc. 3.13. Searching Files, Computers <p>Unit 4. Introduction to Internet & E-mail</p> <ol style="list-style-type: none"> 4.1. What is Internet? 4.2. Web Browsers and URL 4.3. Internet Settings, Browser Settings 4.4. Web Services like www, ftp, e-mail, chat, search engine etc. 4.5. Concept of Telnet, Remote Desktop 4.6. Basics of E-mail <ol style="list-style-type: none"> 4.6.1. What is an Electronic Mail? 4.6.2. Email Addressing 4.6.3. Mailbox: Inbox and Outbox 4.6.4. Composing and sending a new E-mail 4.6.5. Replying, Forwarding an E-mail message 4.6.6. Sorting and Searching emails 4.6.7. Mail Attachments 4.6.8. Using Address book 4.6.9. Handling SPAM 4.6.10. E-mail protocols like POP3, SMTP 4.6.11. Difference between Offline Mail Client (Outlook) and Browser based E-mail services
<p>Reference Books</p>	<ol style="list-style-type: none"> 1 Fundamentals of Computers – Pradeep K. Sinha & Priti Sinha (8th Edition) — BPB (Good foundational book updated with recent technologies) 2 Fundamentals of Computers – V. Rajaraman — PHI (classic & standards textbook covering basics well) 3 Computer Fundamentals – Reema Thareja — Oxford University Press (modern textbook covering hardware, OS, Internet basics) 4 Operating System Concepts – Abraham Silberschatz, Peter Galvin & Greg Gagne — Wiley (definitive OS textbook with updated editions) 5 Understanding Operating Systems – Ann McHoes & Ida Flynn — Cengage (good for OS fundamentals and practical examples) 6 Computers and Common Operating Systems – Satish Jain — BPB (concise and practical for Windows & general OS topics)

	<p>7 Code: The Hidden Language of Computer Hardware and Software – Charles Petzold — Microsoft Press (excellent for understanding hardware & computer workings)</p> <p>8 How Computers Work – Ron White — Techmedia (good visual and intuitive guide to PC architecture & devices)</p> <p>9 Peter Norton’s Introduction to Computers – Peter Norton — McGraw Hill (widely used for basic computing & practical understanding)</p> <p>10 The Complete Reference: Windows (Latest Edition) – Name varies by edition — McGraw Hill / BPB (covers Windows GUI, UI components, system management)</p>
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	Internal Assessment : <u>30</u> Marks External Assessment : <u>70</u> Marks

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)								
Semester	I								
Course Code	102								
Course Title	Database Management Systems								
Credit	Theory:	4	Practical:	0	Total:	4			
Effective From	Academic Year : 202-27								
Course Outcomes	<p>CO1 (Remembering / Understanding) Explain the fundamental concepts of database systems including database structure, schema, instance, records, fields, and the purpose of DBMS.</p> <p>CO2 (Understanding / Applying) Describe and apply various integrity constraints such as domain constraints, NULL/NOT NULL, key constraints (primary, unique), and referential integrity in relational databases.</p> <p>CO3 (Analyzing) Analyze different types of keys (super, candidate, primary, unique) and apply business rule constraints to maintain data consistency.</p> <p>CO4 (Analyzing / Applying) Apply functional dependencies to perform normalization of relational databases up to Third Normal Form (3NF).</p> <p>CO5 (Applying) Create and manage databases and tables using SQL Data Definition Language (DDL) statements such as CREATE, ALTER, and DROP.</p> <p>CO6 (Applying / Analyzing) Construct and execute SQL Data Manipulation Language (DML) queries including SELECT with clauses, built-in and aggregate functions, and joins to retrieve and manipulate data from single and multiple tables.</p>								
Mapping between Cos and PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
	CO1								
	CO2								
	CO3								
	CO4								
	CO5								
	CO6								
Course Content	<p>Unit 1. Basic Concepts of Database Management System</p> <p>1.1 Fundamental concepts of databases</p> <p>1.2 Purpose of database system</p> <p>1.3 Structure of database – instance, schema, record, fields</p> <p>Unit 2. Integrity Constraints</p> <p>2.1. Domain Constraints</p> <p>2.2. NULL & NOT NULL constraint</p> <p>2.3. Key Constraints</p> <p>2.3.1. Concepts of Key: Super, Candidate, Primary, Unique</p> <p>2.3.2. Defining Key constraints - Primary key and Unique key</p> <p>2.4. Referential Integrity Constraints & foreign key</p> <p>2.5. Introduction to Constraints defining Business Rules</p>								

	<p>Unit 3. Relational Database - Normalization</p> <p>3.1. Functional Dependencies</p> <p>3.1.1. Trivial Functional Dependencies</p> <p>3.1.2. Partial and Full Functional Dependencies</p> <p>3.1.3. Transitive Functional Dependencies</p> <p>3.2. Need for Normalization</p> <p>3.3. Normalization using functional dependencies - up to 3NF</p> <p>Unit 4. SQL Statements</p> <p>4.1. Working with databases and tables.</p> <p>4.2. Data types, conventions, and terminology</p> <p>4.3. DDL statements - CREATE TABLE, ALTER TABLE, DROP TABLE</p> <p>4.4 DML statements- INSERT, UPDATE, DELETE, TRUNCATE</p> <p>4.5 SELECT Statement</p> <p>4.5.1 Clauses of SELECT Statement</p> <p>4.5.2 Built-in function and aggregate functions</p> <p>4.5.3 Querying multiple tables using join</p>
Reference Books	<ol style="list-style-type: none"> 1 Database System Concepts, 7th Edition, Abraham Silberschatz, Henry F. Korth, S. Sudarshan, McGraw-Hill Education, ISBN: 978-0078022159, 2019. 2 An Introduction to Database Systems, 8th Edition, C. J. Date, Pearson Education, ISBN: 978-0321197849, 2003. 3 Database Systems: A Practical Approach to Design, Implementation and Management, 6th Edition, Thomas Connolly, Carolyn Begg, Pearson Education, ISBN: 978-0132943260, 2014. 4 Fundamentals of Database Systems, 7th Edition, Ramez Elmasri, Shamkant B. Navathe, Pearson Education, ISBN: 978-0133970777, 2016. 5 Database Management Systems, 3rd Edition, Raghuram Ramakrishnan, Johannes Gehrke, McGraw-Hill Education, ISBN: 978-0072465631, 2003. 6 Learning SQL, 3rd Edition, Alan Beaulieu, O'Reilly Media, ISBN: 978-1492057611, 2020. 7 SQL: The Complete Reference, 3rd Edition, James R. Groff, Paul N. Weinberg, McGraw-Hill Education, ISBN: 978-0071498500, 2010. 8 Murach's SQL Server for Developers, 2nd Edition, Bryan Syverson, Joel Murach, Mike Murach & Associates, ISBN: 978-1943872367, 2019. 9 Microsoft Access 2019 Bible, Michael Alexander, Richard Kusleika, Wiley, ISBN: 978-1119514787, 2019. 10 Database Design for Mere Mortals, 3rd Edition, Michael J. Hernandez, Addison-Wesley Professional, ISBN: 978-0321884497, 2013.
Teaching Methodology	Class work, Discussion, Self-Study, Seminars and/or Assignment
Evaluation Method	Internal Assessment : <u>30</u> Marks External Assessment : <u>70</u> Marks

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)								
Semester	I								
Course Code	103								
Course Title	Python Programming								
Credit	Theory:	4	Practical:	0	Total:			4	
Effective From	Academic Year : 2028-27								
Course Outcomes	<p>CO1 (Remembering / Understanding) Explain the fundamental features of Python, including identifiers, operators, data types, and input/output operations using the Python development environment (IDLE).</p> <p>CO2 (Applying) Develop Python programs using control structures such as conditional statements and loops to implement logical decision-making and iterative processes.</p> <p>CO3 (Applying / Analyzing) Design and implement user-defined functions in Python using various argument types, return values, scope rules, lambda expressions, recursion, and built-in functions.</p> <p>CO4 (Applying) Create and use Python modules, including importing standard modules such as date and time for solving real-world programming tasks.</p> <p>CO5 (Applying / Analyzing) Implement exception handling mechanisms in Python using try, except, finally, and raise statements to manage runtime errors effectively.</p> <p>CO6 (Applying / Evaluating) Utilize the NumPy library to create and manipulate arrays, perform indexing, slicing, broadcasting, and apply mathematical and matrix operations for numerical computing.</p>								
Mapping between Cos and PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
	CO1								
	CO2								
	CO3								
	CO4								
	CO5								
	CO6								
Course Content	<p>Unit 1. Fundamentals of Python</p> <p>1.1. Features of Python</p> <p>1.2. Python's Integrated Development and Learning Environment (IDLE)</p> <p>1.3. Python identifiers</p> <p>1.4. Python Operators</p> <p>1.5. Python Datatypes</p> <p>1.5.1. Numeric: integer, float, complex</p> <p>1.5.2. Sequence: list, tuple, range</p> <p>1.5.3. Sets</p> <p>1.5.4. Texts</p>								

	<p>1.5.5.Iterator 1.5.6.Mapping: dictionary 1.6. Input/Output in Python</p> <p>Unit 2. Program Logic</p> <p>2.1. Control Structures 2.1.1.If, if..else, nested if, if...elif...else, shorthand if, shorthand if..else 2.1.2.while loop 2.1.3.for loop 2.1.4.break, continue, pass</p> <p>2.2. Functions in Python 2.2.1.Function declaration 2.2.2.Passing arguments to function 2.2.3.Return values 2.2.4.Variable scope and name space 2.2.5.Lambda function 2.2.6.Recursive function 2.2.7.Built-in functions</p> <p>Unit 3. Modules & Exception Handling</p> <p>3.1. Creation of module 3.2. Importing a module 3.3. Date & time module 3.4. Exception Handling 3.4.1 try, catch, finally 3.4.2 Multiple error handling: except 3.4.3 Throwing a particular error: raise</p> <p>Unit 4. NumPy Package</p> <p>4.1 Installing NumPy 4.2 NumPy Array: dtype, shape, reshape, ndim, itemsize, empty, zeros, ones, fromiter, arrange, linspace 4.3 Indexing and slicing, broadcasting 4.4 Array manipulation: changing shapes, transpose, changing dimension, joining, and splitting arrays, adding and removing elements 4.5 Mathematical functions and matrix library</p>
Reference Books	<ol style="list-style-type: none"> 1 Python Crash Course, 3rd Edition, Eric Matthes, No Starch Press, ISBN: 978-1593279288, 2024. <i>Beginner-friendly, hands-on introduction to Python and programming fundamentals.</i> 2 Learning Python, 6th Edition, Mark Lutz, O'Reilly Media, ISBN: 978-1449355739, 2013 (latest reprints). <i>Comprehensive in-depth Python coverage — ideal for fundamentals and advanced topics.</i> 3 Fluent Python, 2nd Edition, Luciano Ramalho, O'Reilly Media, ISBN: 978-1492056355, 2022. <i>Modern Python best practices and advanced features.</i> 4 Python Programming: An Introduction to Computer Science, 3rd Edition, John Zelle, Franklin, Beedle & Associates, ISBN: 978-1590282410, 2017. <i>Great for fundamental concepts and logic building.</i> 5 Automate the Boring Stuff with Python, 2nd Edition, Al Sweigart, No Starch Press, ISBN: 978-1593279929, 2019. <i>Practical applications and scripting with Python.</i> 6 Python Cookbook, 3rd Edition, David Beazley & Brian K. Jones, O'Reilly Media, ISBN: 978-1449340377, 2013 (updated reprints). <i>Recipes for real-world Python tasks and problem solving.</i>

	<p>7 Effective Python: 90 Specific Ways to Write Better Python, 2nd Edition, Brett Slatkin, Addison-Wesley Professional, ISBN: 978-0134853987, 2019. <i>Guidance on writing clean, efficient, Pythonic code.</i></p> <p>8 Programming Python, 4th Edition, Mark Lutz, O'Reilly Media, ISBN: 978-0596158101, 2010 (reprinted editions). <i>Larger Python applications and practical development topics.</i></p> <p>9 NumPy Beginner's Guide, 3rd Edition, Ivan Idris, Apress, ISBN: 978-1484240544, 2015. <i>Focused coverage of NumPy for numerical computing.</i></p> <p>10 Python for Data Analysis, 2nd Edition, Wes McKinney, O'Reilly Media, ISBN: 978-1491957660, 2017. <i>Data manipulation and analysis with NumPy and pandas (great extension on numerical computing).</i></p>
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	Internal Assessment : <u> 30 </u> Marks External Assessment : <u> 70 </u> Marks

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SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)								
Semester	I								
Course Code	104								
Course Title	Front-end Technologies								
Credit	Theory:	4	Practical:	0	Total:	4			
Effective From	Academic Year : 202-27								
Course Outcomes	<p>CO1 (Remembering / Understanding) Explain the fundamentals of web technologies including basic HTML tags, HTML forms, and the structure of web pages.</p> <p>CO2 (Applying) Develop interactive web pages using HTML5 features such as new elements, form controls, canvas, audio/video, web storage, geolocation, and HTML5 APIs.</p> <p>CO3 (Applying) Design visually appealing web pages using CSS3 concepts including selectors, text and font effects, colors, gradients, backgrounds, borders, box effects, and media embedding.</p> <p>CO4 (Applying / Analyzing) Implement client-side scripting using JavaScript to create dynamic web pages, perform form validation, and manipulate web content using DOM.</p> <p>CO5 (Understanding / Applying) Explain and apply Bootstrap framework concepts to develop responsive web pages using grid system, typography, forms, tables, buttons, images, and utilities.</p> <p>CO6 (Applying / Evaluating) Utilize Bootstrap components such as navigation bars, dropdowns, button groups, input groups, pagination, and other UI elements to build responsive and user-friendly web applications.</p>								
Mapping between Cos and PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
	CO1								
	CO2								
	CO3								
	CO4								
	CO5								
	CO6								
Course Content	<p>Unit 1. Fundamentals of Web Technology</p> <p>1.1. HTML</p> <p>1.1.1. Basic HTML tags</p> <p>1.1.2. HTML Forms</p> <p>1.2. HTML5</p> <p>1.2.1. HTML5 new elements</p> <p>1.2.2. HTML5 Form elements</p> <p>1.2.3. HTML5 Attributes</p> <p>1.2.4. Canvas</p> <p>1.2.5. Video and Audio</p>								

	<p>1.2.6. Web storage 1.2.7. Geolocation 1.2.8. HTML 5 APIs</p> <p>Unit 2. CSS3</p> <p>2.1. Introduction to CSS3 2.2. Selectors and Classes 2.3. Font and Text effect 2.4. Colors, Gradients, Background Images, and Masks 2.5. Border and Box effects etc. 2.6. Embedding Media</p> <p>Unit 3. JavaScript</p> <p>3.1. Fundamentals of JavaScript 3.2. Syntax of JavaScript 3.3. Use of JavaScript in HTML 3.4. Validation using JavaScript 3.5. DOM</p> <p>Unit 4: Responsive Web Design with Bootstrap</p> <p>4.1 Introduction to Bootstrap</p> <p>4.1.1 What is Bootstrap 4.1.2 Responsive Web Design Concepts 4.1.3 Features and Advantages of Bootstrap 4.1.4 Environment Setup and Integration</p> <p>4.2 Bootstrap Layout and Utilities</p> <p>4.2.1 Grid System 4.2.2 Typography 4.2.3 Tables, Forms, Buttons, Images 4.2.4 Responsive Utilities</p> <p>4.3 Bootstrap Components</p> <p>4.3.1 Introduction to Components 4.3.2 Navigation, Navbar 4.3.3 Dropdowns and Button Groups 4.3.4 Pagination and Breadcrumbs 4.3.5 Cards and Modals 4.3.6 Alerts and Toasts</p>
Reference Books	<ol style="list-style-type: none"> HTML and CSS: Design and Build Websites, 1st Edition, Jon Duckett, Wiley, ISBN: 978-1118008188, 2011. <i>Visual and beginner-friendly introduction to HTML and CSS.</i> Learning Web Design: A Beginner’s Guide, 5th Edition, Jennifer Niederst Robbins, O’Reilly Media, ISBN: 978-1491960202, 2018. <i>Comprehensive guide covering HTML, CSS, and basic JavaScript.</i> Web Design with HTML, CSS, JavaScript and jQuery, 5th Edition, Jon Duckett, Wiley, ISBN: 978-1118907443, 2019. <i>Modern and practical book integrating core web technologies.</i> HTML5 and CSS3, 4th Edition, Florencia Carreno & Rob Larsen, Cengage Learning, ISBN: 978-1337408209, 2015. <i>Focus on HTML5 and CSS3 features with examples.</i> JavaScript: The Definitive Guide, 7th Edition, David Flanagan, O’Reilly Media, ISBN: 978-1491952023, 2020. <i>In-depth reference for JavaScript language and DOM.</i> Eloquent JavaScript: A Modern Introduction to Programming, 3rd Edition, Marijn Haverbeke, No Starch Press, ISBN: 978-1593279509, 2018. <i>Modern conceptual introduction to JavaScript programming.</i>

	<p>7. Professional Bootstrap 5, 1st Edition, Alan Forbes, Packt Publishing, ISBN: 978-1800566374, 2021. <i>Comprehensive guide on Bootstrap framework and responsive design.</i></p> <p>8. Bootstrap 5 Quick Start: Responsive Web Development, 1st Edition, Jacob Lett, Packt Publishing, ISBN: 978-1801078127, 2021. <i>Hands-on resource for practical Bootstrap 5 development.</i></p> <p>9. Modern HTML & CSS From The Beginning (Practical Guide) – <i>Although originally an online text, companion books and e-pub editions are commonly referenced</i> — Various Authors, 2021. <i>Updated resource focusing on modern HTML5 and CSS3 features.</i></p> <p>10. Designing with Web Standards, 3rd Edition, Jeffrey Zeldman & Ethan Marcotte, New Riders, ISBN: 978-0321616956, 2009 (Latest print reprints available). <i>Standards-based approach to modern web design.</i></p>
Teaching Methodology	Class work, Discussion, Self-Study, Seminars and/or Assignment
Evaluation Method	Internal Assessment : <u> 30 </u> Marks External Assessment : <u> 70 </u> Marks

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)									
Semester	I									
Course Code	105									
Course Title	Office Automation Tools									
Credit	Theory:	4	Practical:	0	Total:				4	
Effective From	Academic Year : 2026-27									
Course Outcomes	<p>CO1: Explain fundamental aspects of the MS Office suite and it's advantages to the students</p> <p>CO2: Train students about word processing such as formatting, tables, Macro, Mail Merge etc. using MS Word..</p> <p>CO3: Train students about concepts like data formatting, conditional formatting, charts etc. using MS Excel.</p> <p>CO4: Explain and train students about Professional Presentation with various tools like Animation, adding graphics and sound using MS PowerPoint.</p> <p>CO5: Expose the students to the various data formatting, processing and presentation technology and real-world use of it.</p> <p>CO6: After studying the course, students will be able to work with office suite and also understand about the important features of word processing software, spreadsheet software and presentation software.</p>									
Mapping between Cos and PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
	CO1									
	CO2									
	CO3									
	CO4									
	CO5									
	CO6									
Course Content	<p>Unit 1. Introduction to Office Suite</p> <p>1.1. Features and uses</p> <p>1.2. Word-processing, Spreadsheet, Presentation, graphics</p> <p>Unit 2. Word-processing</p> <p>2.1. Working with Word-processing</p> <p>2.2. Menus & Commands, Shortcut Menus, Toolbars</p> <p>2.3. Templates, Creating a New Document</p> <p>2.4. Document Views and layouts</p> <p>2.5. Working with –Styles</p> <p>2.6. Headers & Footers</p> <p>2.7. Text, Paragraph, Page Formatting</p> <p>2.8. Text Attributes, Text Editing, Text Enhancements</p> <p>2.9. Bullets & Numbering: Bulleted, Numbered & Multilevel List</p> <p>2.10. Format Painter and its use</p> <p>2.11. Tabs & Indents</p> <p>2.12. Auto formatting, Auto text, Autocorrect, Auto complete</p> <p>2.13. Insert page numbers, symbols, images, files etc.</p> <p>2.14. Insert Table of Contents, Footnote, Endnote, Citation, Cross Reference etc.</p>									

- 2.15. Find & Replace
- 2.16. Spell Check & Grammar, Thesaurus
- 2.17. Tables
 - 2.17.1. Create Tables
 - 2.17.2. Add, Delete, Insert, Merge Rows and Columns
 - 2.17.3. Convert Text to Table and Table to Text
 - 2.17.4. Borders and Shading
- 2.18. Margins & Space management in Document
- 2.19. Adding References and Graphics
- 2.20. Mail Merge
 - 2.20.1. Letters, Envelopes, Mailing Labels

Unit 3. Spreadsheet

- 3.1. Concepts of Workbook & Worksheets
- 3.2. Using Wizards
- 3.3. Different Views of Worksheets
- 3.4. Using different features with Data, Cell and Text
- 3.5. Cell Markers
- 3.6. Working with Data & Ranges, Various Data Types, Name a range of cells
- 3.7. Cell Formatting, Conditional Formatting, Borders & Shading, Row Height, Column Width and other Format features
- 3.8. Addressing and its types (Absolute, Relative)
- 3.9. Series, Fill series of different types
- 3.10. Column & Row Freezing, Labels, Hiding, Splitting etc.
- 3.11. Inserting, Removing & Resizing of Columns & Rows
- 3.12. Functions and their categories like Recently Used, Financial, Logical, Text, Text, Date & Time, Lookup & Reference etc.
- 3.13. Use of Formulas, Calculations
- 3.14. Chart Wizard, Different Chart Types
- 3.15. Analyzing data
- 3.16. Creating Formats & Links
- 3.17. Organizing Data in A List
- 3.18. Sorting and Filtering data
- 3.19. Sharing & Importing Data
- 3.20. What-if analysis using Goal Seek, Scenario
- 3.21. Spelling, Thesaurus, Protect Sheet, Protect Workbook, Password protection
- 3.22. Page Layout and Page formatting
- 3.23. Printing of Workbook & Worksheets with various options

Unit 4. Presentation

- 4.1. Introduction & use, working with PowerPoint
- 4.2. Creating a presentation
- 4.3. Using Wizards
- 4.4. Slides & different types,
- 4.5. Inserting, Deleting and Copying of Slides
- 4.6. Working with Notes, Handouts, Columns & Lists
- 4.7. Adding Graphics, Sounds and Movies to a Slide
- 4.8. Working with PowerPoint Objects
- 4.9. Designing & Presentation of a Slide Show
- 4.10. Printing Presentations, Notes, Handouts with print options
- 4.11. Master Slide and other Masters
- 4.12. Slide Transition, Automating Presentation, applying effects

Reference Books

- 1. **Microsoft Office 2013 Bible**, 1st Edition, John Walkenbach, Herb Tyson, Faithe Wempen & others, Wiley Publishing, 2013.
- 2. **MS Office XP Complete**, BPB Publications, 2002.

	<ol style="list-style-type: none"> 3. The 2007 Microsoft Office System Inside Out, 1st Edition, Ed Bott & Carl Siechert, Microsoft Press, 2007. 4. Mastering Word 97, 1st Edition, Richard Mansfield, Sybex Publications, 1997. 5. Mastering Excel 2010, 1st Edition, Bill Jelen, BPB Publications, 2010. 6. Mastering Microsoft Office 97, 1st Edition, L. Moseley & D. Boody, BPB Publications, 1997. 7. Mastering PowerPoint 2000, 1st Edition, Murray K., BPB Publications, 2000. 8. The ABCs of Microsoft Office – Professional Edition, Guy Hart-Davis, BPB Publications, 1999. 9. The Essential Excel 97 Book, Faithe Wempen & Donna Payne, Galgotia Publications, 1997. 10. Microsoft Office Excel Step by Step, Curtis Frye, Microsoft Press, 2010.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	Internal Assessment : <u> 30 </u> Marks External Assessment : <u> 70 </u> Marks

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)					
Semester	I					
Course Code	106					
Course Title	Practical – I					
Credit	Theory:		Practical:	4	Total:	4
Effective From	Academic Year : 2026-27					
Course Outcomes	<ul style="list-style-type: none"> • Students will be able to effectively work with MS Access DBMS via SQL Interface. • Students will be able to work with office suite and also understand important features of word processing software, spreadsheet software and presentation software 					
Course Content	Practical based on Course Code 102 (DBMS) using MS Access and Course Code 105 (Office Automation Tools)					
Reference Books	As per Course Codes 102 and 105					
Teaching Methodology	Lab Work					
Evaluation Method	Internal Assessment : <u>30</u> Marks External Assessment : <u>70</u> Marks					

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)					
Semester	I					
Course Code	107					
Course Title	Practical – II					
Credit	Theory:		Practical:	3	Total:	3
Effective From	Academic Year : 2026-27					
Course Outcomes	<ul style="list-style-type: none"> • Students will be able to write computer programs • Students will be able to solve problems and write programs using Python Programming Language. 					

Course Content	Practical based on Course Code 103 (Python Programming)
Reference Books	As per Course Code 103
Teaching Methodology	Lab Work
Evaluation Method	Internal Assessment : <u>30</u> Marks External Assessment : <u>70</u> Marks

[Subject code-1811090101080001]

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)					
Semester	I					
Course Code	108					
Course Title	Practical – III					
Credit	Theory:		Practical:	3	Total:	3
Effective From	Academic Year : 2026-27					
Course Outcomes	<ul style="list-style-type: none"> • The students will understand the practical aspects of the static web technology like HTML , CSS, and JavaScript. • The students will get trained to represent practical knowledge in the Bootstrap and its components, which will help the students learn static web designing. • The students will get an exposure to the various UI technologies and their practical use in real-world. • After completion of this course, the student will be able to design and develop web pages and Interactive UI for Web Applications. 					
Course Content	Practical based on Course Code 104 (Introduction to Front End Technologies)					
Reference Books	As per Course Codes 104					
Teaching Methodology	Lab Work					
Evaluation Method	Internal Assessment : <u>30</u> Marks External Assessment : <u>70</u> Marks					

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)									
Semester	II									
Course Code	201									
Course Title	Website Development using WordPress									
Credit	Theory:	4	Practical:	0	Total:					4
Effective From	Academic Year :									
Course Outcomes	<p>CO1: Understand the fundamentals of web technologies and explain the working architecture of WordPress including server and database requirements.</p> <p>CO2: Install and configure WordPress environment including web server and MySQL database for website development.</p> <p>CO3: Apply themes, widgets, and menus to design and customize the structure and layout of a WordPress website.</p> <p>CO4: Create, edit, publish, and manage pages, posts, and plugins for dynamic website content management.</p> <p>CO5: Manage user roles, permissions, appearance settings, and administrative features in WordPress.</p> <p>CO6: Implement website maintenance activities including version updates, spam protection, backup & restore, and host transfer.</p>									
Mapping between Cos and PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
	CO1									
	CO2									
	CO3									
	CO4									
	CO5									
	CO6									
Course Content	<p>Unit 1. Introduction</p> <ol style="list-style-type: none"> 1.1. Introduction of different Web Technology 1.2. What is WordPress 1.3. How WordPress Works 1.4. Installation of WordPress <ol style="list-style-type: none"> 1.4.1.Installation of server 1.4.2.Installation of WordPress 1.4.3.Installation of MY SQL <p>Unit 2. Themes ,Widgets and Menu</p> <ol style="list-style-type: none"> 2.1. Themes <ol style="list-style-type: none"> 2.1.1.Selection of Themes(free/paid) 									

	<ul style="list-style-type: none"> 2.1.2.Selection process 2.1.3.Adding /Installing Themes 2.1.4.Changing ,Preview and Activation themes 2.2. Widgets <ul style="list-style-type: none"> 2.2.1.Installation of Widgets in sidebar and footer 2.3. Menu for Website <ul style="list-style-type: none"> 2.3.1.Creating menu 2.3.2.Adding pages, categories, and post in menu 2.3.3.Creating Submenu 2.3.4.Deleting from menu and submenu <p>Unit 3. Pages, Posts, Plugins</p> <ul style="list-style-type: none"> 3.1. Pages <ul style="list-style-type: none"> 3.1.1.Add pages 3.1.2.Edit pages 3.1.3.Delete pages 3.1.4.Publish pages 3.2. Posts <ul style="list-style-type: none"> 3.2.1.Add posts 3.2.2.Edit posts 3.2.3.Delete posts 3.2.4.Publish posts 3.3. Plugins <ul style="list-style-type: none"> 3.3.1.View plugins 3.3.2.Install plugins 3.3.3.Customize plugins <p>Unit 4. Administration and Appearance</p> <ul style="list-style-type: none"> 4.1. Users <ul style="list-style-type: none"> 4.1.1.Add users 4.1.2.Edit users 4.1.3.Delete users 4.1.4.User Rights & Roles 4.2. Appearance <ul style="list-style-type: none"> 4.2.1.Theme management 4.2.2.Customize theme 4.2.3.Widget management 4.3 Host transfer 4.4 Version Update 4.5 Spam Protection 4.6 Backup and Restore 4.7 Settings
Reference Books	<ol style="list-style-type: none"> 1. WordPress: The Missing Manual, 3rd Edition, Matthew MacDonald, O'Reilly Media, 2020. 2. Professional WordPress: Design and Development, 3rd Edition, Brad Williams, David Damstra, Hal Stern, Wiley, 2020. 3. WordPress All-in-One For Dummies, 4th Edition, Lisa Sabin-Wilson, Wiley, 2021. 4. Building Web Apps with WordPress, 2nd Edition, Brian Messenlehner & Jason Coleman, O'Reilly Media, 2019. 5. WordPress 5 Complete, 7th Edition, Karol Król, Packt Publishing, 2019. 6. Mastering WordPress 2020, 2nd Edition, Karol Król, Packt Publishing, 2020. 7. WordPress Plugin Development Cookbook, 2nd Edition, Yannick Lefebvre, Packt Publishing, 2020. 8. WordPress Theme Development Beginner's Guide, 3rd Edition, Tessa Blakeley Silver, Rachel McCollin, Packt Publishing, 2019. 9. WordPress Security Made Easy, 1st Edition, Ira Finch, Packt Publishing, 2022.

	10. WordPress: Pushing the Limits, 2nd Edition , Rachel McCollin, Wiley, 2022.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	Internal Assessment : <u>30</u> Marks External Assessment : <u>70</u> Marks

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)								
Semester	II								
Course Code	202								
Course Title	Open-Source Web based Technology (PHP/ MySQL)								
Credit	Theory:	4	Practical:	0	Total:			4	
Effective From	Academic Year : 2026-27								
Course Outcomes	<p>CO1: Understand the fundamentals of PHP, its syntax, data types, control structures, and the process of embedding PHP with HTML.</p> <p>CO2: Develop dynamic web pages using PHP forms, handle user input, and apply built-in and user-defined functions.</p> <p>CO3: Implement state management techniques using sessions and cookies, and manage file uploading with necessary restrictions.</p> <p>CO4: Understand the basics of MySQL, including database and table creation, and different storage engines.</p> <p>CO5: Establish connectivity between PHP and MySQL using MySQLi and PDO methods.</p> <p>CO6: Develop database-driven web applications by performing CRUD operations and applying prepared statements for secure data handling.</p>								
Mapping between Cos and PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
	CO1								
	CO2								
	CO3								
	CO4								
	CO5								
	CO6								
Course Content	<p>Unit 1. Introduction to PHP</p> <p>1.1. Installing and Configuring PHP with MySQL</p> <p>1.2. How PHP code is parsed</p> <p>1.3. Embedding PHP and HTML</p> <p>1.4. Datatypes, Variables and Operators</p> <p>1.5. Arrays in PHP</p> <p>1.6. Control statements in PHP</p> <p>1.6.1. Condition Statements</p> <p>1.6.1.1. If...Else</p> <p>1.6.1.2. Switch</p> <p>1.6.2. Loops</p> <p>1.6.2.1. While</p> <p>1.6.2.2. Do... While</p> <p>1.6.2.3. For</p> <p>1.6.2.4. For each</p> <p>1.6.3. Comments in PHP</p>								

	<p>Unit 2. Working with Data and Functions</p> <ul style="list-style-type: none"> 2.1. FORM element, INPUT elements 2.2. Passing Variables between pages: get, post and request 2.3. Validating the user Input 2.4. Built-in Functions <ul style="list-style-type: none"> 2.4.1. String Functions 2.4.2. Math Functions 2.4.3. Array Functions 2.4.4. Date Functions 2.5. User-defined Functions <p>Unit 3. State Management and File uploading</p> <ul style="list-style-type: none"> 3.1. Session Management: Concept, Storing and Retrieving Session variables, Destroying session variables and session 3.2. Cookie: Concept, Storing, Retrieving and Deleting Cookie 3.3. File uploading 3.4. Restrictions on file upload <p>Unit – 4: Database Operations in MySQL using PHP</p> <p>4.1 Introduction to MySQL</p> <ul style="list-style-type: none"> 4.1.1 Overview of RDBMS and MySQL 4.1.2 Creating and Managing Databases 4.1.3 Creating and Managing Tables <p>4.2 Storage Engines in MySQL</p> <ul style="list-style-type: none"> 4.2.1 Concept of Storage Engines 4.2.2 InnoDB and MyISAM 4.2.3 Difference between InnoDB and MyISAM <p>4.3 PHP–MySQL Connectivity</p> <ul style="list-style-type: none"> 4.3.1 Introduction to MySQLi 4.3.2 MySQLi (Procedural and Object-Oriented Approach) 4.3.3 PDO (Basic Introduction) 4.3.4 Establishing and Closing Database Connection <p>4.4 Database Operations using PHP</p> <ul style="list-style-type: none"> 4.4.1 Insert Records 4.4.2 Retrieve Records 4.4.3 Update Records 4.4.4 Delete Records 4.4.5 Prepared Statements 4.4.6 Basic Security (SQL Injection Prevention)
<p>Reference Books</p>	<ol style="list-style-type: none"> 1. Learning PHP, MySQL & JavaScript, 7th Edition, Robin Nixon, O’Reilly Media, ISBN: 978-1098152345, 2025. 2. PHP & MySQL: Server-side Web Development, Jon Duckett, Wiley, ISBN: 978-1119149217, 2022. 3. PHP and MySQL Web Development, 5th Edition, Luke Welling & Laura Thomson, Pearson Education, ISBN: 978-0321833891, 2017. 4. PHP and MySQL The Comprehensive Guide, Christian Wenz & Tobias Hauser, SAP PRESS, ISBN: 978-1-4932-2667-2, 2025. 5. Murach’s PHP and MySQL, 4th Edition, Joel Murach & Ray Harris, Mike Murach & Associates, ISBN: 978-1-943873-00-5, 2025 (expected/announced). 6. PHP & MySQL in Easy Steps, 2nd Edition, Mike McGrath, In Easy Steps Ltd, ISBN: 978-1840787035, 2020. (<i>widely used beginner reference</i>) 7. PHP 8 Quick Scripting Reference, 1st Edition, Mikael Olsson & Jon Flanders, Apress, ISBN: 978-1484250281, 2021. (<i>concise syntax & function reference</i>)

	<p>8. Modern PHP: New Features and Good Practices, 2nd Edition, Josh Lockhart, O'Reilly Media, ISBN: 978-1492076963, 2020. (<i>focus on modern PHP features</i>)</p> <p>9. PHP Objects, Patterns, and Practice, 5th Edition, Matt Zandstra, Apress, ISBN: 978-1484240314, 2020. (<i>good object-oriented PHP reference</i>)</p> <p>10. PHP & MySQL Web Development with MVC, AJAX & jQuery, 1st Edition, Carlo van de Weijer, Packt Publishing, ISBN: 978-1800565032, 2021. (<i>practical advanced techniques</i>)</p>
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	Internal Assessment : <u>30</u> Marks External Assessment : <u>70</u> Marks

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)								
Semester	II								
Course Code	203								
Course Title	Digital Marketing								
Credit	Theory:	4	Practical:	0	Total:			4	
Effective From	Academic Year :								
Course Outcomes	<p>CO1: The students will be able to understand the search engine and learn how to get a website listed among top search engine results.</p> <p>CO2: The students will be able to make business decisions available in digital media by measuring, monitoring, and evaluating the website traffic and campaign statistics.</p> <p>CO3: The students will get trained on how to effectively build your users lists, deliver emails & generate relevant clicks.</p> <p>CO4: The students will learn how to build brand preferences, generate leads, aggregate audience on Social Media, & increase audience engagement through content marketing.</p> <p>CO5: The students will be able to strategize marketing through smartphones using App-based marketing, Location-based marketing, SMS marketing.</p>								
Mapping between Cos and PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
	CO1								
	CO2								
	CO3								
	CO4								
	CO5								
Course Content	<p>Unit 1. Fundamentals</p> <ol style="list-style-type: none"> 1.1. Introduction to WWW 1.2. Understanding Hypertexts & Links 1.3. Fundamentals of Website, Webpage & Home page 1.4. Introduction to New Age Media (Digital) Marketing <ol style="list-style-type: none"> 1.4.1. What is Digital Marketing 1.4.2. Digital vs Real Marketing 1.4.3. Digital Marketing Channels 1.4.4. Types of Digital Marketing - Internet Marketing, Social Media Marketing & Mobile Marketing <p>Unit 2. Initial Digital Marketing Plan</p> <ol style="list-style-type: none"> 2.1. Content Management 2.2. SWOT Analysis: Strengths, Weaknesses, Opportunities & Threats 2.3. Target Group Analysis <p>Unit 3. Search Engine Optimization (SEO)</p> <ol style="list-style-type: none"> 3.1. Introduction 3.2. HTML Optimization 3.3. On Page & Off Page SEO 3.4. Planning SEO for a website 3.5. Content Optimization 3.6. Keyword Search 								

	<p>3.7. Technical SEO 3.8. Local SEO</p> <p>Unit 4. Social Media, Email & Mobile Marketing</p> <p>4.1. Understanding various Social Media Platforms like Facebook, Twitter, LinkedIn, Instagram, Blogs etc. 4.2. Understanding Social Media Marketing 4.3. Introduction to Web Analytics 4.4. Modes of Social Media Marketing 4.4.1. Page Creation on various Social Media Platforms 4.4.2. Advertisement Manager on Various Social Media Platforms 4.4.3. Building Social Media Marketing Strategy 4.5 E-Mail Marketing 4.5.1 Marketing Plan 4.5.2 Marketing Campaign Analysis 4.5.3 Keeping up with the Conversations 4.6 Mobile Marketing</p>
Reference Books	<ol style="list-style-type: none"> 1. Big Book of Digital Marketing, Digital Firefly Marketing, 2019. 2. Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation, 4th Edition, Damian Ryan & Calvin Jones, Kogan Page, 2022. 3. Understanding Digital Marketing: Basics and Actions, Teresa Piñeiro-Otero & Xabier Martínez-Rolán, Springer International Publishing, 2016. 4. Digital Marketing Strategy, Lyfe Marketing, 2018. 5. The Essential Guide to Marketing in a Digital World, Rob Stokes, Quirk eMarketing, 2013. 6. Digital Marketing For Dummies, 2nd Edition, Ryan Deiss & Russ Henneberry, Wiley, 2020. 7. Advertising and Promotion: An Integrated Marketing Communications Perspective, 11th Edition, George E. Belch & Michael A. Belch, McGraw-Hill Education, 2020. 8. Advertising Management, 5th Edition, Rajeev Batra, John G. Myers & David A. Aaker, Pearson Education, 1996. 9. Advertising and Promotion: An Integrated Marketing Communications Perspective, George E. Belch & Michael A. Belch, Tata McGraw-Hill (TMH), Indian Edition, 2018. 10. The Social Media Bible: Tactics, Tools & Strategies for Business Success, 3rd Edition, Lon Safko, Wiley, 2012. 11. Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity, Avinash Kaushik, Wiley, 2010.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	Internal Assessment : __30__ Marks External Assessment : __70__ Marks

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)								
Semester	II								
NCrF Credit Level									
Course Code	204								
Course Title	e-Commerce and Network Security Essentials								
Credit	Theory:	4	Practical:	0	Total:			4	
Effective From	Academic Year : 2026-27								
Course Outcomes	<p>CO1: The students will get an insight on the fundamental aspects of the computer network, Internet, and E-Commerce.</p> <p>CO2: The students will get trained to understand various aspects to deal with the Internet connection like communication devices, PSTN, DSL, Network addressing.</p> <p>CO3: The students will get familiarized with the process of E-commerce and security concerns while using E-commerce in business management.</p> <p>CO4: The students will be able to recognize the business impact and potential of ecommerce and the economic consequence of e-Commerce.</p> <p>CO5: The students will understand the concepts of EPS.</p>								
Mapping between Cos and PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
	CO1								
	CO2								
	CO3								
	CO4								
	CO5								
	CO6								
Course Content	<p>Unit 1. Networking Fundamentals & Internet Communication</p> <p>1.1. An Introduction to Networks</p> <p>1.2. Components to connect computer to network</p> <p>1.3. Categories of Computer Network – peer-to-peer, client-server, LAN, MAN and WAN</p> <p>1.4. Transmission Categories- Simplex, Half Duplex & Full Duplex</p> <p>1.5. Network Topologies- Bus, Ring, Star, Mesh</p> <p>1.6. Network Addressing- Physical (MAC) & Logical (IP) Address</p> <p>1.7. IPV4</p> <p>1.7.1.Subnet mask</p> <p>1.7.2.Network Address Classes- A,B and C</p> <p>1.8. IPV6</p> <p>1.8.1.Need of IPV6</p> <p>1.8.2.IPV6 Notation (Hexadecimal & Compressed)</p> <p>1.8.3.IPV6 Address Structure</p> <p>Unit 2: Network Security Essentials</p> <p>2.1. Need for security</p> <p>2.2. Security Attacks</p> <p>2.3. Firewalls</p> <p>2.4. IP Security</p> <p>Unit 3: Introduction to E-Commerce & Electronic Payment Systems</p> <p>3.1. History of E-Commerce</p>								

	<p>3.2. Concepts, Advantages and Disadvantages of E-Commerce 3.3. Impact of E-Commerce on business 3.4. Traditional Commerce and E-Commerce 3.5. Types of E-Commerce- b2b,b2c,b2e,b2g,g2b,g2g,g2c,c2c,c2b 3.6 Introduction to EPS 3.7 Types of Electronic Payment Systems-Payment card, Digital cash, Digital wallet, Smart card 3.8 Online banking (net banking) 3.9 Electronic Funds Transfer 3.10 Payments on retail sites using credit/debit card, Net banking etc.</p> <p>Unit 4: Case Studies 4.1 Travel Segment - IRCTC, GSRTC 4.2 Retail Segment - Flipkart, Snapdeal, Amazon, Jabong, Yepme 4.3 Whole seller Segment - Alibaba, IndiaMart 4.4 Other Segments - Google AdSense, SMC, MyGov India, gujaratindia</p>
Reference Books	<ol style="list-style-type: none"> 1. Data Communications and Networking, 5th Edition, Behrouz A. Forouzan, McGraw-Hill Education, ISBN: 978-0073376224, 2013. 2. Computer Networks, 5th Edition, Andrew S. Tanenbaum & David J. Wetherall, Pearson Education, ISBN: 978-0132126953, 2010. 3. Networking Complete, 1st Edition, BPB Publications, 2002. 4. Computer Networks: Protocols, Standards, and Interfaces, 2nd Edition, Douglas E. Comer & David L. Stevens (often referenced as Black), Prentice-Hall of India, ISBN: 978-8120315955, 2004. 5. Business on the Net, Kamlesh N. Agarwal, Amit Lal & Deeksha Agarwal, Macmillan India Ltd., ISBN: 978-0333912375, 2000. 6. E-Commerce: An Indian Perspective, 2nd Edition, P. T. Joseph, Pearson Education India, ISBN: 978-8131726011, 2016. 7. E-Commerce: The Cutting Edge of Business, 3rd Edition, K. K. Bajaj & D. Nag, Tata McGraw-Hill Education, ISBN: 978-0070683269, 2011. 8. Electronic Commerce, 2nd Edition, David Kosiur, PHI Learning, ISBN: 978-8120338627, 2010. 9. Computer Networking: A Top-Down Approach, 8th Edition, James F. Kurose & Keith W. Ross, Pearson Education, ISBN: 978-0136681557, 2022. 10. E-Commerce 2025: Business, Technology, Society, 16th Edition, Kenneth C. Laudon & Carol Guercio Traver, Pearson Education, ISBN: 978-0137041699, 2024.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	Internal Assessment : <u> 30 </u> Marks External Assessment : <u> 70 </u> Marks

[Subject code-1911090102050001]

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)					
Semester	II					
Course Code	205					
Course Title	Practical – IV					
Credit	Theory:		Practical:	3	Total:	3
Effective From	Academic Year : 2026-27					
Course Outcomes	<ul style="list-style-type: none"> • The students will understand Practical aspects of the WordPress which has powerful website building features to help publish. • The students will get practically trained to understand the different Themes, Widgets, and its functioning. • The students will get practically trained to understand various Plugins, User management and backup and security of website. • After completion of this course, the students will be able to design and develop real world web sites using WordPress. 					
Course Content	Practical based on Course Code 201 (Website Development using WordPress)					
Reference Books	As per Course Codes 201					
Teaching Methodology	Lab Work					
Evaluation Method	Internal Assessment : <u>30</u> Marks External Assessment : <u>70</u> Marks					

[Subject code-1911090102060001]

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

Program Name	Post Graduate Diploma in Computer Application (PGDCA)					
Semester	II					
Course Code	206					
Course Title	Practical – V					
Credit	Theory:		Practical:	3	Total:	3
Effective From	Academic Year : 2026-27					
Course Outcomes	<ul style="list-style-type: none"> • The students will understand the Practical aspects of the Open-Source Web based Technology PHP and MySQL. 					

	<ul style="list-style-type: none"> • The students will get trained to deal with possible problems and their solutions while developing websites. • The students will get an exposure with the analysis and development process of Websites.. • After studying the course, students will be able to understand how Open-source web technology works. They will also be able to create database driven Professional Websites.
Course Content	Practical based on Course Code 202 (Open-Source Web based Technology (PHP/MySQL))
Reference Books	As per Course Codes 202
Teaching Methodology	Lab Work
Evaluation Method	Internal Assessment : <u>30</u> Marks External Assessment : <u>70</u> Marks

[Subject code-1911090102070001]

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT SYLLABUS					
Program Name	Post Graduate Diploma in Computer Application (PGDCA)				
Semester	II				
Course Code	207				
Course Title	Project				
Credit	Theory:		Practical:	8	Total: 8
Effective From	Academic Year : 2026-27				
Course Outcomes	<ul style="list-style-type: none"> • Student will be able to develop software applications. 				
Course Content	<ul style="list-style-type: none"> • The students are required to carry out project during the semester. • At the end of the semester, the students have to submit their project report in bounded form as per guidelines given by the department. • The project report and project completion certificate is mandatory for appearing in Project Presentation and Viva – Voce. 				
Reference Books	---				
Teaching Methodology	Project Guidance, Review				
Evaluation Method	100% assessment is based on the Project Presentation and Viva – Voce as conducted as per the University exam schedule.				