RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL
Diploma in INFORMATION TECHNOLOGY

SEMESTER: **Sixth** SCHEME: **JULY 2010**
COURSE CODE: **622** PAPER CODE: 6385
NAME OF COURSE: **ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM**
COMMON WITH PROGRAM (S):

RATIONALE

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Artificial Intelligence and Expert System subject is essential for providing knowledge of Artificial Intelligence working problems .This subject provides a general introduction to Artificial Intelligence, its techniques and main sub field as Expert System and Neural Network .The principle focus of the subject will be on the common underlying ideas as problem solving, control strategies, searching strategies, knowledge representation, rule based systems and learning process. The objective of the subject Artificial Intelligence and Expert System is to impart essential knowledge about AI Technique, Natural Language Processing, and its application as Game Playing. By studying and doing practical exercises student will able to work in related areas of Artificial Intelligence and Expert System .Now a days it is expected that a computer professional must have an optimum knowledge of Robotics designing and other related area of Artificial Intelligence. It will provide a foundation for further study of specific areas of Artificial Intelligence and Expert System.

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SEMESTER: **Sixth** SCHEME: **JULY 2010**
COURSE CODE: **622** PAPER CODE:6385
NAME OF COURSE: **ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM**
COMMON WITH PROGRAM (S):

SCHEME OF STUDIES AND SPECIFICATION TABLE

Lectures: 5 Hrs. per week
Practical: 2 Hrs. per week

SCHEME OF STUDIES

Sr. No.	TOPICS	THEORY (HRS)	PRACTICAL (HRS)	TOTAL (HRS)
1.	INTRODUCTION TO AI	**06**	**02**	**08**
2.	PROBLEM SOLVING AND CONTROL STRATEGIES	**08**	**04**	**12**
3.	HEURISTIC SEARCH TECHNIQUES	**10**	**04**	**14**
4.	KNOWLEDGE REPRESENTATION	**20**	**06**	**26**
5.	LEARNING AND NATURAL LANGUAGE PROCESSING	**15**	**06**	**21**
6.	GAME PLAYING	**08**	**04**	**12**
7.	EXPERT SYSTEM	**08**	**04**	**12**
	TOTAL	**75**	**30**	**105**

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SEMESTER: **Sixth** SCHEME: **JULY 2010**
COURSE CODE: **622** PAPER CODE: 6385
NAME OF COURSE: **ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM**
COMMON WITH PROGRAM (S):

Lectures: 5 Hrs. per week

1.	**INTRODUCTION TO AI** • Meaning and definition of Artificial Intelligence • Characteristics of AI Problems • Scope and Future Expectation of AI • Application of AI	**06**
2.	**PROBLEM SOLVING AND CONTROL STRATEGIES** • State Space Representation • Problem Characteristics • Production System and its type • Characteristics of Production System • Breadth First Search and Depth First Search • Forward and Backward Chaining • Control Strategies and its Type	**08**
3.	**HEURISTIC SEARCH TECHNIQUES** • Hill Climbing • Branch and Bound Technique • Best First Search Technique and algorithm • A* Algorithm and AO* Algorithm • Constraints Satisfaction and related numeric problems	**10**
4.	**KNOWLEDGE REPRESENTATION** • Representation and Mapping • Approaches to Knowledge Representation • Issues in Knowledge Representation • Knowledge Representation using Predicate Logic and Prepositional Logic • Resolution and Refutation • Deduction, Theorem Proving • Procedural Knowledge and Declarative Knowledge • Introduction to Reasoning • Various types of Reasoning methods like Forward, Backward, monotonic, non-monotonic, probabilistic Reasoning • Baye's Theorem, Bayesian Network • Semantic Networks, Frames • Conceptual Dependency, Scripts	**20**

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Diploma in INFORMATION TECHNOLOGY

SEMESTER: **Sixth** SCHEME: **JULY 2010**
COURSE CODE: **622** PAPER CODE:6385
NAME OF COURSE: **ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM**
COMMON WITH PROGRAM (S):

Lectures: 5 Hrs. per week

5.	**LEARNING AND NATURAL LANGUAGE PROCESSING** • Introduction to Learning • Types of Learning • Learning in neural network • Learning Processes :- Error Correction Learning, Memory based Learning, Hebbian Learning, Competitive Learning • Learning with teacher, Learning without teacher • Introduction to NLP and its different Phases • Parsing Techniques, Context Free Grammar • Recursive Transition nets (RTN), Augmented Transition nets (ATN) • CSE and Logic Grammars, Semantic Analysis	**15**
6.	**GAME PLAYING** • Introduction to Game Playing • Mini max Search Procedure • Alpha-Beta Cut offs	**08**
7.	**EXPERT SYSTEM** • Definition and Characteristics of Expert System • Rule Based System Architecture • Non- Production System Architecture • Knowledge Acquisition and Validation • Expert System Life Cycle and Expert System Tools • MYCIN and DENDRAL examples of Expert System	**08**

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Diploma in INFORMATION TECHNOLOGY

SEMESTER: **Sixth** SCHEME: **JULY 2010**
COURSE CODE: **622** PAPER CODE:6385
NAME OF COURSE: **ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM**
COMMON WITH PROGRAM (S):

Practical: 2 Hrs. per week **Total Lab Hours: 30**

LIST OF PRACTICALS

1. Study about Cut and Fail situation in Artificial Intelligence
2. Develop system in Prolog to demonstrate the use if domain, predicate and clause.
3. Develop system in prolog to demonstrate the use of reading and write.
4. Develop system in prolog to demonstrate the use of facts and rules.
5. Develop system in prolog to demonstrate the use of controls.
6. Develop system in prolog to implement the water jug problem
7. Develop system in prolog for medical diagnosis model/chemical syntheses.
8. Implementation of Min-Max search procedure for Game Playing.

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Diploma in INFORMATION TECHNOLOGY

SEMESTER: **Sixth** SCHEME: **JULY 2010**
COURSE CODE: **622** PAPER CODE:6385
NAME OF COURSE: **ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM**
COMMON WITH PROGRAM (S):

RECOMMENDED TEXT BOOKS

- Artificial Intelligence by Elaine Rich and Kerin Knight, Tata McGraw Hill Edition

REFERENCE BOOKS

- Introduction to AI & ES by DAN W. Patterson, PHI learning
- Introduction to Artificial Intelligence by Eugene Charniak and Drew McDermott, Addison Wesley.
- Principles of Artificial Intelligence by Nils J. Nilson.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**
Course Code: 601 **Paper Code: 6380**
Name Of Course: Computer Graphics Multimedia and Animation
Common With Program (S):

Rationale

Computer Graphics, multimedia and Animation have gained rapid popularity among engineers, technologists, software and hardware developers and end users. Due to the growing use of graphical interfaces, multimedia applications and web based applications these area of computer science also occupy an important position in diploma level studies.

The course deals with the revolution owning to the developments in PC Technology, audio and video compression, animations etc.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**
Course Code: 601 **Paper Code: 6380**
Name Of Course: Computer Graphics Multimedia and Animation
Common With Program (S):

SCHEME OF STUDIES AND SPECIFICATION TABLE

Lectures: **5**Hrs. per week
Practical: **2** Hrs. per week

SCHEME OF STUDIES

S.No.	TOPICS	THEORY (HRS.)	PRACTICAL (HRS)	TOTAL (HRS)
1.	**Introduction to Computer Graphics**	8	1	9
2.	**Graphics Primitives:**	8	2	10
3.	**Transformation, 2-D Viewing and Clipping**	15	5	20
4.	**Projection**	6	2	8
5.	**Shading, Colour model and Illumination**	8	5	13
6	**Basics of Multimedia Technology**	8	2	10
7	**Graphics Image File Formats**	7	3	10
8	**Computer Animation**	15	10	25
	TOTAL	**75**	**30**	**105**

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**

Course Code: 601 **Paper Code: 6380**

Name Of Course: Computer Graphics Multimedia and Animation

Common With Program (S):

COURSE CONTENT

Lectures: **5** Hrs. per week

S. No.	Course Content	Hours of study
1.	**Introduction to Computer Graphics** o Definition of Computer Graphics o Application of Computer Graphics o Graphics Hardware o Input and Output Devices o Display Devices o Refreshing Display Devices • Raster-Scan • Random-Scan	8
2.	**Graphics Primitives:** o Points and Lines o Line-drawing Algorithms ▪ DDA Algorithm ▪ Bresenham's line Algorithm o Circle-generating Algorithm ▪ Midpoint Circle of Algorithm o Polygon Filling Algorithm: Scan-Line	8

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**
Course Code: 601 **Paper Code: 6380**
Name Of Course: Computer Graphics Multimedia and Animation
Common With Program (S):

Lectures: **5** Hrs. per week

3.	**Transformation, 2-D Viewing and Clipping** • **Basic Transformations (2D and 3D)** ○ Translation ○ Rotation ○ Scaling ○ Shear ○ Reflection • **Composite Transformations** ○ Rotations about a point ○ Reflection about a line ○ Homogeneous Coordinate Systems • **Clipping** Point Clipping Line Clipping -Cohen-Sutherland Clipping algorithm. Polygon Clipping: Sutherland Hodgeman Algorithm Windowing Transformation	15
4.	**Projection** • Parallel Projection: Orthographic, Axonometric, Oblique • Perspective Projection: Standard Perspective Projection General Perspective Projection, Vanishing Points	6
5.	**Shading, Colour model and Illumination** • Chromaticity diagram-RGB, CMY, HSV, HLS, CIE models- • Realism in rendering, • Image manipulation: Illumination models, shading models for polygons, Gouraud and Phong shading , shadows, Transparency, Image Filtering, image processing, geometric Transformation of images.	8

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**
Course Code: 601 **Paper Code: 6380**
Name Of Course: Computer Graphics Multimedia and Animation
Common With Program (S):

Lectures: **5** Hrs. per week

6.	**Basics of Multimedia Technology** • Concepts of Multimedia: Types, Data Streams, Hardware and Software Requirements and Applications, Multimedia Authoring. • Digital Audio: Audio Sampling, Recording Digital Audio, Audio Standards for Multimedia Applications, • MIDI File Formats, MIDI Hardware and Software. • Image Compression Standards: Types. • Video Compression and Standards: Compression Standards, MPEG Compression Basics, MPEG-1, MPEG-2, and MPEG-4 • Hypertext and Hypermedia	8
7.	**Graphics Image File Formats** • Raster Format, • Bitmap (BMP) Format, • Graphics Interchange Format (GIF), • Joint Photographic Experts Group (JPEG), • Tagged Image File Format (TIFF), • Portable Network Graphics (PNG) and their differences.	7
8.	**Computer Animation** • Development of Animations: Non Computer and Computer Based Animations, Different Types of Animations. • Flash Basics: Flash Work Flow, Animation Using Flash. • The Flash Work Environment: The Stage and the Time Line, Symbols and Instances, Symbols and Interactive Movies, Using the Tool Box, Using • Panels, Using Context Menus, Moving the Play Head, • Working the Frames using time line. • Drawing Overview: Flash Drawing and Painting Tools, Working With Color, Using Imported Art Work, Adding Sound, Representation of Animation. • Using Layers: Adding and Deleting Layers, Viewing Layers. • Creating Text Boxes for User input. • Creating Animations: Creating Key Frames, Layers in Animations, Frame Rates, Frame Rates, and Steps for creating animations. Frame by Frame Animations. • Publishing and Exporting.	15
	Total	75

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**
Course Code: 601 **Paper Code: 6380**
Name Of Course: Computer Graphics Multimedia and Animation
Common With Program (S):

LIST OF EXPERIMENTS

Practical: 2 Hrs. per Week

S.NO.	Name of experiments	Hours of Study
1.	Write a program for 2D line drawing as Raster Graphics Display.	
2	Write a program for circle drawing as Raster Graphics Display.	
3	Write a program for polygon filling as Raster Graphics Display	
4	Write a program for line clipping.	
5	Write a program for polygon clipping.	
6	Write a program for displaying 3D objects as display using perspective transformation.	
7	Devise a routine to produce the animation effect of a square transforming to a triangle and then to a circle	
8	Write a program to show a bitmap image on your computer screen.	
9	Write a program to play “wave” or “midi” format sound files.	
10	Create animations using Adobe FLASH. Flash Drawing and Painting Tools. Flash Drawing Modes. Pencil Tools Importing artwork into Flash (Working with Photoshop PSD files (PSD file import preferences)	
	TOTAL	30

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**
Course Code: 601 **Paper Code: 6380**
Name Of Course: Computer Graphics Multimedia and Animation
Common With Program (S):

BOOKS RECOMMENDED:

- Computer Graphics, Multimedia and Animations by Malay K. Pakhira, PHI Learning.
- Computer Graphics by Donald Hearn and M.Pauline Baker, PHI
- Computer Graphics Principles and Practices second edition by James D. Foley, Andeies van Dam, Stevan K. Feiner and Johb F. Hughes, 2000, Addition Wesley.
- Introduction to Computer Graphics By N. Krishnamurthy T.M.H
- Graphics, GUI, Games & Multimedia Projects in C by Pilania & Mahendra, Standard Pub
- Newman W.M. and Sproull R.F., " Principles of Interactive Computer Graphics ", Second Edition, *Tata McGraw Hill Publishing Company Limited, New Delhi,*
- Multimedia on the PC, Sinclair,BPB
- Multimedia in Practice by Jeff coate Judith, 1, PHI.
- •Multimedia Systems by Koegel, AWL
- Multimedia Making it Work by Vaughar, etl
- Principles of Multimedia by Ranjan Parekh, *Tata McGraw Hill Education Private Limited, New Delhi.*

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**

Course Code: 621 **Paper Code: 6384**

Name Of Course: Data Mining and Data Warehousing

Common With Program (S):

RATIONALE

The objective of the course is to make students aware of Data Mining and warehousing. This course will serve as a foundation for data mining application. The students are expected to learn the different data mining techniques. After completion of the course students will be able to:

- Understand Data Mining concepts.
- Use different data mining technique to extract the useful information.
- Use WEKA an attractive Data Mining Toll.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**

Course Code: 621 **Paper Code: 6384**

Name Of Course: Data Mining and Data Warehousing

Common With Program (S):

Lectures: **5** Hrs. per week

Practical: **2** Hrs. per week

SCHEME OF STUDIES

Unit	Topic	Theory Hrs.	Practical Hrs.	Total Hrs.
I	**FUNDAMENTALS OF DATA MINING**	08	02	10
II	**DATA PROCESSING AND DATA WAREHOUSES**	12	04	16
III	**WEKA AN ATTRACTIVE DATA MINING TOOL**	10	08	18
IV	**ASSOCTIATION RULE MINING**	15	06	21
V	**THE CLUSTERING TASK**	15	04	19
VI	**THE ESTIMATION TASK**	07	04	11
VII	**MINING OF TIME SERIES**	08	02	10
	Total Hrs.	**75**	**30**	**105**

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**

Course Code: 621 **Paper Code: 6384**

Name Of Course: Data Mining and Data Warehousing

Common With Program (S):

Content Details

S.No.	Course Content	Hours of Study
1.	**FUNDAMENALS OF DATA MINING** 1.1 Data mining 1.2 The history of the data mining 1.3 Data Mining strategies 1.4 Popular data mining techniques 1.5 Data mining applications 1.6 Challenges of data mining 1.7 The future of data mining	08
2.	**DATA PROCESSING AND DATA WAREHOUSING** 2.1 Data, information and knowledge 2.2 Types of data 2.3 Data warehouses 2.4 Data cleaning 2.5 Data de-normalization 2.6 Data transformation 2.7 Data quality measure 2.8 OLAP(Online Analytical Processing) 2.9 Data Sampling	12
3.	**WEKA AN ATTRACTIVE DATA MINING TOOL** 3.1 Introduction 3.2 Installing Weka 3.3 Weka data file format 3.4 Starting Weka 3.5 Data Visualization 3.5 Data filtering 3.6 Selecting Attributes 3.7 Data Mining with Weka	10

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Semester: Sixth **Scheme: JULY 2010**

Course Code: 621 **Paper Code: 6384**

Name Of Course: Data Mining and Data Warehousing

Common With Program (S):

S.No.	Course Content	Hours of Study
4.	**ASSOCTIATION RULE MINING** 4.1 Transaction data 4.2 Concepts of association rules 4.3 Relevance of association rule mining 4.4 Functions of association rule mining 4.5 Improvement and share 4.6 The problem of large datasets 4.7 Apriority algorithm 4.8 Strengthens and weakness of Association Rule Mining 4.9 Application of Association Rule Mining	15
5.	**THE CLUSTERING TASK** 5.1 Introduction 5.2 Distance Measure 5.3 Types of clustering 5.4 Clustering through Weka: K-Means algorithms 5.5 Clustering Validation 5.6 Strengthens and weakness of Clustering algorithms 5.6 Applications of Clustering algorithms	15
6.	**THE ESTIMATION TASK** 6.1 Introduction 6.2 Scatter plots and correlation 6.3 Linear regression Models 6.4 Logistic regression 6.5 Regression analysis 6.6 Strengthens and weakness of estimation 6.7 Application of estimation	07

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**

Course Code: 621 **Paper Code: 6384**

Name Of Course: Data Mining and Data Warehousing

Common With Program (S):

S.No.	Course Content	Hours of Study
7.	**MINING OF TIME SERIES** 7.1 Introduction 7.2 Fundamental of times series analysis 7.3 Time Series models 7.4 Regression Model 7.5 Periodic Model 7.6 Strengthens and weakness of times series analysis 7.7 Application of times series analysis	08

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**

Course Code: 621 **Paper Code: 6384**

Name Of Course: Data Mining and Data Warehousing

Common With Program (S):

PRACTICALS: - 2 Hrs. per week

S.No.	Practical	Hrs.
1	**Write a program for storing the transaction data (like item no. , price, date, quantity etc.) of shopping mall duration of one month and find out** **(A) The total amount** **(B) The day in which maximum transaction occur.** **(C) The item that are purchased maximum times** **(D) The item that are purchased minimum times**	
2	**Use of WEKA tool.**	
3	**Apply the association mining rule on problem no. 1**	
4	**Apply the clustering technique on problem no. 1**	
	Total Hrs.	**30**

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**

Course Code: 621 **Paper Code: 6384**

Name Of Course: Data Mining and Data Warehousing

Common With Program (S):

RECOMMENDED BOOKS

1. Data Mining and Data Warehousing by **Bharat Bhushan Agarwal**

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: Jul. 10**
Course Code: **Paper Code: 6435**
Name Of Course: Hardware Maintenance & Microprocessor
Common With Program (S):

RATIONALE

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Hardware Maintenance & Microprocessor is subject to give exposure to student for installing maintaining of various hardware and peripheral devices. By studying and doing practical exercises student will able to achieve the industry need. Hardware and Maintenance of PC is the most inevitable part for a IT professional. It is always expected that a IT professional must have an optimum knowledge of hardware parts. It is also advisable that one should have an idea about the minor maintenance activities to be carried out for optimum working of a PC. The objective of the subject Hardware Maintenance & Microprocessor is to impart essential knowledge about hardware, installation of Hardware, installation of driver software, installation of application packages and its fine tuning to the student of Information Technology .It is quite normal that for minor fault and breakdown most of the IT professional fully rely on maintenance and services personnel, rather than doing their own. Therefore it is also visualized by the expert that one must be self-reliant in minor maintenance and repairing of the computer systems.

The microprocessor is heart of any computer systems, communication equipment and control systems. It helps in understanding the different concepts involved in interfacing of peripherals, programming of peripherals and building microprocessor based systems. It gives basic idea of minimum configuration of computer system, it’s functioning. This also gives an overview of the history of evolution of microprocessor and microcomputer along with further developments in this field.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: Jul. 10**
Course Code: **Paper Code: 6435**
Name Of Course: Hardware Maintenance & Microprocessor
Common With Program (S):

SCHEME OF STUDIES AND SPECIFICATION TABLE

Lectures: 3 Hrs. per week
Practical: 4 Hrs. per week

SCHEME OF STUDIES

Sr. No.	TOPICS	THEORY (HRS)	PRACTICAL (HRS)	TOTAL (HRS)
1.	HARDWARE FUNDAMENTALS	**02**	**00**	**02**
2.	MOTHERBOARD	**06**	**12**	**18**
3.	CENTRAL PROCESSING UNIT (CPU)	**07**	**12**	**19**
4.	MEMORY	**06**	**08**	**14**
5.	BIOS	**04**	**06**	**10**
6.	MAINTENANCE OF COMPUTER	**06**	**12**	**18**
7.	MICROPROCESSOR ARCHITECHTURE & PERIPHERALS	**10**	**06**	**16**
8.	MICROPROCESSOR APPLICATION	**04**	**04**	**08**
	TOTAL	**45**	**60**	**105**

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: Jul. 10**
Course Code: **Paper Code: 6435**
Name Of Course: Hardware Maintenance & Microprocessor
Common With Program (S):

Lectures: 4 Hrs. per week

1.	**HARDWARE FUNDAMENTALS** • Comparison between Hardware and Software • Motherboard • Central Processing Unit • Memory • BIOS • USB • Chipset, Video system, sound system, Drive system, MODEM, USB Printers	**02**
2.	**MOTHERBOARD** • Motherboard Controllers & System Resources, Memory Mapping • Interrupts Request Line (IRQ) - Purpose, Standard Assignments, Conflicts, Sharing & ISA, PCI, PnP Configuration of IRQ • System Buses - Industry Standard Organization, Micro Channel Architecture, Enhanced Industry Standard Architecture, UESA Local Bus, Peripheral Component Interconnect, Accelerated Graphics Ports, PCI-X. • Chipsets - Northbridge & South Bridge, Function of Chipset • Motherboard form factor & Power supplies - AT, ATX, LPX & NLX, Voltage & Signal Lines, Power Supply Quality & Specifications, Form Factors, Ribbon Cable and Adopter Card Installation • Batteries - charging, rating, CMOS backup Batteries, Backup Battery replacement	**06**

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: Jul. 10**
Course Code: **Paper Code: 6435**
Name Of Course: Hardware Maintenance & Microprocessor
Common With Program (S):

Lectures: 4 Hrs. per week

3.	**CENTRAL PROCESSING UNIT (CPU)** • Processor Specification - Clock Speed, FSB, L1, L2 & L3 cache, Processor over clocking • CPU - RISC & CISC Microprocessor • CPU Packaging - DIP, PGA, SPGA, MCM, LCC, PLCC & Tape Carrier Package. • Intel CPU Family - Fifth generation & Sixth Generation P6, Xeon, Celeron Processor, Intel Core i3,i5,i7 Series • AMD CPU Family - Fifth, Sixth, & Seventh Generation K Series, Athlon, Thunder bid & Duron Processor Handling & Replacement of CPU, CPU Configuration FSB, Core Speed, Core Voltage Configuration	**07**
4.	**MEMORY** • Logical Organization of Memory - Real Mode, Protected Mode, BIOS Data Area, Upper Memory, High Memory Area, Frame Buffer, Shadow & Cache • Memory Packaging - DTPP, STPP, SIMM, DIMM, RIMM • RAM Types - EDO, SDRAM, VRAM, SGRM, RDRAM, DDRAM, PPRAM, DDR 1, DDR 2, DDR 3 • Memory Performance - Speed, Interleaving & Caching • Interfaces - IDE, ATA 1 to 6, Master Slave Configuration, SCSI, SATA, PATA. • SCSI Interface - BUS ID, Logical Unit Number, Termination, Signaling Types, SCSI Standards, Comparison between IDE & SCSI • Optical Storage Devices - CD, DVD, and Blu-ray Disc	**06**

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: Jul. 10**
Course Code: **Paper Code:6435**
Name Of Course: Hardware Maintenance & Microprocessor
Common With Program (S):

Lectures: 4 Hrs. per week

5.	**BIOS** • BIOS Functions • Cold & Warm Booting • BIOS Error Codes • BIOS Interrupts • Identification of Different BIOS (AMI & AWARD BIOS) • BIOS Memory Assignments, • BIOS Advance setup	**04**
6.	**MAINTENANCE OF COMPUTER** • Error Codes- Beep Codes, Post Codes • Windows System Tools – Back Up, Disk Clean Up, Disk Defragmenter, Files and Settings Transfer Wizard, Scheduled Tasks, Security Center, System Information, System Restore • Antivirus, Firewalls and Security Tools	**06**
7.	**MICROPROCESSOR ARCHITECHTURE & PERIPHERALS** • Microprocessor architecture, Memory map & addresses. • Input & output device, peripherals mapped I/O & memory mapped I/O. Pin out details and the function of each pin. • Microprocessor communication & bus timings. 8085 m/c cycle & bus timings, control signals, memory read & writes. • Memory interfacing, basic concepts, address decoding, interfacing of 8155-memory section. • Functional block diagram, pin configuration of IC chips 8255, 8275, 8279,8237.	**10**
8.	**MICROPROCESSOR APPLICATION** • Interfacing multiplexed displays, interfacing to a matrix keyboard. • A/D converter, D/A converter, stepper motor control. • Comparison of 8085 to 8086,80186,80286,80386 and 80486, multicore technology.	**04**

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: Jul. 10**
Course Code: **Paper Code: 6435**
Name Of Course: Hardware Maintenance & Microprocessor
Common With Program (S):

Practical: 4 Hrs. per week **Total Lab Hours: 60**

LIST OF PRACTICALS

1. Assembling a PC.
2. Installation and troubleshooting the Motherboard
3. Installation and troubleshooting the CPU
4. Installation and troubleshooting the heat sink and cooling fan
5. Installation and troubleshooting RAM
6. Installation and troubleshooting SMPS to different devices
7. Installation and troubleshooting the hard-drive and its cables
8. Installation and troubleshooting optical drives
9. Installation and troubleshooting the video card, sound cards and other cards
10. Installation and troubleshooting PCI
11. Installation and troubleshooting Expansion cards
12. Operating System Installation i.e. Windows and Open Source OS (Linux, SUN)
13. Disassembling a PC
14. Device Driver Installation
15. Introduction to Microprocessor kit, instruction manual.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: Jul. 10**
Course Code: **Paper Code:6435**
Name Of Course: Hardware Maintenance & Microprocessor
Common With Program (S):

RECOMMENDED TEXT BOOKS

- Stephen J. Bigelow, Troubleshooting, Maintaining and Repairing PCs, Fifth edition TMH.
- Gaonkar, Microprocessor Architecture, programming and app.
- B.Ram, Microprocessor & microcomputers

REFERENCE BOOKS

- Subhadeep Choudhary, The A-Z of PC Hardware & Maintenance part I and II.
- Microprocessors by Nilesh B. Bahadure,PHI Learning .
- Govindrajalu, IBM PC and Clones.
- Balasubramanyam, Computer Installation and Servicing.
- Ajit Pal, Microprocessor principle & application
- Douglas Hall, Microprocessor interfacing and programming
- Computer System Architecture (Third Edition),. Morris Mono - Prentice Hall of India Pvt. Ltd., Eastern Economy Edition, Sept. 2002
  Peter Norton: Assembly Language for the PC, PHI

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

SEMESTER: SIXTH **SCHEME: JUL.10**
COURSE CODE: 602 **PAPER CODE:**
NAME OF COURSE: LINUX SERVER ADMINISTRATION
COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

RATIONALE

The objective of the course is to make students aware of a Linux Server administration. This course will serve as an advanced course in the Linux. The students are expected to learn to install and maintenance of the Linux Server After completion of the course students will be able to:

- Understand Linux Server concepts.
- Handle the Administrative Tasks.
- Understand the Network Setting.
- Perform Domain Name System Setting.
- Configure the Networking Services.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN INFORMATION TECHNOLOGY

SEMESTER: SIXTH **SCHEME: JUL.10**
COURSE CODE: 602 **PAPER CODE:**
NAME OF COURSE: LINUX SERVER ADMINISTRATION
COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

SCHEME OF STUDIES

Unit	Topic	Mini. Hrs
I	Installing Linux in Server Configuration	10
II	Booting of Kernel	10
III	System Administration	12
IV	Network Configuration	10
V	Domain Name System (DNS) and File Transfer Protocol	13
VI	Apache server	08
VII	Internet Services	12
	Total Hrs.	**75**

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COURSE CODE: 602 **PAPER CODE:**
NAME OF COURSE: LINUX SERVER ADMINISTRATION
COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

COURSE CONTENT

Unit	Content	Min. Hrs
1	**Installing Linux as a Server** 1.1 Hardware Requirements 1.2 Methods of installation 1.3 Installing Fedora 1.4 Installing Ubuntu 1.5 Software Package Management & installation of GNU software	10
2	**Booting of Kernel** 2.1 Boot Loader-GRUB,LILO 2.2 Kernel and source code of the kernel 2.3 Bootstrapping 2.4 Kernel configuration 2.5 The init Process 2.6.Enabling and Disable services	10
3	**System administration** 3.1 Role of system administrator 3.2 Manage the users and groups 3.3 Monitoring the System 3.4 Managing drives and media 3.5 Creating and Editing Disk partition 3.6 Backup and restore files 3.7 Disk Usage Analyzer 3.8 Setting up and managing computer Network	12

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COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

COURSE CONTENT

4	**Network Configuration** 4.1 Modules and Network Interfaces 4.2 Network Device Configuration utilities 4.3 IP aliasing 4.4 Setting Up NIC at Boot Time 4.5 Managing Routes 4.6 Simple Usage 4.7 Displaying Routes 4.8 Static and Dynamic Routing.	10
5	**Domain Name System (DNS) and File Transfer Protocol** 5.1 Working principal of DNS 5.2 Domain and Host Naming Convention. 5.3 Installation of DNS Server 5.4 DNS Toolbox :-host, dig, nslookup, whois, nsupdate, configuring the clients 5.5 FTP: vsftpd, starting and testing FTP server.	13
6	**Apache server** 6.1 HTTP protocol. 6.2 Starting apache at boot time. 6.3 Testing the installation. 6.4 Configuring apache server.	08

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COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

COURSE CONTENT

7	**Internet Services** 7.1 Mail Server: SMPT, POP and IMAP basics and settings. 7.2 Secure Shell: Public key cryptography, OpenSSH and OpenBSD, 7.3.Network File Systems (NFS), Network Information Services(NIS) 7.4 SAMBA server. 7.5 LDAP, Printing, DHCP, Virtualization.	12

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List of Experiments

Practical: 2 Hrs. per Week

S.No	Name of experiments	Hours of Study
1.	Create the Hard Disk partitions	02
2.	Installing Linux Server and Manage the GNU software.	04
3.	Configure the Linux Kernel and enable or disable the required services.	02
4.	Create the User accounts and group	02
5.	Create the backup of the files and restore them	02
6.	Configure Linux Server for accessing its services form the host computer.	04
7.	Configure the Domain Name Server.	02
8	Configure the Apache Server	02
9.	Configure the Mail Server	02
10	Configure the SAMBA Server	02
11	Set the File Transfer Protocol	02
12	Set the Dynamic Host Configuration Protocol	02
13	Configure the Network Information Services	02
	Total	**30**

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DIPLOMA IN INFORMATION TECHNOLOGY

SEMESTER: SIXTH **SCHEME: JUL.10**
COURSE CODE: 602 **PAPER CODE:**
NAME OF COURSE: LINUX SERVER ADMINISTRATION
COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

RECOMMENDED BOOKS

1. Linux Administration: A Beginner's Guide Fifth Edition, Wale Soyinka, McGraHill
2. Linux Administration: A Beginner's Guide, 3rd Edition, By Steven Graham, Steve Shah, Wiley-India

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL
DIPLOMA IN INFORMATION TECHNOLOGY

SEMESTER: SIXTH SCHEME: JULY 2010
COURSE CODE: 502 PAPER CODE: 6354
NAME OF COURSE: NETWORK MANAGEMENT & ADMINISTRATION
COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

Rationale:

Managing a network is impossible without proper tools and guidance. Today it is very basic need for every enterprise to maintain the network in a proper functioning. A network management system provides the collection of tools for network monitoring and control. Every organization want that his network with proper secure and having good performance.

To manage the network in an effective way the knowledge of the network management and administration are necessary.This subject provides the basics of network management, fault management and configuration of the TCP/IP, DHCP and DNS. Student may able to design a small network and manage this network with effectively.

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DIPLOMA IN INFORMATION TECHNOLOGY

SEMESTER: SIXTH SCHEME: JULY 2010
COURSE CODE: 502 PAPER CODE: 6354
NAME OF COURSE: NETWORK MANAGEMENT & ADMINISTRATION
COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

SCHEME OF STUDIES AND SPECIFICATION TABLE

Lectures: 5 Hrs. per week
Practical: **2** Hrs. per week

SCHEME OF STUDIES

S.No.	TOPICS	THEORY (HRS.)	PRACTICAL (HRS)	TOTAL (HRS)
1.	Network management overview	11	04	15
2.	Windows NT Browser Service	12	04	16
3.	Network Services: Enterprise Level	14	06	20
4.	SNMP(Simple Network Management Protocol)	10	05	15
5.	Troubleshooting Tools and Strategies	18	06	24
6.	Remoteboot	10	05	15
	TOTAL	75	30	105

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DIPLOMA IN INFORMATION TECHNOLOGY

SEMESTER: SIXTH SCHEME: JULY 2010
COURSE CODE: 502 PAPER CODE: 6354
NAME OF COURSE: NETWORK MANAGEMENT & ADMINISTRATION
COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

COURSE CONTENT

Lectures: **5** Hrs. per week

S.No.	Course Content	Hours of study
1	Network management–definition, need and advantages. Windows NT Networking Architecture, Windows NT Operating System Design and Basics, Open Systems and Industry Standards, Client/Server Computing, Interoperating with Other Networks, Remote Access Service-Point to point protocol, Network Security and Domain Planning- Security Model Architecture, Controlling Access- User Accounts, User Rights.	11
2	Windows NT Browser Service-Specifying Browser Computers. Browser System Roles- Non-browsers, Potential browsers, Backup browsers, Master browsers, Domain master browsers. Browser Announcements- Non-browser Announcements, Potential -browser Announcements Backup-browser Announcements. Browser Requests.	12
3	Network Services: Enterprise Level- Installing and Configuring TCP/IP, Configuring TCP/IP Clients, Dynamic IP Addressing Configuring DHCP, Accessing the DHCP Manager, Managing DHCP Scopes, Reserving IP addresses, Installing and Configuring WINS Installing DNS Service	14

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NAME OF COURSE: NETWORK MANAGEMENT & ADMINISTRATION
COMMON WITH PROGRAM (S): COMPUTER H/W AND MAINTENANCE

4	SNMP for Network Management- Overview of SNMP, SNMP Registry, Management Information Base, Object Identifiers, SNMP Installation, Starting and Stopping the SNMP Service, Troubleshooting SNMP	10
5	Troubleshooting Tools and Strategies- Overview of TCP/IP Troubleshooting Tools, Identify the TCP/IP Configuration by Using IPConfig ,Test Connection to the TCP/IP Network by Using Ping, Understanding Address and Name Resolution Test IP-address-to-MAC-address Resolution by Using ARP ,Understanding IP Routing for Windows NT - The Route Table, Display Current TCP/IP Connections and Statistics by Using Netstat, Using Performance Monitor ,Troubleshooting Other Connection Problems - Error 53, Cannot Connect to a Specific Server ,Troubleshooting Telnet.	18
6	Remoteboot- Understanding the Remoteboot Service, The Remoteboot Process, Setting Up and Starting the Remoteboot Service ,Starting and Stopping the Remoteboot Service, Starting Remoteboot Manager, Checking the Remoteboot Installation, Managing Remoteboot Clients, Enabling Remoteboot on a Client's Hard Disk, Adding a New Client, Deleting a Client.	10

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SEMESTER: SIXTH SCHEME: JULY 2010
COURSE CODE: 502 PAPER CODE: 6354
NAME OF COURSE: NETWORK MANAGEMENT & ADMINISTRATION
COMMON WITH PROGRAM (S): INFORMATION TECHNOLOGY

LIST OF EXPERIMENTS

Practical: **2** Hrs. per Week

S.NO.	Name of experiments	Hours of Study
1	Make the file in a sharable mode, then assign it to the different user in different access control (e.g. Read, Write and execute).	
2	Viewing all the network resources available using browsing service.	
3	Configuring the Browser Announcement Time so that in a particular time an announcement can be made.	
4	Design a Small enterprise Network and Configure TCP/IP and TCP/IP Clients.	
5	Configure DHCP (Dynamic Host Configuration Protocol).	
6	Configure DNS (Domain Name System).	
7	Installing and Configuring WINS (Windows Internet Name Service)	
8	Install SNMP and Start and Stop the SNMP Service	
9	Identify the TCP/IP Configuration by Using IPConfig and test Connection to the TCP/IP Network by Using Ping.	
10	Setting Up and Starting the Remoteboot Service	
	TOTAL	30

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DIPLOMA IN INFORMATION TECHNOLOGY

SEMESTER: SIXTH SCHEME: JULY 2010
COURSE CODE: 502 PAPER CODE: 6354
NAME OF COURSE: NETWORK MANAGEMENT & ADMINISTRATION
COMMON WITH PROGRAM (S): INFORMATION TECHNOLOGY

BOOKS RECOMMENDED

1. ***Network Management: A Practical Perspective*** by Allan Leinwand and Karen Fang
2. Forouzan, TCP/IP Protocol Suite 4th edition, TMH
3. J.Richard Burkey, Network Management Concept and Practice, PHI

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **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.

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **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: Sixth **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: Sixth **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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Semester: Sixth **Scheme: Jul. 10**
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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: Sixth **Scheme: JULY 2010**

Course Code: 604 **Paper Code:**

Name Of Course: Project

Common With Program (S):

RATIONALE

The objective of the course Project is:

- To provide students with a comprehensive experience for applying the knowledge gained so far by studying various courses.
- To develop an inquiring aptitude and build confidence among students by working on solutions of small industrial problems.
- To give students an opportunity to do something creative and to assimilate real life work situation in institution.
- To adapt students for latest developments and to handle independently new situations.
- To develop good expressions power and presentation abilities in students.

The search for project work starts from the earlier semester itself when the students are sent for industrial training. This gives the students an occasion to observe the work on real life projects and select some application area in which he/she will be undertaking project. External guide from industry can also be selected for project work along with an internal guide to prepare innovative and real projects. Students also have the flexibility of extending the minor project work into Major project, if the area has a scope for that.

The Project guide is to orient the student's in-groups on the following objectives:

- Provide general guidelines regarding execution of work.
- Impart instructions regarding write-up work and preparation of project documents.
- Sharing and solving common problems associated with execution of project work.
- Monitor and evaluate the progress of project work.

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DIPLOMA IN INFORMATION TECHNOLOGY

Semester: Sixth **Scheme: JULY 2010**
Course Code: 604 **Paper Code:**
Name Of Course: Project
Common With Program (S):

COURSE GUIDELINES

Practical: **12** Hrs. per week

S. No.	Detailed Course Guidelines	STUDY HRS.
1	**Project Guidelines**: The focus of the Project is on preparing a working system (e.g. software system/Interface, hardware/software interface design etc.), using system analysis tools and design techniques and submit it in the form of a write-up i.e. detail project report. The student should select some real life problems for their project and maintain proper documentation of different stages of project such as requirement specification, objectives, work plan, analysis, design, implementation and test plan. Each student is required to prepare a project report and present the same at the final examination with a demonstration of the system. The faculty and student should work according to following schedule: i) Each student undertakes substantial and individual project in an approved area of the subject and supervised by a member of staff. ii) The student must submit outline and action plan for the project execution (time schedule) and the same be approved by the concerned faculty. iii) The project development must be carried out according to following steps and final write-up should have the same sequence. ➢ Project objectives. ➢ Requirement gathering. ➢ Modelling of project should be done in any well-known modelling tools like Flow Chart, DFD, UML, E-R etc.	

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Semester: Sixth **Scheme: JULY 2010**
Course Code: 604 **Paper Code:**
Name Of Course: Project
Common With Program (S):

COURSE GUIDELINES

Practical: **12** Hrs. per week

S. No	Detailed Course Guidelines	STUDY HRS.
	➢ Analysis of project. ➢ Design of project. ➢ Implementation of project. ➢ Testing of project. ➢ Quality consideration of software/interface. ➢ Designing a small user manual. ➢ System requirement for designed software/interface. ➢ Estimating the cost of the project. ➢ Future scope and suggestions. iii) The above project should be implemented by using Languages, Visual tools, Graphic tools, DBMS, AI systems, Web Design supporting packages and tools etc. iv) Suggested areas of project ➢ Web Technology based applications ➢ Database management systems ➢ Communication and Network ➢ Graphic based application ➢ System software ➢ Automation ➢ Embedded systems ➢ Data acquisition systems ➢ AI based systems ➢ Control systems etc. ➢ Net Working	

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Semester: Sixth **Scheme: JULY 2010**

Course Code: 604 **Paper Code:**

Name Of Course: Project

Common With Program (S):

COURSE GUIDELINES

Practical: **12** Hrs. per week

ACTION PLAN FOR PROJECT WORK (SUGGESTIVE):

- Orientation of students by HOD/Project supervisor
- Literature survey and resource collection
- Selection and finalization of topic before a committee*
- Detailing and preparation of project (Modeling, Analysis and Design of Project work)
- Development stage
- Testing, improvements, quality control of project
- Acceptance testing
- Report writing

Presentation before a committee (including user manual)

***Committee comprises of HOD, all project supervisors including external guide from industry (if any).

NOTE: Marks for continuous evaluation (i.e. Lab work) to be awarded after II seminar.