

Course: 501 : PHP & MySQL

Course Code	501
Course Title	PHP & MySQL
Credit	4
Teaching per Week	4 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2016
Purpose of Course	To make students aware of Open Source Web Based Tools and Database
Course Objective	<ol style="list-style-type: none"> 1. To make students understand concepts of Open Source Web Based Dynamic Scripting Language 2. To make students understand concepts of Open Source Database
Pre-requisite	Basic knowledge of Scripting Language & HTML.
Course Out come	Ability to develop Web Based Applications
Course Content	<p>Unit 1. Introduction to PHP and writing PHP code</p> <ul style="list-style-type: none"> 1.1. Web Communication fundamentals <ul style="list-style-type: none"> 1.1.1. Request-Response 1.1.2. Client side Scripting 1.1.3. Session management 1.2. Installation of PHP and MySQL 1.3. PHP configuration in IIS & Apache Web Server and features of PHP 1.4. How PHP code is parsed 1.5. Embedding PHP and HTML 1.6. Executing PHP and viewing in Browser 1.7. Data types 1.8. Operators 1.9. PHP variables: static and global variables 1.10. Comments in PHP 1.11. Introduction to Add-ons <p>Unit 2. Control Structures</p> <ul style="list-style-type: none"> 2.1 Condition Statements <ul style="list-style-type: none"> 2.1.1 If...Else 2.1.2 Switch 2.1.3 ? Operator 2.2 Loops <ul style="list-style-type: none"> 2.2.1 While 2.2.2 Break Statement 2.2.3 Continue 2.2.4 Do...While 2.2.5 For 2.2.6 For each 2.3 Exit, Die, Return 2.4 Arrays in PHP <p>Unit 3. Working with Data and Functions</p> <ul style="list-style-type: none"> 3.1. FORM element, INPUT elements 3.2. Validating the user Input 3.3. Passing variables between pages through GET, POST and REQUEST 3.4. Built-in Functions <ul style="list-style-type: none"> 3.4.1. String Functions: chr, ord, strtolower, strtoupper, strlen, ltrim, rtrim, substr, strcmp, strcasecmp, strpos, strrpos,

	<p>strstr, stristr, str_replace, strrev, echo, print</p> <p>3.4.2. Math Functions: abs, ceil, floor, round, fmod, min, max, pow, sqrt, rand</p> <p>3.4.3. Array Functions: count, list, in_array, current, next, previous, end, each, sort, rsort, assort, array_merge, array_reverse</p> <p>3.4.4. Date Functions: date, getdate, DateTime::setDate, checkdate, time, mktime</p> <p>3.5. User-defined Functions</p> <p>Unit 4. Sessions, Cookies and Upload Files</p> <p>4.1. Concept of Session</p> <p>4.2. Starting session</p> <p>4.3. Modifying session variables</p> <p>4.4. Unregistering and deleting session variable</p> <p>4.5. Concept of Cookies and Querystring</p> <p>4.6. Upload file form</p> <p>4.7. Uploading scripts and restrictions on upload</p> <p>4.8. Saving uploaded file</p> <p>Unit 5. Introduction to MySQL</p> <p>5.1. Types of tables in MySQL</p> <p>5.2. Query in MySQL: Select, Insert, Update, Delete</p> <p>5.3. Order By</p> <p>5.4. Database connectivity of PHP with MySQL</p> <p>5.5. Functions of MySQL</p>
Reference Book	<ol style="list-style-type: none"> 1. Core PHP Programming - Leon Atkinson – Pearson Publishers 2. The Complete Reference PHP - Stever Holzner – McGraw Hill 3. Beginning PHP 5.0 Database - Christopher Scollo, Harish Rawat, Deepak Thomas – Wrox Press
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment.

Course: 502 : UNIX & Shell Programming

Course Code	502
Course Title	UNIX & Shell Programming
Credit	4
Teaching per Week	4 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2016
Purpose of Course	To provide basic knowledge of Multi-User Operating System.
Course Objective	To make students aware of basic concepts of Multi-User Operating System. To make students learn Shell Programming.
Pre-requisite	Fundamental knowledge of Operating System.
Course Out come	The students will understand the concepts of Multi-User Operating System and will be able to work with such Operating System. The students will also be able to do shell programming in UNIX environment.
Course Content	<p>Unit 1. Introduction</p> <ul style="list-style-type: none"> 1.1. Features of Unix OS 1.2. System Structure 1.3. Shell & its features 1.4. Kernel 1.5: Architecture of the UNIX OS <p>Unit 2. Overview</p> <ul style="list-style-type: none"> 2.1 Logging in & out 2.2 I node and File Structure 2.3 File System Structure and Features 2.4 Booting Sequence & init process 2.5 File Access Permissions <p>Unit 3. Shell Programming</p> <ul style="list-style-type: none"> 3.1 Screen Editor (vi) 3.2 Environmental & user defined variables 3.3 Argument Processing 3.4 Shell's interpretation at prompt 3.5 Arithmetic expression evaluation 3.6 Control Structure 3.7 Redirection 3.8 Background process & priorities of process 3.9 Conditional Execution <p>Unit 4. Advanced Shell Programming</p> <ul style="list-style-type: none"> 4.1 Filtering utilities: grep, sed etc. 4.2. awk utility 4.3. Batch process 4.4. Splitting(cat, cut, head and tail), comparing(cmp, comm., diff), Sorting(sort), Merging & Ordering files (paste, uniq) <p>Unit 5. Communication with other users</p> <ul style="list-style-type: none"> 5.1 write, wall and mesg 5.2 mail, motd and news

Reference Books	<ol style="list-style-type: none"> 1. Unix Shell Programming, 3rd Edition, Stephen G Kochan, Patrick Wood – Sams Publishing 2. Unix Shell Programming-3rd edition, Stephen G Kochan & Patrick Wood –Sams Publishing. 3. Sed & awk -2nd edition, Dale Dougherty & Arnold Robbins, - O'Reilly Media. 4. The Unix Programming Environment, Kernigham & Pike –PHI. 5. The Design of the UNIX OS, M. J. Bach – Prentice Hall. 6. Operating Systems, A. S. Godbole –Tata McGraw Hill. 7. Working with UNIX, Vijay Mukhi –BPB Publications. 8. UNIX Shells, Vijay Mukhi –BPB Publications. 9. UNIX System Concepts & Applications, Das –Tata McGraw Hill. 10. UNIX & Shell Programming, Yashwant Kanetkar –BPB Publications.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment.

Course: 503 : Network Technologies

Course Code	503
Course Title	Network Technologies
Credit	3
Teaching per Week	3 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2016
Purpose of Course	With extensive use of Internet and Network at offices, it has now become quite essential for students of IT and Computer Science to acquire basic knowledge of Computer Networks. The purpose of this course is to provide basic knowledge of Computer Networks.
Course Objective	Making students aware of 1. Layering Models. 2. Various Network Topologies. 3. Computer Network parlance. 4. Network Security.
Pre-requisite	Prior knowledge of Operating Systems, LAN
Course Out come	After studying this subject, students will be aware of Layering Models, Different types of Computer Networks, Networking terms, Networking Topologies, Networking protocols and Networking Security.
Course Content	<p>Unit 1. An Introduction to Networks, Network Topologies, and Types</p> <ul style="list-style-type: none"> 1.1 Data Communication [Analog, Digital] 1.2 Introduction: Networking 1.3 Information Exchange, Sharing, Preserving & Protecting 1.4 Hardware and Software Resource Sharing 1.5 Need Uses and Advantages of Network 1.6 Clients, Servers, Peers based and Hybrid Networks 1.7 Server types 1.8 Network Topologies (Bus, Star, Ring, Star Bus, Star Ring & Physical Mesh) 1.9 Defining Network Protocols (H/W Protocols, S/W Protocols H/W-S/W Interface) 1.10 Introduction to Wireless Network, Ad-hoc Wireless and Sensor Wireless Network <p>Unit 2. The Layering Models and Data Communication</p> <ul style="list-style-type: none"> 2.1 Introduction to OSI model with all layers 2.2 Introduction to TCP/IP model 2.3 Differences between OSI Model & TCP/IP model 2.4 Data Communication Model, Digital and Analog data and signals, bit rate, baud, bandwidth, Nyquist bit rate <p>Unit 3. Networking Hardware</p> <ul style="list-style-type: none"> 3.1 Introduction to Guided Transmission Media-Twisted Pair, Coaxial cable, Optical Fibre 3.2 Wireless transmission-Radio waves, microwaves, infrared waves, Satellite Communication. 3.3 Networking devices (repeater, hub, switch, router, bridge, modem)

	<p>Unit 4. Basic of TCP/IP Model</p> <ul style="list-style-type: none"> 4.1 Network Access Layer – MAC Address 4.2 Internet Layer – IP Address, IP Subnetting 4.3 Transport Layer - TCP, UDP, Port number 4.4 Application Layer <p>Unit 5. Network Security: Introductory Concepts and Terminologies</p> <ul style="list-style-type: none"> 5.1 Various Types of Securities 5.2 Security with Certificates 5.3 Firewalls
Reference Book	<ol style="list-style-type: none"> 1. Networking Complete – 3rd Edition – BPB Publications 2. Networking Essentials Study Guide – MCSE – Tata McGraw Hill Publication 3. Computer Networks – A S Tanenbaum - PHI 4. Data Communication & Networking – B A Forouzan – Tata McGraw Hill Publication 5. Computer Networks – Bhushan Trivedi – Oxford University Press
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment.

Course: 504 : Operating System - II

Course Code	504
Course Title	Operating System - II
Credit	2
Teaching per Week	2 Hrs
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)
Review / Revision	June 2016
Purpose of Course	To teach advanced functions and concepts of operating system.
Course Objective	To understand various advanced functions and concepts to manage operating system along with scheduling concept.
Pre-requisite	Fundamental Knowledge of Operating System.
Course outcome	Students will get good understanding of various functions and management of operating system.
Course Content	<p>Unit 1. Processes Management</p> <ul style="list-style-type: none"> 1.1 Process Concept 1.2 Process Scheduling 1.3 Scheduling Criteria 1.4 Scheduling Algorithms <p>Unit 2. Process Synchronization</p> <ul style="list-style-type: none"> 2.1 Critical Section Problem 2.2 Producer / Consumer Problem 2.3 Semaphores 2.4 Inter Process Communication <p>Unit 3. Deadlocks</p> <ul style="list-style-type: none"> 3.1 System Model 3.2 Deadlock Characteristics 3.3 Methods of handling Deadlock 3.4 Deadlock Prevention 3.5 Deadlock Avoidance 3.6 Deadlock Detection 3.7 Recovery from Deadlock <p>Unit 4. Memory Management</p> <ul style="list-style-type: none"> 4.1 Memory Management Functions 4.2 Contiguous Allocation <ul style="list-style-type: none"> 4.2.1 Partitioned Memory 4.2.2 Static and Dynamic Allocation <p>Unit 5. Virtual Memory Management</p> <ul style="list-style-type: none"> 5.1 Paging 5.2 Demand Paging 5.3 Segmentation 5.4 Allocation of Frames 5.5 Page Replacement 5.6 Thrashing
Reference Books	<ol style="list-style-type: none"> 1. Operating System Concepts, Silberschatz, Addison Wesley 2. Operating Systems: Internals & Design Principles, William Stallings, PHI 3. Operating System: Design & Implementation, Tenenbaum & Albert Woodhull, Pearson

	4. Operating Systems, Donovan M, McGraw Hill Publication 5. Operating Systems: A Design Oriented approach, Crowley, Tata McGraw Hill Publication 6. Operating Systems, S. Godbole, Tata McGraw Hill Publication
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment.

Course: 505 : ASP .NET

Course Code	505
Course Title	ASP .NET
Credit	4
Teaching per Week	4 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2016
Purpose of Course	To make students aware of Web Based Tools and Database
Course Objective	To make students understand concepts of Web Technology
Pre-requisite	Basic knowledge of Scripting Language & HTML.
Course Out come	Student will get good hands on experience to develop, manage and maintain Web based application.
Course Content	<p>Unit 1. Introduction to ASP.NET</p> <ul style="list-style-type: none"> 1.1. What is ASP.NET 1.2. .Net framework 2.0 1.3. Compile Code <ul style="list-style-type: none"> 1.3.1. Code Behind and Inline Coding 1.4. The Common Language Runtime 1.5. Object Oriented Concepts 1.6. Event Driven Programming <p>Unit 2. Server Control</p> <ul style="list-style-type: none"> 2.1. Post back 2.2. Data binding <ul style="list-style-type: none"> 2.2.1. Grid View 2.2.2. List Box 2.2.3. Data list 2.2.4. Data binding Events 2.2.5. Repeater 2.2.6. Form view 2.3. Web Server Control 2.4. Html Server Control (basic HTML Server Control) 2.5. Validation Control 2.6. Master Page 2.7. Themes & CSS <p>Unit 3. Database Access</p> <ul style="list-style-type: none"> 3.1. Introduction about ADO.NET 3.2. Introduction about Provider, Adapter, Reader ,Command Builder 3.3. Database Access using ADO.NET <p>Unit 4. Client Server Communication</p> <ul style="list-style-type: none"> 4.1. Communications with Web Browser 4.2. Response Object 4.3. Cookies 4.4. Query String 4.5. Session Management and Variable Scope

	<p>Unit 5. Advance ASP.NET</p> <p>5.1. Web.config 5.2. Sitemappath Server Control 5.3. User Control 5.4. User Profile 5.5 Web Services 5.5.1 Basics of Web Services 5.5.2 Interacting with web services 5.6 Error Handling 5.6.1. Unstructured Error 5.6.2. Structured Error 5.6.3. Error handling in Database</p>
Reference Book	<ol style="list-style-type: none"> 1. Professional ASP.NET 1.1. -Bill Evjen , Devin Rader , Farhan Muhammad, Scott Hanselman , Srivakumar – Wrox 2. Introducing Microsoft ASP .NET 2.0, Esposito - PHI 3. Professional ADO.NET – Bipin Joshi,Donny Mack, Doug Seven , Fabio Claudio Ferracchiati, Jan D Narkiewiez - Wrox 4. Special Edition Using ASP.NET – Richard Leineker – Person Education 5. The Complete Reference ASP.NET -Matthew MacDonald –TMH 6. ASP.NET –Black Book – dreamTech 7. Beginning ASP.NET 3.5 in C# and VB –Wrox-Imar Spaanjaars
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment.

Course: 506 : Practical

Course Code	506
Course Title	Practical
Credit	6
Teaching per Week	12 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2016
Purpose of Course	Through practical implementation the students can understand learn computer programming in a better way.
Course Objective	The Objective of this course is to enable students Solve practical Problem in P-501, P- 502, P-505.
Pre-requisite	Basic knowledge of scripting language, HTML, Object Oriented Concepts and Java programming.
Course Out come	After completion of this course, the students will be able to implement practical problems in PHP MySQL, UNIX Shell Programming and Android application.
Course Content	Practical based on Papers 501, 502 and 505
Reference Book	As per papers 501, 502 and 505.
Teaching Methodology	Lab. Work
Evaluation Method	30% Internal assessment. 70% External assessment.

VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT
Bachelor of Computer Application

Program Structure		Semester-wise break up for the courses is given below:						
SEMESTER - 5								
Course Code	Title	Teaching per week		Course Credits	University Examination		Internal Marks	Total Marks
		Theory	Practical		Duration	Marks		
501	PHP & MySQL	4	0	4	3 Hrs	70	30	100
502	UNIX & Shell Programming	4	0	4	3 Hrs	70	30	100
503	Network Technologies	3	0	3	3 Hrs	70	30	100
504	Operating System-II	2	0	2	3 Hrs	70	30	100
505	ASP .NET	4	0	4	3 Hrs	70	30	100
506	Practical	0	12	6	5 Hrs	140	60	200
	Foundation Elective (to be selected from NCC / NSS / Saptadhabra)	0	0	2				
Total		17	12	25		490	210	700

For Practical:

1. Batch Size – 30 Maximum
 2. In case of more than 10 students in a batch, separate batch should be considered.
 3. The journal should be certified by the concerned faculty and also by the Head of the Department, failing which the student should not be allowed to appear for External Practical Examination.

SEMESTER - 6								
Course Code	Title	Teaching per week		Course Credits	University Examination		Internal Marks	Total Marks
		Theory	Practical		Duration	Marks		
601	Computer Graphics	4	0	4	3 Hrs	70	30	100
602	e-Commerce & Cyber Security	3	0	3	3 Hrs	70	30	100
603	Project	0	2 Hrs / Week / 5 Students	14	--	280	120	400
604	Seminar on Information Technology Innovations & Trends	2	0	2	3 Hrs	70	30	100
	Foundation Elective (to be selected from NCC / NSS / Saptadhara)	0	0	2				
Total				25		490	210	700

For Practical:

1. Batch Size – 30 Maximum
 2. In case of more than 10 students in a batch, separate batch should be considered.
 3. The journal should be certified by the concerned faculty and also by the Head of the Department, failing which the student should not be allowed to appear for External Practical Examination.

Program Passing Rules As per University rules.