



**DR. A P J ABDUL KALAM UNIVERSITY,
INDORE**

SYLLABUS

For

**DIPLOMA COMPUTER SCIENCE ENGINEERING
(THIRD YEAR, V & VI SEM)**

**College of Polytechnic Engineering
Dr. A P J Abdul Kalam University, Indore**

DR. A P J ABDUL KALAM UNIVERSITY, INDORE

Syllabus for Diploma Computer Engineering

List of Subject (3rd YEAR, 6th SEM)

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Unit1. Introduction to Computer Graphics

- Definition of Computer Graphics
- Application of Computer Graphics
- Graphics Hardware
- Input and Output Devices
- Display Devices
- Refreshing Display Devices
- Raster-Scan
- Random-Scan

Unit 2. Graphics Primitives:

- Points and Lines
- Line-drawing Algorithms: 1)DDA Algorithm 2)Bresenham's line Algorithm
- Circle-generating Algorithm : Midpoint Circle of Algorithm
- Polygon Filling Algorithm : Scan-Line

Unit 3: Transformation, 2-D Viewing and Clipping

- Basic Transformations (2D and 3D)
1) Translation 2) Rotation 3) Scaling 4) Shear 5) Reflection
- Composite Transformations
1) Rotations about a point
2) Reflection about a line
3) Homogeneous Coordinate Systems
- Clipping :- Point Clipping, Line Clipping -Cohen-Sutherland Clipping algorithm, Polygon Clipping: Sutherland Hodgeman Algorithm

Unit 4: Projection

- Parallel Projection: Orthographic, Axonometric, Oblique
- Perspective Projection: Standard Perspective Projection General Perspective Projection, Vanishing Points

Unit 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.

Unit 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

Unit 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.

Unit 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.

List of Experiments:

- Write a program for 2D line drawing as Raster Graphics Display.
- Write a program for circle drawing as Raster Graphics Display.
- Write a program for polygon filling as Raster Graphics Display
- Write a program for line clipping.
- Write a program for polygon clipping.
- Write a program for displaying 3D objects as display using perspective transformation.
- Devise a routine to produce the animation effect of a square transforming to a triangle and then to a circle
- Write a program to show a bitmap image on your computer screen.
- Write a program to play “wave” or “midi” format sound files.
- 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)

References:

- 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.

Unit 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.

Unit 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.

Unit 3. 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.

Unit 4. ASP Transactions and e-mail

Transactions, Transaction db design, CDONTS object, Email sending web page creation

Unit 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 XmlDocument Class Syncing between DataSets and XmlDocument Documents.

References

- [1]. Entrepreneurial Development Vol. I,ii,iii By Vasant Desai Himalaya Publication
- [2]. Cedmap (Center Of Entrepreneurial Development Madhya Pradesh) .Udyamita Vikas By Anand Prakashan

List of Practical's:

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, shopping mall)
 - (a)Using dataset, data reader
 - (b)Using data table and data row (use data grid to display data)
 - (c)Bind data to data grid 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

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

Unit 1: INTRODUCTION

- Security overview, Computer security, network security, Key principles of Network security-Confidentially, Integrity, Availability.
- Threats to security need of security, types of security, Security issues.

Unit 2: INFORMATION SYSTEM SECURITY MANAGEMENT

- Security Polices, Security Awareness, security control - Physical Controls, Procedural Controls, Technical Controls and Legal and liability.
- Identification and Authentication- Password, Biometrics, Single Sign On.

Unit 3: SECRETE COMMUNICATION

- Introduction to secrete communication, Basics of Cryptography –Substitution cipher, Cryptographic primitives.
- Encryption, Symmetric Encryption- Stream cipher, Block cipher, Sharing Keys.
- Asymmetric Encryption- Using Certificate Authority, Digital signature, SSL (Secure Socket Layer), TLS (Transport Secure Layer), Hashing algorithms

Unit 4: 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

Unit 5: 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

Unit 6: SIMPLE NETWORK MANAGEMENT PROTOCOL (SNMP) FOR NETWORK MANAGEMENT-

- Overview of SNMP, SNMP Registry, Management Information Base,
- Object Identifiers,
- SNMP Installation, Starting and Stopping the SNMP Service
- Troubleshooting SNMP

Unit 7: TROUBLESHOOTING TOOLS AND STRATEGIES-

- Overview of TCP/IP Troubleshooting Tools, Identify the TCP/IP Configuration by Using IP Config ,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.

References:

- Fundamentals of Network Security by John E. Canavan
- Network Security Bible by Dr. Eric Cole, Dr. Ronald Krutz, and James W. Conley
- Network Management: A Practical Perspective by Allan Leinwand and Karen Fang
- Forouzan, TCP/IP Protocol Suite 4th edition, TMH
- J.Richard Burkey, Network Management Concept and Practice, PHI

List of Practical:

- Implement the password and identify the valid and invalid user.
- Implement the Substitution cipher method of cryptography
- Implement the Block cipher method of cryptography
- Implement the Hashing algorithms
- Installing and Configuring TCP/IP
- Configuring DHCP
- Installing DNS Service
- Installing Simple Network Management Protocol
- Identify the TCP/IP Configuration by Using IPConfig

Test Connection to the TCP/IP Network by Using Ping

Unit1: INTRODUCTION

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.

Unit 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.

Unit 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.

Unit 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.

List of Practical's:

- 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.

References:

- 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/>

Unit 1. FUNDAMENALS OF DATA MINING

- Data mining
- The history of the data mining
- Data Mining strategies
- Popular data mining techniques
- Data mining applications
- Challenges of data mining
- The future of data mining

Unit 2. DATA PROCESSING AND DATA WAREHOUSING

- Data, information and knowledge
- Types of data
- Data warehouses
- Data cleaning
- Data de-normalization
- Data transformation
- Data quality measure
- OLAP(Online Analytical Processing)
- Data Sampling

Unit 3 WEKA AN ATTRACTIVE DATA MINING TOOL

- Introduction
- Installing Weka
- Weka data file format
- Starting Weka
- Data Visualization
- Data filtering
- Selecting Attributes
- Data Mining with Weka

Unit 4 ASSOCIATION RULE MINING

- Transaction data
- Concepts of association rules
- Relevance of association rule mining
- Functions of association rule mining
- Improvement and share
- The problem of large datasets
- Apriority algorithm
- Strengthens and weakness of Association Rule Mining
- Application of Association Rule Mining
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Unit 5 THE CLUSTERING TASK

- Introduction
- Distance Measure

- Types of clustering
- Clustering through Weka: K-Means algorithms
- Clustering Validation
- Strengthens and weakness of Clustering algorithms
- Applications of Clustering algorithms

Unit 6 THE ESTIMATION TASK

- Introduction
- Scatter plots and correlation
- Linear regression Models
- Logistic regression
- Regression analysis
- Strengthens and weakness of estimation
- Application of estimation

Unit 7 MINING OF TIME SERIES

- Introduction
- Fundamental of times series analysis
- Time Series models
- Regression Model
- Periodic Model
- Strengthens and weakness of times series analysis
- Application of times series analysis

List of Practical's:

- 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

References:

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

Unit 1: INTRODUCTION TO AI

- Meaning and definition of Artificial Intelligence
- Characteristics of AI Problems
- Scope and Future Expectation of AI
- Application of AI

Unit 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

Unit 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

Unit 4: KNOWLEDGE REPRESENTATION

- Representation and Mapping
- Approaches to Knowledge Representation
- Issues in Knowledge Representation
- Knowledge Representation using Predicate Logic and Propositional 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

Unit 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

Unit 6: GAME PLAYING

- Introduction to Game Playing
- Mini max Search Procedure
- Alpha-Beta Cut offs

Unit 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

LIST OF PRACTICALS

1. Study about Cut and Fail situation in Artificial Intelligence
2. Develop system in Prolog to demonstrate the use of 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.

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.

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.
- Modeling of project should be done in any well-known modeling tools like Flow Chart, DFD, UML, E-R etc.
- 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.

➤ **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

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.

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

Objectives of information search, Ways of information search (Internet surfing, Library search, Abstracts, Journals, books etc.), Assimilation and presentation of information.

5) TIME MANAGEMENT

Principles of Time Management, Time Management matrix, Criteria governing Time Management, Possible time waster.

6) PERSONALITY

Concept and meaning of personality, Characteristics of good personality Factors influencing personality, Types of personality, Need for desirable personality for success, Qualities of complete personality.

7) PERSONAL GROOMING

Posture and Health, Types and importance of posture, Importance of yoga and meditation, Factors affecting good health-diet, exercise personal cleanliness, sleep and rest, Use of cosmetics, Dress Code, Physical Fitness and Inner Strength.

A) SUGGESTED IMPLEMENTATION STRATEGIES:

1. Students should be made to listen to effective presentations of experts, comprehend that and then summarize 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:

<u>Grades</u>	<u>Level of performance</u>
A	Excellent
B	Good
C	Fair
D	Average
E	Below Expectations

List of Reference Books:

- How to achieve success and happiness by Sultan Chand and Sons, New Delhi
- How to develop effective personality by Dr Mittal and Agarwal CS
- The Art of Public Speaking by Stephen E Lucas
- Public Speaking and Influencing Business by Dale Carnegie