



UTTARAKHAND BOARD OF TECHNICAL EDUCATION
JOINT ENTRANCE EXAMINATION AND TRAINING, RESEARCH DEVELOPMENT CELL, DEHRADUN
STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME

BRANCH NAME- COMPUTER SCIENCE AND ENGINEERING

SEMESTER – VI

Subject Code	Subject	L	T	P	T O T	EVALUATION SCHEME						Total Marks	Credit Point
						Internal		External					
						Theory	Practical	Theory		Practical			
						Max Marks	Max Marks	Max Marks	Hrs.	Max Marks	Hrs.		
Period/Weeks													
056003	Multimedia System	4	-	4	8	30	30	70	2.5	60	3.0	190	5
056001	Concept of .Net Technology	5	-	5	10	30	30	70	2.5	60	3.0	190	6
056002	Data Mining & Warehousing	6	-	-	6	30	-	70	2.5	-	-	100	5
056004	Open Source Technology	4	-	4	8	30	30	70	2.5	60	3.0	190	5
056005	Major Project	-	-	8	8	-	55	-	-	150	3.0	205	10
056052	Industrial Exposure (Assessment at Inst. Level) +	-	-	-	-	-	25	-	-	-	-	25	2
016054	General Proficiency #	-	-	4	4	-	25	-	-	-	-	25	1
016055	Employability Skills	4	-	-	4	25	-	50	2.5	-	-	75	1
Total		23	-	25	48	145	195	330	-	330	-	1000	35

** Common with diploma programme in Chemical Technology (Paint) and Chemical Technology (Rubber & Plastic).

General Proficiency will comprise of various Co-curricular activities like games, hobby clubs, seminars, declamation contests, extension lectures, field visits, NCC, NSS and cultural activities, G.K., general study, elementary math and discipline.

++ Industrial visit compulsory at minimum two industries or departments.

Note- 1- Each period will be of 50 minutes. 2- Session will be of 16 weeks. 3- Effective teaching will be of at least 12.5 weeks.

Branch Code - 05



**SIXTH SEMESTER
COMPUTER SCIENCE AND ENGINEERING**



MULTIMEDIA SYSTEM

Subject Code : 056003

L	T	P
4	-	4

RATIONALE

The exponential growth of Engineering and Technology particularly information and communications engineering has benefited the day-today life of entire mankind in all respects. The research and developments are continually happening in this field to fine tune and improve the field particularly also in multimedia which directly or indirectly has impact on every man's daily life. As such the introduction of current and future trends and technology of multimedia systems would strengthen the knowledge and skills of engineering community in taking one-step further the prosperity of mankind.

OBJECTIVES

- Students will be able to understand the relevance and underlining infrastructure of multimedia system.
- The purpose of the course for the students is to apply contemporary theories of multimedia learning to the development of multimedia products.
- Analyze instructional and informational media (audio/ visual materials, web based materials, games and simulations etc) applied with multimedia techniques.
- Acquire knowledge about multimedia software tools.
- To understand the multimedia systems components, evolving technologies and fundamental elements of any multimedia system.
- Acquire knowledge about the fundamentals of handling multimedia data, compression / decompression and various media file formats.
- Understand the underlying principles of processing various multimedia data.
- Understand the working principles of various multimedia input-output devices.
- Gain knowledge about various multimedia related standards.
- Understand the design and development process of multimedia projects.
- Understand the technologies of multimedia used in Internet and its applications.

DETAILED CONTENTS

1. Introduction To Multimedia

(12 Periods)

- 1.1 **Introduction** : Definition of multimedia, Multimedia Basics, Where to use Multimedia, Multimedia Elements –Multimedia Applications, Virtual Reality, Delivering Multimedia.
- 1.2 **Multimedia Systems Architecture** : Multimedia Architecture, High resolution Graphic displays, Multimedia Architecture Based on interface bus, Network architecture for Multimedia systems.
- 1.3 **Evolving Technologies For Multimedia Systems** : Hypermedia Documents, Hypertext, Hyper Speech, 3D Technologies and Holography,
- 1.4 **Defining Objects for Multimedia System:** Text, Images, Audio and Voice, Full- Motion and Live Video, Multimedia Data Interface Standards, File formats for Multimedia systems, Video processing standards.
- 1.5 **Multimedia Software** : Overview of Multimedia Software Tools, Open Source Replacements, Multimedia OS, Multimedia Authoring, Some Useful Editing and Authoring Tools, Windows and Open Source API

2. Defining Objects For Multimedia Systems

(12 Periods)

- 2.1 **Text:** About Fonts and Faces, Using Text in Multimedia, Hypermedia and Hypertext, Using Hypertext, Hypermedia Structures, Hypertext Tools.
- 2.2 **Images:** Making Still Images, Bitmaps, 1 bit images, 8-bit gray level images, 8-bit color images, Dithering, 24 bit color images, Vector Drawing, 3-D Drawing and Rendering, Color, Understanding Natural Light and Color, Computerized Color, Color Palettes, Color Look-up table. Image Processing, Image acquisition, Image Enhancement. Color image processing.
- 2.3 **Sound** : The Power of Sound, Digital Audio, Making Digital Audio Files, MIDI Audio, MIDI vs. Digital Audio, Multimedia System Sounds, Adding Sound to Your Multimedia Project, Audio Recording, Keeping Track of Your Sounds, Audio CDs, Sound for Your Mobile, Sound for the Internet.
- 2.4 **Animation:** the Power of Motion, Principles of Animation, Animation by Computer, Animation Techniques. animation using Open GL
- 2.5 **Video:** Using Video, How Video Works and Is Displayed, Analog Video, Digital Video, Displays, Digital Video Containers, Codec, Video Format Converters, Obtaining Video Clips, Shooting and Editing Video.

3. Multimedia Data And Standards

(15 Periods)

- 3.1 **Data Compression:** Need for Data compression, General Data compression Scheme, Compression standards, Non-lossy compression for images, Lossy compression for Photographs and video, Hardware Vs Software Compression.
- 3.2 **Data and File Format Standards:** Popular File Formats, RTF, RIFF, GIF, PNG, TIFF, MIDI, JPEG, JFIF, AVI, WAV, BMP, WMF, MIX, MPEG standards. TWAIN.
- 3.3 **Multimedia Databases,** Storage and Retrieval, Database Management systems, Database Organization and Transaction management for multimedia systems.
- 3.4 **Multimedia Information Sharing and Retrieval** - Social Media Sharing User- Generated Media Content Sharing - Media Propagation in Online Social Networks. Content-Based Retrieval in Digital Libraries

4. Multimedia Devices and Making Multimedia

(15 Periods)

- 4.1 **Multimedia input/output Technologies:** Limitations of Traditional input devices, Multimedia input output devices, PEN input, Working of Electronic Pen, Video and image display systems, Video display technology standards, CRT, display Terminology, Flat panel display system.
- 4.2 **Print Output, image, audio and video Technologies:** Comparison of printing technologies, Laser printing, Dye sublimation printer, Color printing technology issues. Image scanners, types, Digital voice and audio, Voice recognition systems, Digital Camera, video frame grabber, video and still image processing, video camera, full-motion video controllers, video capture board.
- 4.3 **Making Multimedia:** The Stages of a Multimedia Project, Creativity, Organization, Communication, Hardware, Software, Text Editing and Word Processing Tools, OCR Software, Painting and Drawing Tools, 3-D Modeling and Animation Tools, Image- Editing Tools, Sound-Editing Tools, Animation, Video, and Digital Movie Tools, Authoring Systems, Making Instant Multimedia, Types of Authoring Tools.

5. Multimedia For Internet

(10 Periods)

- 5.1 **Designing for the World Wide Web:** Developing for the Web, Small-Device Workspace, text and images for the Web, Clickable Buttons, Client-Side Image Maps, Sound for the Web, Animation for the Web, and Video for the Web, HTML5 Video - Plug-ins and Players.

5.2 Multimedia Communication and applications, Study of Multimedia networking, Quality of data transmission, Media on demand, Multimedia Over Wireless and Mobile Networks - Media Entertainment, web-based applications, e-learning and education- Cloud Computing for Multimedia Services - Cloud-Assisted Media Sharing

TEXT BOOK

1. Fundamental of Multimedia Ze- Nian Li and M.S. Drew. Pearson Education Second edition 2014
2. Multimedia: Making It Work. Tay Vaughan Tata - Mc Graw Hill Eighth Edition
3. Multimedia systems Design. Prabhat K. Andleigh, Kiran Thakra PHI.
4. "Multimedia Computing, Communication and Applications", Ralf Steinmetz and Klara Nahrstedt Pearson Education
5. Multimedia Communication Systems: Techniques, Standards, and Networks K.R. Rao TMH

REFERENCE BOOK

1. Computer Graphics Multimedia and Animation, Malay K. Pakhira PHI second edition
2. Principles of Multimedia, Ranjan Parekh TMGH, New Delhi
3. Multimedia Systems John F. Koegel Buford Pearson Education
4. Multimedia Technology & Applications, David Hillman Galgotia Publications Pvt Ltd.

MULTIMEDIA SYSTEM PRACTICAL

RATIONALE

The competencies which form the basis for this practical enable students to develop skills with interactive visual and auditory technology. This lab prepares students to use digital multimedia for communication, creativity, collaboration, critical thinking. This practical is to bring awareness to the students regarding the numerous resources available in the area of multimedia. Students will become a skilled and creative user of current multimedia technology with an increased understanding of multimedia concepts and techniques

OBJECTIVES:

After the completion of this lab students should know about

- How to create Audio hardware & software applications
- How to Record & Edit digital audio using sound editing software
- To learn about Video Editing

- How to apply various filters & Compression techniques in Multimedia Applications.
- To learn about 3D and cloud animation

LIST OF EXPERIMENTS

1. Use HTML5 multimedia support to play different audio and video formats in a browser using a desktop and a mobile.
2. Use a audio processing Software and perform the audio editing tasks– Import audio, Select and edit the sound, Create fade-in fade-out effects, Label audio segments, Use noise remove filter, Mix audio, Change stereo to mono tracks, Export audio to different format and save.
3. Use a video processing Software to perform – Trim video clips, crop video, rotate video, join video, add subtitles, and edit video dimension, bit rate, frame rate, sample rate, channel, and video/audio quality tasks on a video.
4. Create a Movie from video clips to demonstrate: - Audio-Video Mixing, Music, Video Effects, Video Transitions, and Titles.
5. Create a 3D image of an object such as a magnifying glass using 3Dsoftware.
6. Create a moving animation using any animation software.
7. Use a scanner to create two or more partial scanned images of large poster / photo. Create a panoramic view of multiple photos by stitching together them using any panorama software.
8. Use a audio recording program to record audio from different sources of input such as line-in, PC speaker output etc applying different filters, encoding and compression schemes. Split the audio into pieces. Merge different pieces together. Use appropriate tools.
9. Use suitable software to
 - (a) compress / decompress audio / video files.
 - (b) convert audio / video to different formats.
 - (c) split, join, rip audio /video.

SCHEME OF EVALUATION

Aim	5
Procedure / Program	20
Execution	20
Result & Print out	10
Viva	5
Total	60

Hardware : Digital camera

SOFTWARE- 3D Graphics and Animation

1. Ms Illustrator
2. Adobe flash

Multimedia Players

3. VLC Media Player Replaces: Windows Media Player
4. Mplayer Replaces: Windows Media Player
5. XBMC Media Center Replaces: Windows Media Player
6. Media Portal Replaces: Windows Media Player

LIST OF HARDWARE SUGGESTED

- I Desktop PCs with i3 or High end processor, 200 GB HDD, 4 MB RAM -36 Nos
- II Laser printer Monochrome, Color - 1 each
- III Digital (video)Camera -2 No.
- IV Flat bed A4 size Scanner - 1 No.

LIST OF SOFTWARE SUGGESTED

Operating system : Windows XP, Windows 7, Linux

Software tools : Open Source software or Commercial software. The following list is a suggestive list of Open Source software and their commercial replacement. Experiments may be done using either OSS or commercial software. OSS is preferred.

SUGGESTED DISTRIBUTION OF MARKS

Topic	Time Allotted (Hrs)	Marks Allocation
1	12	15
2	12	15
3	15	15
4	15	15
5	10	10
Total	64	70

CONCEPT OF .NET TECHNOLOGY

Subject Code : 056001

L	T	P
5	-	5

RATIONALE

.NET Framework is changing the way developers write applications. .NET Framework provides a number of components to create many types of applications including those for consoles, Windows, mobile units and the web. Using .NET framework the data can be made available anytime, anywhere and on any device.

This subject introduces the basics of .NET Framework. Writing applications on C#.Net is covered in this course. Concepts of developing Window applications using are discussed. This course helps to use ADO.NET to write the applications to connect with the back end database. The subject also enables the users to know the concepts of XML and the XML web services.

OBJECTIVES:

- On completion of the following units of syllabus contents, the students must be able to List the major elements of the .NET Framework and describe some of the major enhancements to the new version of C#.
- Describe the basic structure of a C# .NET project and use the main features of the integrated development environment(IDE).
- Use the new language features and syntax in C#.NET.
- Explain the basic concepts and terminology of object-oriented design specifically for C#.NET.
- Explain and use the basic concepts and terminology of object-oriented programming in C# .NET.
- Create applications by using Microsoft Windows Forms.
- Create applications that use ADO.NET.
- Create components in C# .NET.
- Set up and deploy various types of C# .NET-based applications.
- Develop Window applications using XML as back end database

DETAILED CONTENTS

1. Introduction To .net Framework

(16 Periods)

1.1 Introduction to .NET framework: Dot Net Architecture – Managed Code and the CLR –Intermediate Language, Metadata and JIT Compilation– Automatic Memory Management.

- 1.2 **Introduction to .NET framework:** Common Type System(CTS) – Common Language Specification (CLS) – Assembly –Namespace .
- 1.3 **Visual Studio .NET**– Using the .NET Framework. Exploring the Visual Studio Integrated Development Environment – System requirement – Versions
- 1.4 **The Framework Class Library-** .NET objects – ASP.NET-.NET web services– Windows Forms

2. Introduction To C# (16 Periods)

- 2.1 **Elements:** Variables and constants–data types– declaration. Operators– types– precedence – Expressions – Program flow – Decision statements – if ..then, if..then..else, select..case
- 2.2 **Loop statements**– while..end while, do..loop, for..next, for..each..next.
- 2.3 **Types:** Value data types – Structures, Enumerations. Reference data types – Single dimensional– Multi-dimensional arrays–Jagged arrays– Dynamic arrays
- 2.4 **Classes & objects** –Abstract & override methods object oriented concept: abstraction, Inheritance, Polymorphism, Classes, collections, Debugging

3. Window Application Using Window Forms (16 Periods)

- 3.1 **Windows programming** – Creating windows Forms – Working with Toolbox Controls– Button, Check Box, Combo Box, Label, List Box, Radio Button, Text Box, Group Boxes, Picture Box
- 3.2 **Advanced Controls &Events** : Timer , Progress Bar, Month Calendar , Tool Tips, Tab Controls, Panels -Events–Click, Close, Deactivate, Load, Mouse Move, Mouse Down, Mouse Up, Key press, Key Down, Key Up.
- 3.3 **Multiple Document Interface (MDI) Forms** – Creating MDI Applications– Creating MDI Child Windows –Arranging MDI Child Windows
- 3.4 **Multithreading** : Thread States, Life cycle of a Thread, Thread Priorities and scheduling, creating and executing Thread, Synchronization and Class Monitor, Exception Handling

4. Database Connectivity (16 Periods)

- 4.1 **Features of ADO .NET.** Architecture of ADO. NET–ADO. NET providers – connection – Command – Data Adapter – Data set.
- 4.2 **Database Programming with ADO .NET:** ADO .NET, Database: Connections, Data access techniques, XML Language, SQL, ADO.NET object Model, LINQ to SQL, ADO.NET and LINQ, LINQ to XML

5. Xml And Web Services

(16 Periods)

5.1 Introduction: Advantages –HTML Vs XML–Browsing and parsing XML– Creating a XML file– Details and–Well formed XML document–XML components - elements – Entities – Comments – Processing instructions – Attributes

5.2 creating web services, Web forms, ASP.NET, Request, Response, Server objects creating web reports using ASP.NET using ADO.NET with SQL Server and System .XML.

TEXT BOOK

1. Programming In C#, 3E E. Balagurusamy Tata McGraw - Hill Education, 2010
2. Applications of .NET Technology, ISRD Group TMGH Education Pvt Ltd., New Delhi 2011

REFERENCE BOOK

1. Introducing Microsoft .NET, David S. Platt Microsoft Press Saarc Edition, 2001

LAB EXERCISE

OBJECTIVES

- On completion of the following exercises, the students must be able to
- Develop and execute simple programs using C# .NET
- Understand the concepts of event handlers.
- Know the usage of various C# .Net controls
- Create C#.NET applications using menus.
- Access SQL database by using ADO.NET
- Use Form controls.
- Create Window applications using C#.NET form controls
- Develop XML database handling methodologies
- Accept a character from console and check the case of the character.

LIST OF EXPERIMENTS

1. Accept a character from console and check the case of the character.
2. Write a program to accept any character from keyboard and display whether it is vowel or not.
3. Write a program to accept a string and convert the case of the characters.
4. Develop a menu based application to implement a text editor with cut, copy, paste, save and close operations
5. Write a program to implement a calculator with memory and recall operations.

6. Develop a form in to pick a date from Calendar control and display the day, month, year details in separate text boxes.
7. Develop a application to perform timer based quiz of 10questions.
8. Develop a database application to store the details of students using ADO.NET
9. Develop a database application using ADO.NET to insert, modify, update and delete operations.
10. Develop a application using Data grid to display records.
11. Develop a application using Data grid to add, edit and modify records.
12. Develop a Window application to read an XML document containing subject, mark scored, year of passing into a Dataset

SCHEME OF VALUATION

Writing answer for any one program from PART -A	10 Marks
Writing answer for any one program from PART - B	15 Marks
Executing program (PART –A)	10 Marks
Executing program (PART –B)	10 Marks
Result with printout (PART – A)	5 Marks
Result with printout (PART – B)	5 Marks
VIVA - VOCE	5 Marks
TOTAL	60 Marks

HARDWARE REQUIREMENT

1. Network computer Lab

SOFTWARE REQUIREMNT

1. MS Visual Studio .NET/2005/2008/2012/2013/2015
2. Microsoft SQL Server 2005/2008 or above

SUGGESTED DISTRIBUTION OF MARKS

Topic	Time Allotted (Hrs)	Marks Allocation
1	16	15
2	16	15
3	16	15
4	16	15
5	16	10
Total	80	70

DATA MINING & WAREHOUSING

Subject Code : 056002

L	T	P
6	-	-

RATIONALE

Data Mining and Warehousing enables middle and top managers to analyze data and explore relationships among the data items which helps them to take right decisions in right time. After going through this course, students can understand the concepts, functions and various techniques of data mining and warehousing and appreciate them

DETAILED CONTENTS

- 1. Introduction to Data Mining. (16 Periods)**
 - 1.1 What is data mining? Data mining background, Inductive learning, statistics, machine learning.
 - 1.2 Difference between data mining and machine learning, data mining models, verification model, discovery model, Data mining problems/issues
- 2. Introduction to Data Warehousing (20 Periods)**
 - 2.1 Concept and benefits of data warehousing, type of data, characteristics of a data warehouse, processes in data warehousing,
 - 2.2 Data warehousing and OLTP systems, The data warehouse architecture, problems with data warehousing, criteria for a data warehouse Data marks
- 3. Data Mining Functions (25 Periods)**
 - 3.1 Classification, Associations, Sequential/temporal patterns ,Clustering /segmentation
- 4. Data Mining Techniques (25 Periods)**
 - 4.1 Cluster analysis, Induction, decision trees, rule induction, Neural networks On-line analytical processing,
 - 4.2 OLAP (Online Analytical Processing) examples Comparison of OLAP and OLTP (Online Transaction Processing), Data visualization
- 5. Data Mining Applications (10 Periods)**
 - 5.1 Data Mining Applications and recent trends in data mining

TEXT BOOK

1. .Data Mining Concepts and Techniques. Han, M Kamber, Morgan Kaufmann 2001, ISBN 1-55860-489-8, 2010
2. Introduction to Data Mining Hand, Mannila, and Smyth, MIT Press, Cambridge, MA, 2000

REFERENCE BOOK

1. OLAP Solutions Erik Thomsen, John Wiley & Sons, Inc., 1997 (ISBN 0471014931-4), 1997

SUGGESTED DISTRIBUTION OF MARKS

Topic	Time Allotted (Hrs)	Marks Allocation
1	16	12
2	20	12
3	25	18
4	25	18
5	10	10
Total	96	70

Subject Code : 056004

L	T	P
4	-	4

RATIONALE

The main aim of this subject is to enable the students to know the basic concepts of open source software and tools. The students will learn about the principles of open source software, web servers, databases, operating systems, programming languages and application development.

OBJECTIVES

On completion of the following units of syllabus contents, the students must be able to

- Understand the need, advantages and disadvantages of Open Source software.
- Understand the general concepts and modes of Linux Operating System.
- Understand the advanced concepts like Scheduling, Time Accounting, Personalities and coning.
- Know the basic concepts of Open Source Database.
- Know how to connect MY SQL database and closing connection.
- Write Simple MY SQL Programs.
- Creating database and tables in MY SQL.
- Manipulate database tables in MY SQL.
- Understand the concepts of Record Selection technologies
- Install and Configure of PHP on Windows.
- Understand the basic concepts of PHP.
- Understand the String and Array concepts in PHP.
- List the advanced features of PHP.
- Discuss the Memory Management, Parameter Handling and Variables in PHP.
- Understand how to access a database using PHP
- Discuss about the advanced Database techniques.
- Discuss about the Apache Web Server and Configuring the server.
- Explain the History and Architecture of Eclipse IDE Platform.
- Understand the basics of Python
- Knowing the building blocks of python language

- Knowing the development process of a Python program,
- Understanding file handling using python

DETAILED CONTENTS

Unit - I: Open Source Software (10 Periods)

Introduction : Need of Open Sources – Advantages of Open Sources – Applications – FOSS — Free Software Movement, Commercial aspects of Open Source movement -.Application of Open Sources Network operating systems – LINUX – features of linux– Linux advanced concepts

UNIT - II : PHP (15 Periods)

What is PHP? - Basic Syntax of PHP - programming in web environment - Common PHP Script Elements - Using Variables - Constants – Data types - Operators; Statements - Working With Arrays –Using Functions – OOP - String Manipulation and Regular Expression File and Directory Handling - Including Files - File Access Working With Forms -Processing Forms -Form Validation – Introduction to advanced PHP concept Simple programs Using PHP

UNIT - III : Database Accessing (15 Periods)

Introduction of MYSQL - Setting up an account - Starting, Terminating and writing your own MySQL Programs – Record Selection Technology - Working with Strings – Date and Time - Sorting Query Results module – Generating Summary - Working with Metadata - Using Sequences – MySQL and Web PHP and SQL database: PHP and LDAP ; PHP Connectivity ; Sending and receiving emails PHP Database Connectivity: Retrieving data from MySQL - Manipulating data in MySQL using PHP

UNIT IV : Basic features of Python (20 Periods)

Overview – Installing – Running in windows/Linux Variables and Strings: Data types - Operators – Decision Control – Conditional Statements - Loops – Example Programs Sequences: Lists: Introduction –Fixed size lists and arrays – Lists and Loops – Assignment and references –Identity and equality – Sorted lists – Tuples: Tuples and string formatting – String functions - Sets: Unordered Collections – Simple programs Dictionaries, Sets) Using modules – File Handling -Exception – Handling exception

Unit V : Web Server (04 Periods)

Apache Web server – Working with web server – Configuring and using apache web server WAMP and Xamp server

REFERENCE BOOK

1. The Complete Reference Linux Richard Peterson TataMcGraw Hill, New Delhi Third Edition
2. Web ProgrammingChris Bates Wiley India, New Delhi Third Edition, Reprint 2011
3. MySQL Bible Steve Suchring John Wiley sons 2002
4. Programming PHP Rasmus Lerdorf and Levin Tatroe O'Reilly Publications 2002, 2002

LIST OF EXPERIMENTS

PHP

1. Write a program to create Student registration form
2. Write a program to perform EB bill calculation
3. Write a program to perform Student grade manipulation
4. Write a program to perform String operations in PHP
5. Write a program to create Book master form
6. Write a program to perform Form validation – Railway ticket reservation
7. Write a program to perform Date and time operations in PHP
8. Write a program to Identify the web browser
9. Demonstrate the Database – Insert operation
10. Demonstrate the Database – Delete operation
11. Demonstrate the Database - Update operation

MYSQL

12. Demonstrate the Queries Record selection operation
13. Write the queries to demonstrate the working with date and time functions

PYTHON

14. Demonstrate the Simple Programming and File handling operation

SCHEME OF VALUATION

Aim	05
Procedure / Program	20
Execution	20
Result & Print out	10
Viva	05
Total	60

HARDWARE REQUIREMENT

- Desktop Computers – 40 Nos
- Printer – 2 NoS

SOFTWARE REQUIREMENT

- Apache server (or) wamp server (or) XAMP server
- Any text editor
- Browser with Javascript support

SUGGESTED DISTRIBUTION OF MARKS

Unit	Time Allotted (Hrs)	Marks Allocation
1	10	10
2	15	20
3	15	20
4	20	15
5	4	5
Total	64	70

MAJOR PROJECT

Subject Code : 056005

L	T	P
-	-	8

RATIONALE:

Project Work aims at developing innovative skills in the students whereby they apply the knowledge and skills gained through the course by undertaking a project. The individual students have different aptitudes and strengths. Project work, therefore, should match the strengths of students.

The primary emphasis of the project work is to understand and gain the knowledge of the principles of software engineering practices, so as to participate and manage a large software engineering projects in future.

OBJECTIVES:

- Implement the theoretical and practical knowledge gained through the curriculum into an application suitable for a real practical working environment preferably in an industrial environment
- Develop software packages or applications to implement the actual needs of the community.
- Get exposure on industrial environment and its work ethics.
- Understand what is entrepreneurship and how to become an entrepreneur.
- Learn and understand the gap between the technological knowledge acquired through curriculum and the actual industrial need and to compensate it by acquiring additional knowledge as required.
- Carry out cooperative learning through synchronous guided discussions within the class in key dates, asynchronous document sharing and discussions, as well as to prepare collaborative edition of the final project report.
- Expose students to the field of computing and to gain experience in software design.
- Understand and gain knowledge about disaster management.

GUIDELINES FOR PROJECT FORMULATION

The project work constitutes a major component in most of the profession a programmes and it is to be carried out with due care and should be executed with seriousness by the candidates.

Batch Size : Maximum 6 students per batch

TYPE OF PROJECT

As majority of the students are expected to work out a real life project in some

industry/research and development laboratories/educational institutions/software companies, it is suggested that the project is to be chosen which should have some direct relevance in day-to-day activities of the candidates in his/her institution. Students are encouraged to work in the areas listed at the end. However, it is not mandatory for a student to work on a real life project. The student can formulate a project problem with the help of Guide.

PROJECT PROPOSAL (SYNOPSIS)

The project proposal should be prepared in consultation with your guide during fifth semester. The project proposal should clearly state the project objectives and the environment of the proposed project to be undertaken. **The project work should compulsorily include the software development.** The project proposal should contain complete details in the following form:

1. Title of the Project.
2. Introduction and Objectives of the Project.
3. Project Category (DBMS/OOPS/Networking/Multimedia/Artificial Intelligence / Expert Systems etc.).
4. Tools / Platform, Hardware and Software Requirement specifications.
5. Analysis (DFDs at least up to second level , ER Diagrams/ Class Diagrams/ Database Design etc. as per the project requirements).
6. A complete structure which includes:
 - Number of modules and their description to provide an estimation of the student's effort on the project.
 - Data Structures as per the project requirements for all the modules.
 - Process logic of each module.
 - Testing process to be used.
 - Reports generation (Mention tentative content of report).
7. Are you doing this project for any Industry/Client? Mention Yes/No. If Yes, Mention the Name and Address of the Industry or Client.
8. Future scope and further enhancement of the project. Also mention limitation of the project.

PROJECT PROPOSAL SUBMISSION AND APPROVAL

After finalizing the topic and the selection of the guide, students should be submitting the Project Proposal to the HOD along with the synopsis and bio-data of the guide. Incomplete project proposals in any respect will be immediately rejected. The project synopsis will be sent to project monitoring committee for final approval.

SUGGESTIVE AREAS OF PROJECT WORK:

- Database Management Systems
- Software Engineering and Software Development
- Web page Designing
- Digital Image Processing
- Computer Graphics and Animation
- Multimedia Systems
- Computer Networks
- Artificial Intelligence
- Internet and e-commerce
- Computer Security and Cryptography
- Computer hardware and embedded systems
- Improving existing systems /equipments.
- Any other related area found worth.

INTERNAL ASSESSMENT:

The internal assessment should be calculated based on the review of the progress of the work done by the student periodically as follows.

SCHEME OF VALUATION

Detail of assessment	Period of assessment	Max.Marks
First Review	6TH	30
Second Review	14TH	30
Attendance	Entire semester	20
TOTAL		80

EVALUATION FOR BOARD EXAMINATION:

Details of Mark allocation	Max Marks
Marks for Report Preparation, Demo, Viva-voce	100
Marks for answers of 4 questions which is to be set by the external examiner from the given question bank consisting of questions in the following two topics Disaster Management and Environmental Management.	100
Total	200

EMPLOYABILITY SKILLS

L	T	P
4	-	-

Subject Code : 016055

RATIONALE

Diploma holders are required to not only possess subject related knowledge but also soft skills to get good jobs and to rise steadily at their workplace. This subject is included to develop employability skills amongst the students.

DETAILED CONTENTS

Unit I: (06 periods)

- Technical Education & Industrial scenario.
- Competency required of an engineer.

Unit II: (06 periods)

- Professional Engineer desirable values and ethics and their development.
- Relation between engineering profession, society and environment

Unit III: (12 periods)

Effective Communication

- Reading & Active Listening Skills
- Speaking
- Writing
- Presentation Technique/Seminar
- Group discussion

Unit IV: (12 periods)

Managing project

- Leadership
- Motivation
- Time management
- Resource management
- Interpersonal relationship

Unit V: (10 periods)

Preparing for Employment

- Searching for job/job hunting

- Resume & CV Writing
- Interview technique in personal interview telephonic interview, panel
- Interview, group interview, video conferencing

Unit VI: (08 periods)

Self Management

- Self awareness
- Stress Management
- Conflict resolution

Unit VII: (06 periods)

- Creativity, Innovation and Intellectual property right
- Concept and need in present time for an engineer

Unit VIII: (04 periods)

Rules & Ethics

- Basic rules, laws and norms to be adhered by engineers during their working

LIST OF PRACTICAS

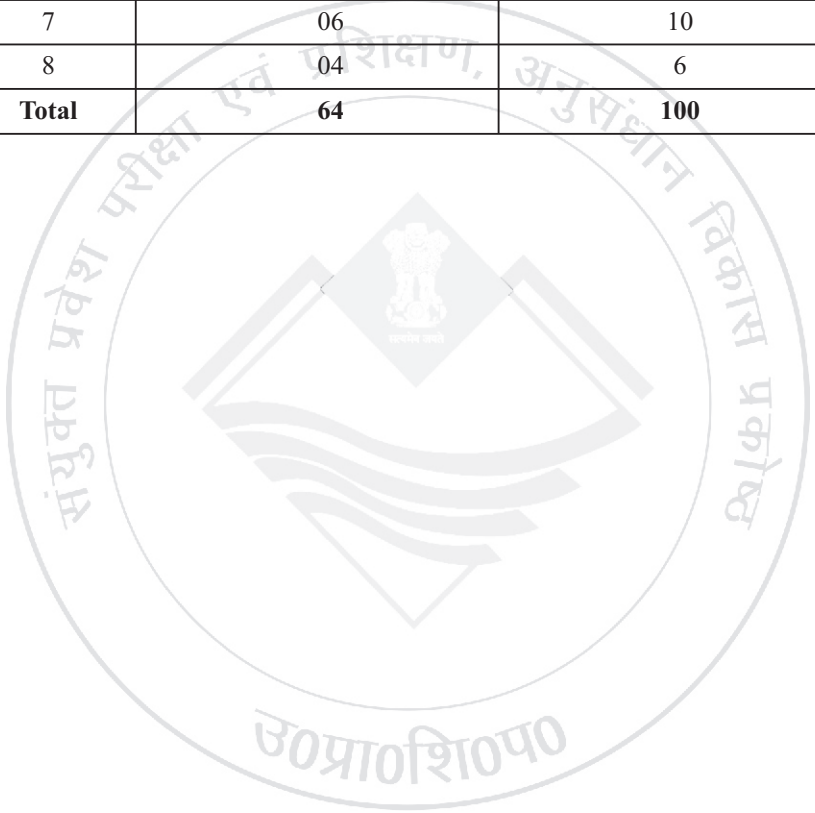
- Steps how to effectively write different types of Letters.
- Steps to make a Presentation in Power Point.
- Steps to make a Resume more effective.
- Steps to conduct Telephonic/On-line Interview (Through skype/Google Hangout).
- Study of Different Techniques of Stress Management.
- Study of Rules & Ethical practices to be followed at Workplace.

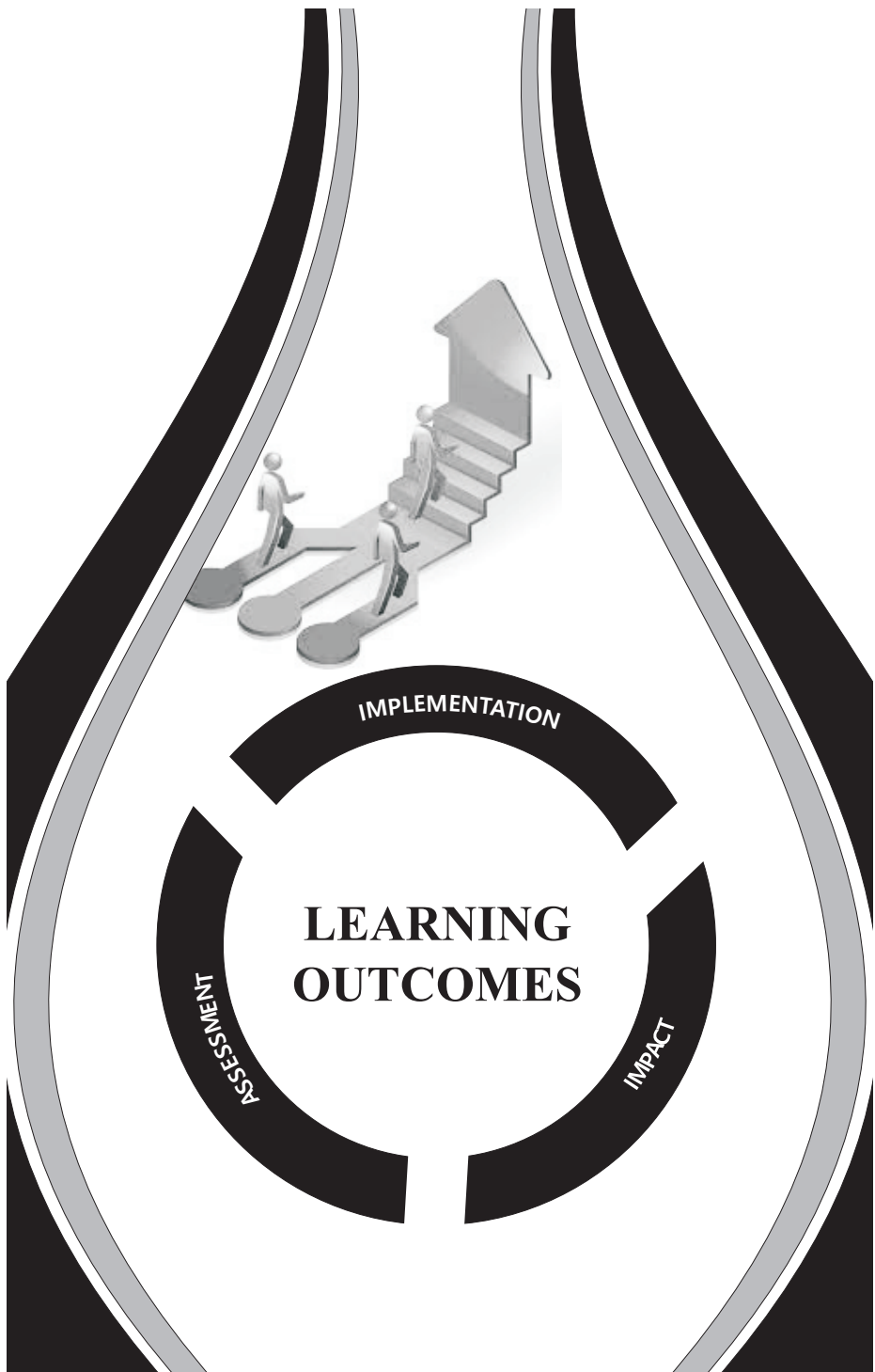
RECOMMENDED BOOKS

- Employability skills by Kapil Dev, Vishnu P. Singh Asian Pub. New Delhi
- Employability skills for Diploma students by Dr. S.K. Singh, Vayu Education, New Delhi

SUGGESTED DISTRIBUTION OF MARKS

Unit No.	Time Allotted (Periods)	Marks Allotted(%)
1	06	10
2	06	10
3	12	18
4	12	18
5	10	16
6	08	12
7	06	10
8	04	6
Total	64	100





LEARNING OUT COMES AND MEANS OF ASSESSMENT

BRANCH NAME –COMPUTER SCIENCE AND ENGINEERING

SEMESTER – V

S.NO.	Title of Subject/Unit	Learning Outcomes	Means of Assessment
1	Multimedia System	At the end of the course, the student will be able to develop clear understanding of different multimedia hardware and software's. This subject will provide hands on experience and good working knowledge of multimedia hardware/software and multimedia applications.	Assignments, Power Point Presentation, Class Test, Mid Term Examination & Semester examination. Practical assessment is done through Program execution and testing, Practical Records and Viva voce.
2	Concept of .Net technology	At the end of the course, the student will be able to develop clear understanding of principles and concepts of .Net framework and programming. This subject will provide acquaintance with fundamental concepts of C# programming language.	Assignments, Power Point Presentation, Class Test, Mid Term Examination & Semester examination. Practical assessment is done through Program execution and testing, Practical Records and Viva voce.
3	Data Mining & Warehousing *	At the end of the course, the student will be able to develop clear understanding of data warehousing and mining. This subject will provide hands on experience and good working knowledge in OLTP systems and OLAP.	Assignments, Power Point Presentation, Class Test, Mid Term Examination & Semester examination.
4	Open Source Technology	At the end of the course, the student will be able to develop clear understanding of open source software. This subject will provide hands on experience and good working knowledge in PHP, MYSQL, Python	Assignments, Power Point Presentation, Class Test, Mid Term Examination & Semester examination. Practical assessment is done through Program execution and testing, Practical Records and Viva voce.

5	Major Project	Project work aims to develop innovative skills in student to the various industries dealing with computer and software's. In Major project student will develop software packages or applications to implement the actual need of the community.	Time to time review of project work project work at every stage, Running status of project, Power Point Presentation, Report and Viva voce.
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