RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: July 2010**
Course Code: 501   **Paper Code: 6434**
Name Of Course: Networking with TCP / IP
Common With Program (S):

RATIONALE

Technologies related to networking with TCP/IP are growing very fast. Virtually every computer is connected, or has the potential to be connected, to other computers. When connected locally, they provide vital services such as print servers, file servers, CPU servers and when connected externally, offer access to the Internet, world-wide-web and electronic mail. Millions of people worldwide have been exposed to the World Wide Web of computers and the information they provide. The main objective of this subject is to develop an understanding of the modern network technologies in common use today .To appreciate how computer networks are able to format and transfer data at high speed and over both the local and wide area .To identify potential and actual limitations with existing networks and identify advances in technology that may solve them. .To be able to demonstrate an understanding of the importance of communication standards, including an appreciation of protocol layer models and enhancements to those standards. To be able to demonstrate an appreciation of the theory and practice of wide area networks and their interconnection. To be able to demonstrate an appreciation of the significance of network and inter-network protocols; specifically IPv4, IPv6, TCP and UDP .To be able to describe the importance of reliability and quality of service, including examples of error recovery strategies, traffic differentiation and prioritization.

This subject will provide necessary information for students who like a degree in networking . It Will also provide some knowledge for students who are supporting or preparing to work with networking based on TCP/IP

Semester: Fifth   **Scheme: July 2010**
Course Code: 501   **Paper Code: 6434**
Name Of Course: Networking with TCP / IP
Common With Program (S):

SCHEME OF STUDIES AND SPECIFICATION TABLE

Lectures: 6 Hrs. per week
Practical:2 Hrs. per week

SCHEME OF STUDIES

Sr. No	Topics	Theory (Hrs)	Practical (Hrs)	Total (Hrs)
1	**Introduction**	16	4	**20**
2	**Internet Protocol**	16	4	**20**
3	**User Datagram Protocol (UDP)**	06	4	**10**
4	**Transmission Control Protocol (TCP)**	12	4	**16**
5	**Routing**	12	4	**16**
6	**Host Configuration**	12	4	**16**
7	**Services**	16	6	**22**
	Total	**90**	**30**	**120**

Semester: Fifth	**Scheme: July 2010**
Course Code: 501	**Paper Code: 6434**

Name Of Course: Networking with TCP / IP
Common With Program (S):

COURSE CONTENT

Lectures: **6** Hrs. per week

Sr. No.	Course Content	Hours of Study
1.	**Unit 1: Introduction** Transmission Control Protocol Suit. Addressing – Logical Address, Physical Address, Port Address, IP Versions, Connecting Devices: - Repeater, Hub, Bridge, Router. Classful Addressing: Recognizing Classes, Netid And Host Id, Classes and Blocks, Network Addresses, Masking ,CIDR Notion, Multi Homed Devices, Special Addresses, Private Addresses, Unicast, Multi Cast, Broadcast Addresses, Subnetting, Super Netting, Subnet Mask, Supernet Mask. Delivering ,Forwarding and Routing Of IP Packets. Delivery :- Connection Type, Direct Versus Indirect Delivery Forwarding:- Forwarding Techniques ,Forwarding With Classful Addressing And Classless Addressing. Routing:- Static Versus Dynamic Routing , Routing Table. Structure Of Router,ARP,RARP	16
2.	**Unit 2: Internet Protocol** Internet Protocol Datagram, Fragmentation:- Maximum Transfer Unit (MTU), Field related to fragmentation,Checksum calculation at the sender, Checksum calculation at the receiver. ICMP (Internet Control Message Protocol), Types of messages, Message Format, Error Reporting – Destination Unreachable, Source Quench, Query:- Echo request and replay, Time Stamp Request and Replay, Debugging Tools :- Ping, Trace-route. IGMP (INTERNET GROUP MANAGEMENT PROTOCOL) Message Format, Joining a Group, Leaving a Group, Monitoring Membership.	16

Semester: Fifth   Scheme: July 2010
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Lectures: **6** Hrs. per week

3.	**Unit –III User Datagram Protocol (UDP)** User Datagram Protocol (UDP) - Process To Process Communication, Port Number, Socket Address, User Datagram, Checksum Calculation at Sender and Receiver, UDP Operation.	**06**
4.	**Unit 4:** **Transmission Control Protocol (TCP)** TCP Services, Process To Process Communication, Stream Delivery Service, Full Duplex Communication, Connection Oriented Service, Reliable Service, TCP Features- Numbering System, Flow Control, Error Control, Congestion Control , Segment- Format, Encapsulation, Connection Establishment, Data Transfer, Connection Termination. Flow Control-Sliding Window Protocol, Silly Window Syndrome Error Control-Checksum, Acknowledgement, Retransmission, Congestion Control.	**12**
5.	**Unit 5:** **Routing** Routing Protocol, Intra And Inter domain Routing, Distance Vector Routing- Initialization, Sharing, Updation, RIP- , Message Format, Request And Response , Link State Routing, OSPF-Areas, Metrics, Types Of Link, Graphical Representation, OSPF Packet. Host Configuration- Bootp And DHCP BOOTP- Operation, Packet Format, DHCP- Static Address Allocation, Dynamic Address Allocation, Manual And Automatic Configuration, Packet Format, Transition States, Exchanging Messages.	**12**

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: July 2010**
Course Code: 501   **Paper Code:6434**
Name Of Course: Networking with TCP / IP
Common With Program (S):

Lectures: **6** Hrs. per week

6.	**Unit -6 Host Configuration** Host Configuration- Bootp And DHCP BOOTP- Operation, Packet Format, DHCP- Static Address Allocation, Dynamic Address Allocation, Manual And Automatic Configuration, Packet Format, Transition States, Exchanging Messages.	12
7.	**Unit 7: Services** Domain Name System (DNS) Flat Name Space, Hierarchical Name Space, Domain Name Space, Distribution Of Name Space, DNS In Internet, Resolution:-Resolver, Mapping name to address, Mapping address to name . Telnet, FTP, TFTP, Email Protocol:-SMTP, POP, IMAP. Private Networks, Virtual Private Network, Network Address Translation, Ipv6:-Address Space Assignment, Packet Format, Comparison between IPv4 and IPv6,ICMPv6:-Error Reporting. Transition from IPv4 to IPv6:-Dual Stack, Tunneling, Header translation.	16

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   Scheme: July 2010
Course Code: 501   Paper Code: 6434
Name Of Course: Networking with TCP / IP
Common With Program (S):

LIST OF EXPERIMENTS

Practical: 2 Hrs. per Week

S.NO.	NAME OF EXPERIMENTS	Hours of Study
1.	Observation and Study of Various Network component and Devices.	4
2.	Installation and configuration of Various types of Network Devices like Switches and Routers	4
3.	Identifying valid IP Addresses, Defining Subnet IDs and Host IDs.	4
4.	DHCP, BOOTP,DNS,FTP, TFTP,VPN, Telnet Configuration	6
5.	Designing a network system for an organization using TCP/IP Network using I. Class A address II. Class B address III. Class C address	4
6.	Design a Network using IPv6 addressing	4
7.	Router Configuration using RIP , OSPF protocol.	4
	Total	30

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Semester: Fifth   **Scheme: July 2010**
Course Code: 501   **Paper Code: 6434**
Name Of Course: Networking with TCP / IP
Common With Program (S):

BOOKS RECOMMANDED

1. **B. A. Fourozan, TCP/IP Protocol Suite, Tata McGraw Hill**
2. **Internetworking with TCP/IP, Douglas E. Comer, Publisher- PHI, New Delhi**
3. **Computer Networks, Andrew S Tanenbaum, Publisher- PHI, New Delhi**
4. **TCP/IP Illustrated by Richard Stevens, Publisher- Addison – Wesley.**

Semester: V   **Scheme: JUL 2010**
Course Code: 502   **Paper Code: 6375**
Name Of Course: Java Programming
Common With Program (S): Computer Science & Engineering

RATIONALE

Java language enhances and refines the object oriented paradigm. With the enormous growth-taking place in Internet and World Wide Web, Java is rapidly becoming the dominant application development language and system programming language. Java is most appropriate language for integrating Internet into the information system.

The course introduces students to the design of Java language, syntax of Java, programming applets and applications that can perform multiple actions in parallels. It also introduces the Java technology that enables Java programs to access databases and explores server side of Java.

SCHEME OF STUDIES AND SPECIFICATION TABLE

Course duration: **15** weeks
Lectures: **4** Hrs. per week
Practical: **4** Hrs. per week

S. NO.	TOPIC	SCHEME OF STUDIES		
		Hrs. of Study		
		Theory	Practical	Total
1.	**Overview of Java Language**	10	10	20
2.	**Classes, Objects & Methods**	10	10	20
3.	*Arrays, Strings & Vectors*	10	10	20
4.	**Multithreaded Programming**	10	10	20
5.	**Applet Programming**	10	10	20
6.	**JDBC**	05	05	10
7	**File handling and simple GUI Design**	05	05	10
	TOTAL	**60**	**60**	**120**

COURSE CONTENT

Course duration: **15** weeks
Lectures: **4** Hrs. per week

S. NO	Course Content	Hours of Study
1	OVERVIEW OF JAVA LANGUAGE JAVA and its support systems, JAVA environment. JAVA program structure, Tokens, Statements, JAVA virtual machine, C++ Versus JAVA, Constants & Variables, Data Types, Declaration of Variables, Scope of Variables, Symbolic Constants, Type Casting , Operators: Arithmetic, Relational, Logical Assignments, Increment & Decrement, Conditional, Bit wises, Special, Expressions & its Evaluation. Control statements: If statements and its variant, Switch statement,? Operator, While loop, Do while loop, For loop, Break and continue, Labeled Loops.	10
2	CLASSES, OBJECTS & METHODS Defining a Class, Adding Variables & Methods, Creating Objects, Accessing Class Members , Constructors, Methods Overloading, Static Members, Nesting of Methods, Inheritance: Extending a Class, Overriding Methods, Concept of public, private and protected, Final Variables & Methods, Final Classes, Finalizer Methods, Abstract methods & Classes, Static class, Visibility Control.	10

3	ARRAYS, STRINGS & VECTORS	10
	Arrays : One Dimensional & two Dimensional, strings, Vectors, wrapper Classes, Defining Interfaces, Extending Interfaces, Implementing Interfaces, Accessing Interfaces Variables, Systems Packages, Using System Packages, Naming Conventions, Creating Packages, Accessing a Package, Using Package, Adding a Class to a Package, Hiding Classes.	
4	MULTITHREADED PROGRAMMING	10
	Creating Threads, Extending the Threads Class, Stopping & Blocking a Thread, Life Cycle of a Thread, Using Thread Methods, basic exception handling ,Threads Exceptions, Thread Priority, Synchronization, Implementing the Runnable Interface.	
5	APPLET PROGRAMMING	10
	Local & Remote Applets, Applets Vs Applications, Writing Applets, Applets Life Cycle, Creating an Executable Applet, Designing a Web Page, Applet Tag, Adding Applet to HTML File, Running the Applet, Passing Parameters to Applets, Aligning the Display, HTML Tags & Applets, Getting Input from the User.	
6	JDBC	05
	Understanding JDBC, JDBC Architecture, types of JDBC driver, Register JDBC driver, establish a database connection, execute an SQL statement, process the result, close the data base connection.	
7	File handling and simple GUI Design	05
	Introduction, Data records, reading and writing to text files, simple GUI design joption pane class, message dialog-presenting information to user, input dialog-reading data from the user, confirmation dialog - getting confirmation from user.	

LIST OF EXPERIMENTS

Course duration: **15** weeks
Practical: **4** Hrs. per week

S. NO.	Name of experiments	Hours of Study
1	Programs using various decision making & looping statements of	
2	JAVA.	
3	Programs to demonstrate the use of array, Class & packages.	
	Programs using Concept of public, private and protected, Final	
4	Variables & Methods.	
	Programs using Final Classes, Finalizer Methods, Abstract	
5	methods & Classes, Static class, Visibility Control.	
6	Program for creating & extending thread.	
7	Programs to demonstrate the use of multiple threads.	
8	Programs to create an applet for "HELLO " & call this in HTML.	
	Programs to demonstrate the use of various applet tags,	
9	Designing data entry forms using various building blocks at client	
10	side.	
11	Program to connect single & multiple databases using JDBC concept.	
	Program to read & write a text file.	
	program for GUI design using joption pane class.	
	TOTAL	**60**

REFERENCES

TEXT BOOKS:

- E. Balaguruswami, Programming in Java, 2nd Edition, TMH Publications
- Herbert Shield, java complete reference TMH publication

REFERENCE BOOKS:

- Peter Norton , Peter Norton Guide to JAVA Programming, Techmedia Publications.
- Stroker, Plew, 1998, An introduction to JAVA, Thomson learning.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: Jul. 2010**
Course Code: 504   **Paper Code: 6377**
Name Of Course: Software Engineering
Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

RATIONALE

Software Engineering deals with reliability and quality assurance of the software under development. It provides framework for development of quality software product. The course enables the students to write specifications for software system understand the importance of good software, design and develop test plans from design specifications. The course also covers other important aspects of software Engineering such as software lifecycle, requirement analysis and documentation, characteristics of good design, design techniques, testing, software implementation and maintenance etc.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: Jul. 2010**
Course Code: 504   **Paper Code: 6377**
Name Of Course: Software Engineering
Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

S. N O.	TOPIC	SCHEME OF STUDIES		
		Hrs. of Study		
		Theory	Practical	Total
1.	INTRODUCTION TO SOFTWARE ENGINEERING	10	-	10
2.	SOFTWARE PROJECT PLANNING	10	-	10
3.	SOFTWARE REQUIREMENT ANALYSIS , SPECIFICATION AND MODELING	10	-	10
4.	OBJECT –ORIENTED CONCEPT	12	-	12
5.	DESIGN CONCEPT PRINCIPLE AND METHODS	10	-	10
6.	SOFTWARE TESTING	15	-	15
7.	SOFTWARE IMPLEMENTATION AND MAINTAINANCE	8	-	8
	TOTAL	75	-	75

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: **Fifth**   Scheme: **Jul. 2010**
Course Code: **504**   Paper Code: **6377**
Name Of Course: **Software Engineering**
Common With Program (S): **COMPUTER SCIENCE AND ENGINEERING**

COURSE CONTENT

S. NO	COURSE CONTENT	HOUR OF STUDY
1.	INTRODUCTION TO SOFTWARE ENGINEERING Software characteristics, Software myths. Components, application; process, methods, tools & view of S/E; software process Capability Maturity Model, life cycle models (water fall, incremental, spiral, RAD, prototyping, object oriented) fourth generation model.	10
2.	SOFTWARE PROJECT PLANNING Responsibilities of Software Project manager, Project planning Objective, Software scope, Software project estimation technique, Decomposition techniques, Estimation models, Scheduling, staffing, Risk Management, Software configuration Management	10
3.	SOFTWARE REQUIREMENT ANALYSIS, SPECIFICATION & MODELING Analysis principles, system specification, software requirement specifications, functional specifications, software prototyping, specification, data modeling, data flow diagrams, ER Diagram, Mechanics of structured analysis, data dictionary.	10
4.	OBJECT –ORIENTED CONCEPT Object Oriented Concepts, Unified Modeling language Diagram(Use Case Diagram, Class Diagram, Sequence Diagram, State Chart Diagram)Elements Of Object Modeling, Management Of Object Oriented Software Projects, Object Oriented Analysis, Domain Analysis, OOA Process Conventional v/s OO Approach, Object –Relationship Model	12
5.	DESIGN CONCEPT PRINCIPLE AND METHODS Design Process, Design Principles, Design Concepts, Effective Modular Design, Design Documentation, Architectural Design, and Architectural Design Process - Optimization, Procedural Design.	10

Semester: Fifth   **Scheme: Jul. 2010**
Course Code: 504   **Paper Code: 6377**
Name Of Course: Software Engineering
Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

6	SOFTWARE TESTING *Software Testing Fundamentals:* Principles & objectives, V model. *Testing Methodology:* Unit Test, Integration Test, Functional testing, System Testing, Acceptance test, White Box & Black Box testing techniques Gray box testing, Retesting and Regression testing, Debugging & reliability Analysis. *Testing Documentation:* Test Requirement, Test Plan, Test case design and execution(Study of manual testing tool : Quality center) *Software Reliability And Quality Management:* Concepts of S/W Quality Control and Assurance, Software Reliability, ISO 9000 & 9001, Standard SEI –CMM	15
7	SOFTWARE IMPLEMENTATION AND MAINTAINANCE Characteristics, reverse engineering, maintenance process model, estimation of maintenance cost	8

Semester: Fifth   Scheme: Jul. 2010
Course Code: 504   **Paper Code: 6377**
Name Of Course: Software Engineering
Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

REFERENCES

TEXT BOOKS:

- Roger S. Pressman, Software Engineering A Practitioner's Approach, McGraw Hill,

REFERENCE BOOKS:

- Software engineering A Precise Approach by Pankaj Jalote's ,Wiley India.

- Rajib Mall, Fundamental of Software Engineering, PHI.

- Software Engineering by Kassem A. Saleh J.Ross Publishing

- Ron Patton, Software Testing, BPB.

- Gazzi, Fundamental of Software Engineering, PHI.

- Maryhauser Anneliese Von, Software Engineering Methods Management, Academic Press.

- Wirts Brock Elal, Designing object oriented software, PHI.

- Rajaraman V, Analysis and Design of Information System, PHI.

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: Jul. 10**

Course Code: 511   **Paper Code: 6378**

Name Of Course: Wireless and mobile computing

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

Rationale

Wireless and mobile computing provides the detailed description of wireless cellular industry and the industries that produce product that provide wireless extensions to wired IEEE 802.x data networks and wireless connectivity to the internet. It also includes GSM and CDMA cellular systems ,2G,3G cellular System and IEEE standards based wireless LANs . This course is illuminating the principles, commonalities, key differences and specific implementation issues associated with virtually every leading wireless system.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: Jul. 10**

Course Code: 511   **Paper Code: 6378**

Name Of Course: Wireless and mobile computing

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

SCHEME OF STUDIES

Lectures: 5Hrs. per week

S.No.	TOPICS	THEORY (HRS.)	TOTAL (HRS.)
1	**Introduction to wireless technology**	8	8
2	**Wireless LAN**	15	15
3	**Cellular system infrastructure**	10	10
4	**GSM Technology**	15	15
5	**Reflection & Propagation models**	12	12
6	**Evolution and Deployment of cellular system**	15	15
	TOTAL	**75**	**75**

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: Jul. 09**

Course Code: 511   **Paper Code: 6378**

Name Of Course: Wireless and mobile computing

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

Course Content

Lectures: 5 Hrs. per week

Sr. No.	Course Content	Hrs of Study
1.	**Introduction to wireless technology** 1.1 Comparison of wired and wireless mechanism, 1.2 Basic equipments in wireless communication: Wireless access point, Wireless access cards, routers etc. 1.3 Various types of wireless communication technologies used in Mobiles, Antennas etc. 1.4 Concept of spread spectrum, various types of spread spectrum 1.5 Spreading sequences.	8
2.	**Wireless LAN** 2.1 Wireless local loops 2.2 Wireless access protocols 2.3 Various types of wireless LAN technologies like infrared, microwave LANs etc. 2.4 IEEE 802.11x standards for wireless LANs	15
3	**Cellular system infrastructure** 3.1 Cell fundamentals: Cell site, cell capacity, frequency reuse clustering, co channel interference ,Cell splitting ,cell sectoring 3.2.Mobile station(MS),Base transceiver station (BTS),Mobile switching center(MSC),Functions of MSC,Base station system, Base station control,HLR,VLR 3.3 Mobile station(MS) registration	10
4	**GSM Technology** 4.1 GSM network architecture 4.2 GSM channel concepts: logical channels, Broadcast channel, Common control channel & dedicated control channel. 4.3 GSM identities: Mobile station associated numbers, Network Numbering plans, mobile station roaming number. 4.4 GSM system operation: GSM call setup phase, GSM call confirmation and call accepted ,GSM location updating, GSM Connection release. 4.5 Overview of CDMA technology	15

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: **Fifth**   Scheme: **Jul. 09**

Course Code: **511**   Paper Code: **6378**

Name Of Course: Wireless and mobile computing

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

5	**Reflection & Propagation models** 5.1 Mobile radio propagation 5.2 Ground reflection model 5.3 Diffraction sculpturing 5.4 Indoor propagation models 5.5 Outdoor propagation models 5.6 Ray tracing	12
6	**Evolution and Deployment of cellular system** 6.1 Short Message Services (SMS), Enhanced Message services(EMS), Multimedia Message Services (MMS) & Mobile Instant Messaging(MIM) 6.2 1G cellular Systems 6.3 2G cellular Systems 6.4 2.5G cellular Systems 6.5 3G cellular Systems 6.6 4G cellular Systems 6.7 Emerging wireless technologies	15

Semester: Fifth   **Scheme: Jul. 09**

Course Code: 511   **Paper Code: 6378**

Name Of Course: Wireless and mobile computing

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

REFERENCES

1) "Wireless Communication and Networks" by William Stallings, 1st edition.

2) "Wireless and Mobile Network Architectures" by Yi-Bing Lin and Imrichchlamtac 3)Wireless & Cellular Telecommunications, 3/e,Dr. William C.Y. Lee,TMH

4)Introduction to Wireless telecommunication systems and networks,Mullett,cengage learning

5)Wirless Communication : Principle and practice – T.S. Rappaport

6)Mobile Communication – Schwartz

7) "Introduction to wireless and mobile systems" -2nd edition by Dharmprakash Agrawal & Qing- An Zeng, Cengage Learning, Indian edition.

8) "Wireless Communication T.L.SINGAL TMHI NEW DELHI

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth **Scheme: Jul. 10**

Course Code: 605 **Paper Code:**

Name Of Course: PROFESSIONAL ACTIVITIES (PA).

Common With Program (S):

RATIONALE

   In this rapidly changing technological world, engineers and technicians are expected to adapt to different situations and perform multiple roles. Hence, it is expected that students must be given ample opportunities to develop multiple skills to excel in the present day circumstances. As engineers, it is vitally important to be able to present/communicate thoughts and ideas effectively using a variety of tools and medium.

Job requirement of technicians also demand, confident and well groomed personality. Also due to stress on quality and time bound activities in the world of work, time management is also equally important. In the industry, the students have to work independently as well as in a group, therefore, apart from their subject knowledge, they are called upon to work as leader of a group of workers, be a team member of a task group. They are also to lead and participate in group discussions, speak extempore on some current subject or technology, present a paper on some project, solve problems and some times even counsel people working with/under him/her. In the polytechnic our student stays for almost three years or so, apart from developing professional/technical skills in the students, the students are also required to develop certain generic skills for total personality development.

Hence, this course has been designed to develop the skills such as presentation skills, learning to learn skills, time management, and personality development in the technician pass outs.

This course is therefore of a special nature. These generic skills need to be developed in integration with the technical subjects throughout the three years duration.

ENABLING OBJECTIVES:
The students after completing the course will be able to –
- 1.1 Present them Self effectively verbally and in writing.
- 1.2 Develop learning to learn skills.
- 1.3 Develop study skills.
- 1.4 Search the information from different sources on the given topic.
- 1.5 Manage time effectively.
- 1.6 Learn the different techniques of yoga, meditation, exercises etc.
- 1.7 Develop the well groomed personality.

Semester: Fifth   **Scheme: Jul. 10**
Course Code: 605   **Paper Code:**
Name Of Course: PROFESSIONAL ACTIVITIES (PA).
Common With Program (S):

Scheme of Studies

Practicals: 2 Hrs Per Week

S.No.	Topics	Total Hrs
1.	PRESENTATION SKILLS:	
2.	LEARNING TO LEARN SKILLS:	
3.	STUDY SKILLS :	
4.	INFORMATION SEARCH:	
5.	TIME MANAGEMENT:	
6.	PERSONALITY:	
7.	PERSONAL GROOMING:	
	Total Hrs.	**30**

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: Jul. 10**
Course Code: 605   **Paper Code:**
Name Of Course: PROFESSIONAL ACTIVITIES (PA).
Common With Program (S):

Content Details

S.No.	Course Contents	Hrs of Study
1.	**PRESENTATION SKILLS:** **1.1 Oral Presentation :** • Need of effective oral presentation. • Characteristics of good oral presentation. • Ways of Oral Presentation (Seminar, Viva-voce, Interview, Group Discussion, Lecturing, Power Point Presentations etc.) • Gestures/Mannerism during oral presentation Media, methods used for effective oral presentation. • Assessment of oral presentation. **1.2 Written Presentation:** • Need and characteristics of written presentation. • Ways of written presentation (Report writing, manual, handout, notes etc.). • Grammar, Punctuation, referencing paragraphing during written presentation.	
2.	**LEARNING TO LEARN SKILLS:** Need of Learning to Learn Skills. Type of Learning Skills (Learning face to face, Individualized learning, Distance learning, Self-Learning). Developing Learning to Learn Skills.	

3.	**STUDY SKILLS :** Methods of Good Study Habits Note Taking Developing Reading Skills.	
4.	**INFORMATION SEARCH :** 4.1 Objectives of information search. 4.2 Ways of information search (Internet surfing, Library search, Abstracts, Journals, books etc.) 4.3 Assimilation and presentation of information.	
5.	**TIME MANAGEMENT :** 5.1 Principles of Time Management. 5.2 Time Management matrix. 5.3 Criteria governing Time Management. 5.4 Possible time waster	
6.	**PERSONALITY :** 6.1 Concept and meaning of personality. 6.2 Characteristics of good personality. 6.3 Factors influencing personality. 6.4 Types of personality. 6.5 Need for desirable personality for success. 6.6 Qualities of complete personality.	
7.	**PERSONAL GROOMING:** 7.1 Posture and Health. 7.2 Types and importance of posture. 7.3 Importance of yoga and meditation. 7.4 Factors affecting good health-diet, exercise personal cleanliness, sleep and rest. 7.5 Use of cosmetics. 7.6 Dress Code 7.7 Physical Fitness and Inner Strength.	

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   Scheme: Jul. 10
Course Code: 605   Paper Code:
Name Of Course: PROFESSIONAL ACTIVITIES (PA).
Common With Program (S):

A) SUGGESTED IMPLEMENTATION STRATEGIES :
1.   Students should be made to listen to effective presentations of experts, comprehend that and then summarise that orally and in writing. Feedback should be given immediately after each task.
2.   Also they should be given certain task/assignment on which they need to collect new information in specified time.
3.   Students should be able to take decision that the particular information can be gathered from such and such sources and should be able to present that confidently in verbally or in writing.
      In this particular subject only practical hours are allotted, but, it may be essential to take up certain inputs followed by assignments this may include expert lectures, group discussion, plenary session etc.

B) SUGGESTED LIST OF EXPERIENCES/TUTORIALS :
1.   Seminar Presentation on Specific topic for fixed time duration.
2.   Information Collection on a particular topic followed by presentation in specified time duration.
3.   Visit to multinational outlet for observing personality traits of officials and preparing detailed report.
4.   Demonstration exercise by personality experts.
5.   Arranging expert lecturers of well known personality like Shiv Khera etc.
6.   Selected Book Review.

C) EVALUATION :
Following grade scale of evaluation of performance in PA has been established.

Grades	Level of performance
A	Excellent
B	Good
C	Fair
D	Average
E	Below Expectations

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: Jul. 10**
Course Code: 605   **Paper Code:**
Name Of Course: PROFESSIONAL ACTIVITIES (PA).
Common With Program (S):

Reference Books

S. NO.	TITLE	AUTHOR, PUBLISHER, EDITION & YEAR	ISBN NUMBER
1	How to achieve success and happiness	Sultan Chand and Sons ,New Delhi	
2	How to develop effective personality	Dr Mittal and Agarwal CS	
3	The Art of Public Speaking	Stephen E Lucas	
4	Public Speaking and Influencing Business	Dale Carnegie	

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: JULY 2010**

Course Code: 611   **Paper Code: 6381**

Name Of Course: Dot Net Technology

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

Rationale

This is technology subject; the prerequisite subject for this subject is knowledge of Fundamentals of Web Page Design. Creating dynamic web pages in a website is challenging task today. To fulfill this task, .NET platform is used. ASP.NET Technology is used to configure, build, debug, deploy and secure enterprise-wide applications including collecting end user data from the Internet, integrating multiple data sources, creating new Web Services, and integrating existing Web Services.

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: JULY 2010**

Course Code: 611   **Paper Code: 6381**

Name Of Course: Dot Net Technology

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

SCHEME OF STUDIES

Lectures: 6 Hrs. per week
Practical: 2 Hrs. per week

S.No.	TOPICS	THEORY (HRS.)	PRATICAL (HRS.)	TOTAL (HRS.)
1	**Introduction to .NET**	20	02	22
2	**ASP.Net Objects and components**	25	03	28
3	**ADO.Net**	25	10	35
4	**ASP Transactions and e-mail**	10	10	20
5	**Working with XML in ASP.NET**	10	05	15
	TOTAL	**90**	**30**	**120**

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Name Of Course: Dot Net Technology

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

Course Content

Lectures: 6 Hrs. per week

Sr. No.	Course Content	Hours of Study
1.	**Introduction to .NET** Introduction to Microsoft.Net Framework, Building blocks in .Net, Drawback of previous languages, Understand .Net, Common language runtime (CLR), Common type system (CTS), Difference between ASP and ASP. Net, Introduction to IIS, web application and it's usage, ASP.Net IDE Visual studio .Net, Creation of web forms, Using web form controls.	20
2.	**ASP.Net Objects and components** Response object, Server object, Application object, Session object, ASP.Net scope, state, view state, post back and configuration, Object Creation: Scripting, Drive, Folder, File, Use of object, Server Components: Ad Rotator, Content Linker, Browser Capabilities Use and Creation of global.asa file, Application object: Events, Methods and collections, Example, Session object: Enabling and disabling of session, Event, Properties, Method, Collection.	25
3	**ADO.Net** ADO.Net in ASP. Net: Connection, Dataset and data reader, Data table and data row, Web.config introduction, Binding data with data grid, Accessing and manipulating data, ADO .Net: Server control templates and data binding techniques, Data access in .Net using ADO.Net, Server control templates available for data binding like repeater, data list and data grid controls.	25

Sr. No.	Course Content	Hours of Study
4	**ASP Transactions and e-mail** Transactions, Transaction db design, CDONTS object, Email sending web page creation	10
5	**Working with XML in ASP.NET** Basics of XML, XML support in .NET, XML Validation Overview, XML Parsing API's in .NET, Parsing XML with the XmlTextReader, Parsing XML using DOM Objects, Generating XML with the XmlTextWriter, Introduction to XSLT, Transforming XML using. NET's XSLT classes, Viewing relational data as XML, Dataset XML Properties and Methods, Using the XmlDataDocument Class Syncing between DataSets and XmlDataDocuments.	10

Semester: Fifth   **Scheme: JULY 2010**

Course Code: 611   **Paper Code: 6381**

Name Of Course: Dot Net Technology

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

Practical: 2 Hrs. per week

Sr. No.	List of Practicals	Hours of Study
1.	Design registration form of polytechnic college using text box, text area, radio list, check list, button etc. using Autopostback property.	
2.	Design application for following function: (1) Login (2) Surfing (3) Logout taking into considerations (Application, Session, Server object, global.asa file and their events, methods and collection) also demonstrate enabling and disabling of session).	
3	Creation of file, entry, reading data from a file.	
4	Create following using components: (1) Advertisement (using Adrotator) (2) Book example (using Next function) (3) Find capabilities of browser (Browser object capabilities)	
5	Online application (student, employee, product, shoping mall) (a)Using dataset, datareader (b)Using datatable and datarow (use datagrid to display data) (c)Bind data to datagrid using properties/templates (d)Display details (student, employee, product, etc.) using data list (4 cols per line)	
6	Application to send email.	
7	Using the Xml Text Reader to Parse XML	
8	Creating XML Documents with the Xml Text Writer	
9	Examining the Web. config File	
	TOTAL	30

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Name Of Course: Dot Net Technology

Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

REFERENCES

1) G. Andrew Duthie Microsoft ASP.Net ,Step, Microsoft .Net
2) Programming with C# .NET by J.G. R. Sathiaseelan and N. Sasikaladevi ,PHI Learning
3) Stephen Walther, ASP.Net Unleashed, SAMS
4) Microsoft ASP.NET 4.0 Step by Step by Shepherd, PHI Learning
5) Jesse Liberty, Dan Hurwitz-Programming ASP.Net
6) Dave Mercer-ASP.Net, TMH

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: Jul. 10**
Course Code: 613   **Paper Code: 6383**
Name Of Course: Advanced Web Technology
Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

RATIONALE

In this era of world, web technology is pervading in every business owing to its inherent virtues, therefore an advanced course has been included in this category for student to have a great career in the field of Web designing and development using PHP(Hypertext Preprocessor)and MySQL. PHP scripting language with a MySQL back-end database offers an effective way to design sites. This course will

- Enable students to design websites that combines effective navigation with the use of graphics, text & colour
- Student will learn to create dynamic database-driven Web sites that allow users to access desired information regardless of different software configuration say browser type, speed etc.

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   **Scheme: Jul. 10**
Course Code: 613   **Paper Code: 6383**
Name Of Course: Advanced Web Technology
Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

SCHEME OF STUDIES AND SPECIFICATION TABLE

Lectures: Hrs. 6 per week
Practical: Hrs. 2 per week

SCHEME OF STUDIES

S.No.	TOPICS	THEORY (HRS.)	PRACTICAL (HRS)	TOTAL (HRS)
1	INTRODUCTION	12	04	16
2	BASIC WORKING	24	08	32
3	MYSQL BASICS	30	10	40
4	PHP WITH MYSQL	24	08	32
	TOTAL	90	30	120

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Fifth   Scheme: Jul. 10
Course Code: 613   Paper Code: 6383
Name Of Course: Advanced Web Technology
Common With Program (S): COMPUTER SCIENCE AND ENGINEERING

COURSE CONTENT

Lectures: 6 Hrs. per week

S.No.	Course Content	Hours of study
1	I**NTRODUCTION** History, Current and Future Versions of MySQl and PHP, How to Get MySQL, Installing MySQL on Windows, Trouble Shooting your Installation, Basic Security Guidelines, Building PHP on Windows with Apache, Windows, php.ini. Basics, The Basics of PHP scripts. The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output.	12
2	**BASIC WORKING** Working with Functions: What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments. Working with Arrays: What are Arrays, Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP. Working with Forms: Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads.	24

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3	**MYSQL BASICS** Understanding the database design process: The Importance of Good Database Design, Types of Table Relationships, Understanding Normalization. Learning basic SQL Commands: Learning the MySQL Data types, Learning the Table Creation Syntax, Using Insert Command, Using SELECT Command, Using WHERE in your Queries, Selecting from Multiple Tables, Using the UPDATE command to modify records, Using the DELETE Command, Frequently used string functions in MySQL, Using Date and Time Functions in MySQL.	**30**
4	**PHP WITH MYSQL** Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.	**24**
	TOTAL	**90**

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LIST OF EXPERIMENTS

Practical: 2 Hrs. per Week

S.NO.	TOPICS	Hours of Study
	• Write a program to print PHP information. • Create a web page HTML and execute a PHP file on submission of the HTML form and display the information using PHP. • Write a program to find the factorial of a number and display. • Write a program to implement the concept of if-else and while loop. • Write a program to show that array is received on server side during multiple options in SELECT. • Write a program to show the concept of cookie. • Write a program to redirect the browser. • Write a PHP script showing function call. • Write a program in PHP to create a file and write the data into it. • Create a database of an employee in MySql. • Write a program to connect to the database already created in MySql. • Write a program to read, write, update and delete the database using PHP.	
Total		30

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BOOKS RECOMMANDED

- Sams Teach Yourself PHP in 24 Hours, Third Edition
- Wrox, Beginning PHP, Apache, MySQL Web Development
- Web enabled commercial application development using HTML,DHTML, JavaScript, Perl CGI, Ivan Bayross, BPB.
- Learning PHP & MySQL: Step-by-Step Guide to Creating Database-Driven Web Sites by Michele Davis and Jon Phillips.
- Web Technologies by Godbole, Tata Mc Graw .
- Html: Css/ Javascript/ Dhtml (I Performance Series) by Steven E. Callihan
- Web programming Building Internet Applications, Chris Bates, Wiley

WEBPAGE RECOMMENDED

- http://www.w3schools.com/php/