# PEOPLE'S UNIVERSITY, BHOPAL
## (Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Diploma in Engineering**                    **Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | L | T | P | External (70) | Internal (30) | Total (100) | External (Nil) | Internal (Nil) | Total |
| DPE14011 | E-Commerce and E-Business | 3 | 1 | - | | | Min: 40 (D Grade) | | | Nil |

**Duration of Theory (Externals): 3 Hours**

| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance Max. Marks: 15 |
|---|---|---|
| **Practical Internal Max Marks: Nil** | Lab work & Sessional – Max Marks: Nil | Assignment/Quiz/ Attendance Max. Marks: Nil |

| Pre-Requisite | Nil |
|---|---|
| **Course Outcome** | 1.To understand technical aspect of E-commerce and E-Business |
| | 2.To describe the process of E-commerce and E-business |
| | 3.To understand Infrastructure design issues of E-commerce |

| Unit | *Contents (Theory)* | Marks Weightage |
|---|---|---|
| I | **Introduction of E-Commerce**: Definition of E-Com , different types of E-com , E -commerce trade cycle , Advantages and disadvantages of E-com , Traditional commerce Vs E commerce. | **14** |
| II | **Overview Of Hardware and Software Technologies of E-Commerce:** Client side programming ( Dream weaver , Front page ), Server side programming (PHP) , Database connectivity , session tracking , middleware technologies from E- com. | **14** |
| III | **Payment System of E-Commerce**: Traditional payment model , Characteristics of payment, system, SET Protocol for credit card payment, E-cash, E-check, smart cards. | **14** |
| IV | **Introduction to E business :** Definition of E business , Characteristics , elements of e business, roles , Impact of E business , challenges of E business . | **14** |
| V | **Developing E Business-models:** E- business structure , Evolution of E –business and its business models stages , Characteristics of Internet based software and E- business solutions. | **14** |

**Text Book/References Books/ Websites**
1.Henry Chan ;E-Commerce Fundamentals and application; Wiley publication
2.Dave Chaffey; E –business and E – commerce Management ; Pearson , 3rd edition
S. J. Joseph; E-Commerce: an Indian perspective,;PHI

**Suggested List of Laboratory Experiments :- (Expandable):***Nil*

# PEOPLE'S UNIVERSITY, BHOPAL
### (Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Diploma in Engineering**                                        Semester –IV

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | L | T | P | External (70) | Internal (30) | Total (100) | External (Nil) | Internal (Nil) | Total |
| DPE14012 | Rural Technology & Community Development | 3 | 1 | - | | | Min: 40 (D Grade) | | | Nil |

**Duration of Theory (Externals): 3 Hours**

| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test - Max Marks: 15 | Assignment/Quiz/Attendance - Max. Marks: 15 |
|---|---|---|
| **Practical Internal Max Marks: Nil** | Lab work & Sessional Max Marks: Nil | Assignment / Quiz/ Attendance Max. Marks: Nil |

| Pre-Requisite | Nil | |
|---|---|---|
| **Course Outcome** | 1. | To understand Rural areas problems |
| | 2. | To describe the process by which we improve the living conditions of rural India. |
| | 3. | To understand how we help community of rural areas |

| Unit | Contents (Theory) | Marks Weightage |
|---|---|---|
| I | **Introduction:** Introduction to Rural Technology, Technology for Natural Resources Development and Conservation, Technology for Rural Livelihood Development, Technology for Infrastructure. | **14** |
| II | **Rural Energy Planning: Energy sources -** conventional, non-conventional-wind, bio-gas, solar; Energy audits: Energy conversion & conservation program, elements of energy accounting, Energy planning: demand and supply forecasting. | **14** |
| III | **Housing:** Housing in Rural Areas: Rural Housing Programmes, Low Cost Housing Appropriate Technologies in Rural Housing, Drinking Water Supply : Sources Problems , Programmes to Solve Drinking Water Problems; Problems of Sanitation in Rural Areas Low Cost Toilets. | **14** |
| IV | **Rural Community Facilities & Services:** Types of Community Facilities and Services: Water, sanitation, electricity; Provider of Community Facilities: Government, Non-Governmental Organizations, Philanthropic Organization; | **14** |
| V | **Various Program Under Community Facilities And Services;** Various Models in Providing Drinking Water and Sanitation in India. Rural Transportation system - modes of transportation - rural economy. Rural Health Care and Delivery Systems. | **14** |

**Text Book/References Books/ Websites**

1. Vikram Singh ; Rural Development in India; Satyam Law International.

2. Katar Singh; Rural Development Principle Policies & Management;

3. Jerry W. Rabinson; Introduction to Community Development; SAGE.

4. Rhonda Phillips, Robert H. Pittman; An Introduction to Community Development; Taylor & Fransis

**Suggested List of Laboratory Experiments :- (Expandable):Nil**

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Programme: **Diploma in Engineering**                                          **Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | L | T | P | External (70) | Internal (30) | Total (100) | External (Nil) | Internal (Nil) | Total |
| **DPE14013** | **Waste Management** | 3 | 1 | - | | | Min: 40 (D Grade) | | | Nil |

**Duration of Theory (Externals): 3 Hours**

| **Theory Internal- Max Marks: 30** | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance Max. Marks: 15 |
|---|---|---|
| **Practical Internal Max Marks: Nil** | Lab work & Sessional – Max Marks: Nil | Assignment/ Quiz/Attendance Max. Marks: Nil |

| **Pre-Requisite** | Nil | |
|---|---|---|
| **Course Outcome** | 1. | Ability to understand about basic concept of waste management. |
| | 2. | Ability to understand about recycling of various wastes. |
| | 3. | Ability to understand about waste collection, handling and disposal. |

| Unit | *Contents (Theory)* | Marks Weightage |
|---|---|---|
| I | **Introduction:** Definition, various sources, types of waste, problem associated with waste, effects of waste- on society, on human health, on animals. Recycling of waste. | **14** |
| II | **Municipal & Solid waste:** Definition-Sources of solid waste, types of solid waste, Composition of solid waste, collection methods and techniques of solid waste, industrial & agricultural waste. | **14** |
| III | **Hazardous & E-waste**: Definition- sources of hazardous waste, collection of hazardous waste. Medical waste & Nuclear waste, disposal method and treatment. Definition- sources of E-Waste, E-waste – non-recycling impacts, recycling of e-waste. | **14** |
| IV | **Collection, Treatment & Disposal:** methods of residential and commercial waste collection, collection vehicles, manpower. Segregation & composting of solid wastes. Method & techniques for treatment of solid waste. | **14** |
| V | **Disposal of Solid Wastes:** Refuse disposal systems, incinerations, principle features of an incinerator, site selection and plant layout of an incinerator. Sanitary landfill, advantages and disadvantages of sanitary land fill - site selection. Dumping-open & sea dumping. | **14** |

**Text Book/References Books/ Websites**

1. Jagbir Singh, AL. Ramanathan; Solid Waste Management: Present and future challenges; I.K. International Publishing House Pvt Ltd
2. George Tchobanoglous and Hillary theisen, Samuel Vigil; Integrated solid waste management, McGraw Hill.
3. T. V. Ramachandra; Management of Municipal Solid Waste; TERI press.

**Suggested List of Laboratory Experiments :- (Expandable): Nil**

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Programme:  **Diploma in Engineering**                                        **Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | **L** | **T** | **P** | **External (70)** | **Internal (30)** | **Total (100)** | **External** (Nil) | **Internal** (Nil) | **Total** |
| **DCS1402** | **Software Engineering** | 3 | 1 | - | | | Min: 40 (D Grade) | | | Nil |

**Duration of Theory (Externals): 3 Hours**

| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance Max. Marks: 15 |
|---|---|---|
| **Practical Internal Max Marks: Nil** | Lab work & Sessional – Max Marks-Nil | Assignment/Quiz/ Attendance Max. Marks-Nil |

| Pre-Requisite | Nil |
|---|---|
| **Course Outcome** | 1.An ability to apply knowledge of mathematics, science, and engineering. |
| | 2.How to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment. |
| | 3.Appreciate the engineering nature of software development |

| Unit | *Contents (Theory)* | Marks Weightage |
|---|---|---|
| I | **Software Engineering and Life Cycle The evolving role of Software** – software engineering, Phases in Software Engineering, Software Crisis/ challenges. Software Life Cycle Model, Spiral Model, Prototype Model. | **14** |
| II | **Software Requirement Analysis -**What is Software Requirement? Feasibility study, Requirement Analysis, Software Requirement Specification (SRS).Software planning & scheduling Project planning, scheduling & staffing. | **14** |
| III | **Software Design -**Basics of Software Design; Data Design; Architectural Design Evolution of software design; Fundamental Design concepts- Abstraction, Refinement, Information hiding, Structure, Modularity, Software architecture, Data structure, Concurrency, Verification; Effective Modular Design, Basic concepts of Data Flow-Oriented Design & Object-oriented Design. | **14** |
| IV | **Software Cost Estimation-**Basics of Software Cost estimation; Software Cost Estimation Techniques – Expert Judgment; & COCOMO. **Software Testing -**Testing Objectives; Test plan; Model of software testing, & Testing Strategies. | **14** |
| V | **Software Quality Assurance, & MAINTANANCE -**Software quality concept; Software Quality Assurance (SQA); SQA activities; Basics of Software maintenance, Enhancing maintainability during development. | **14** |

**Text Book/References Books/ Websites**

1. Roger S. Pressman, Software Engineering, A Practitioner's Approach ,McGraw-Hill
2. Richard E. Fairly ,Software Engineering Concepts , Tata McGraw Hill
3. Hans Van Vlient , Software Engineering Principles and Practice, Wiley

**Suggested List of Laboratory Experiments :- (Expandable):***Nil*

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Programme: **Diploma in Engineering**                                    **Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | **L** | **T** | **P** | **External (70)** | **Internal (30)** | **Total (100)** | **External (35)** | **Internal (15)** | **Total (50)** |
| **DCS 1403** | **Object-Oriented Programming** | 3 | 1 | 1 | | | Min: 40 (D Grade) | | | Min: 20 (D Grade) |

**Duration of Theory (Externals): 3 Hours**

| **Theory Internal- Max Marks: 30** | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance Max. Marks: 15 |
|---|---|---|
| **Practical Internal Max Marks: 15** | Lab work & Sessional – Max Marks: 10 | Assignment/Quiz/ Attendance Max. Marks: 05 |

| **Pre-Requisite** | Nil |
|---|---|
| **Course Outcome** | 1. Create a program that measures or simulates performance and use it to analyze behavior |
| | 2. Use an integrated development environment. |
| | 3. Design, implement, test, debug, and document programs in C and C++. |

| Unit | *Contents (Theory)* | Marks Weightage |
|---|---|---|
| I | **Concept of Object Oriented Programming.** **History & features**: It's need & requirement, procedure oriented programming versus object oriented programming, basic concepts object oriented programming, object oriented languages. **Beginning with C++**: Concepts & structure of C++ programming, concepts of structure. | **14** |
| II | **Objects &classes :** Specifying a class, Defining member functions, Arrays within a class, Creating objects, memory allocation for objects, static data & member function, Arrays of objects, objects as function argument. | **14** |
| III | **Constructors and Destructors**: Concept of Constructor (Default, Parameterized, copy), Overloaded Constructors, Constructor with default argument, Destructors. Function overloading, Operator overloading (overloading unary & binary operators), rules for overloading operators. | **14** |
| IV | **Inheritance:** Concepts of inheritance, Derived classes, Member declaration (Protected), Types of inheritance (Single, multilevel, multiple, hierarchical, Hybrid inheritance), Virtual base classes, Abstract classes, Constructors in derived classes, Member classes. | **14** |
| V | **Polymorphism** Concepts of polymorphism, types of polymorphism, Overloading & overriding, Virtual function, Static & dynamic binding. **Basic function of I/O system basics & File Processing:** Stream classes, using formatted & unformatted functions, using manipulator to format I/O, Basics of file system, opening & closing a file, reading & writing character from a file (get, put, get line, write), Command line arguments. | **14** |

*School of Research and Technology*                              *Department of Computer Science & IT*

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Programme:  **Diploma in Engineering**                                    **Semester –IV**

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**Text Book/References Books/ Websites**
1. Schilt ; C++ The complete reference ; Tata McGraw Hill.
2. Balgurusamy ;Object oriented programming withC++ ; Tata McGraw Hil
3. Robert Lafore ;Object Oriented Programming in C++ ; Techmedia Publication.

**Suggested List of Laboratory Experiments :- (Expandable):**

1. Programs to input & output data (Simple programs).
2. Programs to create object of class
3. Programs to create arrays of objects
4. Program to access static member variables
5. Programs using object as function arguments using friend function.
6. Programs to define Class using constructor & destructor.(Default constructor, Multiple constructor, Copy constructor, Overloaded constructor)
7. Program using constructor with default argument
8. Program to overload unary & binary operator
9. Single inheritance & multilevel using protected member
10. Multiple inheritance & virtual base class
11. Program for pointers to arrays of integer
12. Program for pointers to strings
13. Program for pointers to objects
14. Program for this pointer.
15. Program for (virtual functions) runtime polymorphism
16. Programs for overload function

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### (Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Diploma in Engineering**                                    **Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **DCS1404** | **Data Base Management System** | **L** | **T** | **P** | **External (70)** | **Internal (30)** | **Total (100)** | **External (35)** | **Internal (15)** | **Total (50)** |
| | | 3 | 1 | 1 | | | Min: 40 (D Grade) | | | Min: 20 (D Grade) |

**Duration of Theory (Externals): 3 Hours**

| **Theory Internal- Max Marks: 30** | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance Max. Marks: 15 |
|---|---|---|
| **Practical Internal Max Marks: 15** | Lab work & Sessional – Max Marks: 10 | Assignment/Quiz/ Attendance Max. Marks: 05 |

| **Pre-Requisite** | To have basic knowledge computer database. |
|---|---|
| **Course Outcome** | 1.Students will be able to develop new methods in databases based on knowledge of existing technique. |
| | 2.Student will be able to do query optimization. |
| | 3.Students will be able to apply concepts learned in various domains in DBMS. |

| Unit | *Contents (Theory)* | Marks Weightage |
|---|---|---|
| I | **Basic Concepts:** DBMS Concepts and architecture Introduction, Review of file organization techniques, Database approach v/s Traditional tile accessing approach, Advantages of database systems, Data models, Schemas and instances, Data independence, Functions of DBA and designer. Entities and attributes, Entity types, Value, Sets, Key attributes, Relationships, Defining the E-R diagram of database, | **14** |
| II | **Data models and Relational Databases:** Various data models, Basic concepts of Hierarchical data model, Network data model, and Relational data model, Comparison between the three types of models, Relational Data models: Domains, Tuples, Attributes, Relations, Characteristics of relations, Keys, Key attributes of relation, Relational database, Schemas, Integrity constraints, Intension and Extension. | **14** |
| III | **Structured Query Language:** Relational Query languages: Relational algebra and relational calculus, Relational algebra operations like select, Project, Join, Division, outer union. **SQL**: Data definition in SQL, update statements and views in SQL QUEL & QBE: Data storage and definitions, Data retrieval queries and update statement. | **14** |
| IV | **Database Design:** Data Base Design: Introduction to normalization, Normal forms, functional dependency, Decomposition, Dependency preservation and lossless join, problems with null valued and dangling tuples, multi-valued dependencies.. | **14** |
| V | **Advance Concepts:** Introduction to: Distributed databases, protection, security and integrity constraints, concurrent operation on databases, recovery and transaction processing, | **14** |

**Text Book/References Books/ Websites**

1. Date C J; An Introduction To Database System; Pearson Educations

2. Korth, Silbertz, Sudarshan; Fundamental of Database System; McGraw Hill

3.Rob;Data Base System:Design Implementation & Management ;Cengage Learninig

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Programme: **Diploma in Engineering**     **Semester –IV**

4.Elmasri, Navathe;  Fundamentals Of Database Systems; Pearson Educations
5.Atul Kahate;  Introduction to Database Management System; Pearson Educations

**Suggested List of Laboratory Experiments :- (Expandable):**
1. Delete duplicate row from the table.
2. Display the alternate row from table.
3. Delete alternate row from table.
4. Update multiple rows in using single update statement.
5. Find the third highest paid and third lowest paid salary.
6. Display the 3rd, 4th, 9th rows from table.
7. Display the ename, which is start with j, k, l or m.
8. Show all employees who were hired the first half of the month.
9. Display the three record in the first row and two records in the second row and one record in the third row in a single sql statements.
10. Write a sql statements for rollback commit and save points.
11. Write a pl/sql for select, insert, update and delete statements.
12. Write a pl/sql block to delete a record. If delete operation is successful return 1 else return 0.
13. Display name, hire date of all employees using cursors.

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Programme: **Diploma in Engineering**                                    **Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | **L** | **T** | **P** | **External (70)** | **Internal (30)** | **Total (100)** | **External (35)** | **Internal (15)** | **Total (50)** |
| **DCS1405** | **Linux and Shell Programming** | 3 | 1 | 1 | | | Min: 40 (D Grade) | | | Min: 20 (D Grade) |

**Duration of Theory (Externals): 3 Hours**

| **Theory Internal- Max Marks: 30** | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance Max. Marks: 15 |
|---|---|---|
| **Practical Internal Max Marks: 15** | Lab work & Sessional – Max Marks: 10 | Assignment/Quiz/ Attendance Max. Marks: 05 |

| **Pre-Requisite** | Nil |
|---|---|
| **Course Outcome** | 1.To teach to understand the basics of Linux shell |
| | 2.Student will be able to understand Linux OS Shell and Shell Scripting. |
| | 3.Students will be able to learn the Linux shell programming. |

| Unit | *Contents (Theory)* | Marks Weightage |
|---|---|---|
| I | **Features of UNIX/LINUX operating system**: UNIX/LINUX Structure: Kernel and Shell, Basic commands, Accessing help in UNIX/LINUX, Filenames and using wild cards, Types of files, UNIX/LINUX File system: four block of file systems, directory hierarchy, Operations and utilities for directory and files. | 14 |
| II | **Concepts of UNIX :**Users, group and ownership of files, Security levels and shell customization: Environment variables, File permissions: File attribute, permissions and changing file permissions, User masks, changing ownership and groups, Job control. | 14 |
| III | **UNIX shell and its types Features of shell:** standard streams, redirection, pipes, Command execution: sequenced, grouped, chained and conditional command, exit status of command, Quotes and command substitution: backslash, double quotes and single quotes, Command substitutions and eval command Special files: trace file and terminal files, Environmental variables, startup scripts and command history. | 14 |
| IV | **Filters:** Introduction, using pipe with filters, Concatenating files, Display beginning and end of files, Splitting files, cut, paste, sorting and translating characters, Files with duplicate lines, counting character, words and lines and comparing files, Communication utilities. | 14 |
| V | **Basic script concept Shell variable**: predefined variables and user defined variable, storing value in variable and accessing it, unsetting variables, storing filenames, content and command in variable. Input: reading word by word, line by line and from file, Expression, Decisions and repetition, Special parameters and variables, Changing positional parameters and argument validation. | 14 |

**Text Book/References Books/ Websites**

1. John Goezen;  Linux Programming Bibe; IDG Books, New Delhi, 2000
2. Sumitabh Das;  Your Unix- The Ultimate Guide; TMH, 2000
3. Mathew;Professional Linux Programming, Vol.1&2;Wrox-Shroff, 2001.

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Programme:  **Diploma in Engineering**                                                 **Semester –IV**

**Suggested List of Laboratory Experiments :- (Expandable):**
1. Introduction to LINUX Operating System.
2. Installation of LINUX Operating System (Red Hat-5).
3. Study of general purpose utilities commands.
4. Study of user & session management commands.
5. Study of file system navigation commands, text processing tools, communication commands.
6. Study of VI editor.
7. Study of Shell Script.
8. Execute C & C++ programs in Linux.
9. Installation using RPM/YUM server.
10. Back up using TAR command.

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Programme: **Diploma in Engineering**                                    **Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | **L** | **T** | **P** | | | **Total** | | | **Total (50)** |
| **DCS1406** | **Computer Networking and Web Designing Lab** | - | - | 1 | **External (Nil** | **Internal (Nil)** | **Nil** | **External (35)** | **Internal (15)** | Min: 20 (D Grade) |

**Duration of Theory (Externals): -Nil**

| **Theory Internal- Max Marks: -Nil** | Best of Two Mid Semester Test – Max Marks: -Nil | Assignment/Quiz/Attendance Max. Marks: -Nil |
|---|---|---|
| **Practical Internal Max Marks: 15** | Lab work & Sessional – Max Marks: 10 | Assignment/Quiz/ Attendance Max. Marks: 05 |

| **Pre-Requisite** | Nil |
|---|---|
| **Course Outcome** | 1. To develop Networking skills<br>**2.** Ability to learn designing of web and technologies used. |

| Unit | Contents (Theory) | Marks Weightage |
|---|---|---|
| I | Introduction to ISO OSI model,Networks Cabling ,IP Addressing , Introduction to Packet Tracer ,Simple 5 PC's network ,Building a LAN with HUPs and Switches. Basic principles involved in developing a web site, Planning process , Five Golden rules of web designing , Designing navigation bar , Page design , Home Page Layout 1.7 Design Concept.HTML Documents, Basic structure of an HTML document ,Creating an HTML document ,Mark up Tags ,Heading-Paragraphs ,Line Breaks ,HTML Tags. | **50** |

**Text Book/References Books/ Websites**
1. Larry Peterson and Bruce Davie; Computer Network: A Systems Approach;
2 .James F. Kurose, Keith W. Ross; Computer Networking – A Top-Down Approach Featuring The Internet; Pearson Education, 2009.
3. Nader. F. Mir; Computer And Communication Networks; Pearson Prentice Hall Publishers, 2010.
4.Steven M. Schafer; HTML, XHTML, and CSS Bible; Wiley India

**Suggested List of Laboratory Experiments :- (Expandable):**
1. Study of layers in OSI model.
2. Study of Stop-and-Wait Protocol.
3. Study of Piggybacking.
4. Discuss terms Hub, Switch and Router.
5. Study working of URL in web browser.
6. Discuss main language or platform used for web-design.
7. Perform image as a background on web pages in HTML.
8. Discuss Responsive design on a web page.
**9.** Study of Dreamweaver Template.

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Programme: **Diploma in Engineering**                    **Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | **L** | **T** | **P** | | | **Total** | | | **Total (100)** |
| **DCS1407** | **Industrial Training-I** | - | - | 2 | **External (Nil** | **Internal (Nil)** | Nil | **External (70)** | **Internal (30)** | Min: 40 (D Grade) |

**Duration of Theory (Externals): -Nil**

| **Theory Internal- Max Marks: -Nil** | Best of Two Mid Semester Test – Max Marks: -Nil | Assignment/Quiz/Attendance Max. Marks: -Nil |
|---|---|---|
| **Practical Internal Max Marks: 30** | Lab work & Sessional – Max Marks: 25 | Assignment/ Quiz/Attendance Max. Marks: 05 |

| **Pre-Requisite** | Fundamental Engineering Concepts. |
|---|---|
| **Course Outcome** | 1. To develop general confidence, ability to communicate and attitude, in addition to basic technological concepts through Industrial visits, expert lectures, seminars on technical topics and group discussion. <br> 2. Ability to learn under actual working environment. |

| Unit | *Contents (Theory)* | Marks Weightage |
|---|---|---|
| I | As a part of the Diploma in Engineering curriculum, DCS 407, Industrial Training is a Practical course, which the students should undergo in reputed Private / Public Sector / Government organization / companies as industrial training of minimum two weeks to be undergone by the student in the semester break after III semester theory examinations. <br> **Training period**: Minimum of two weeks or 15 (Fifteen) Days. <br> **Companies / Areas covered**: Any field related to concern branch / discipline of Diploma in Engineering. <br> **Grading**: The training is graded based on: <br> **Note:** Presentation will take place the following week after you complete your training. The presentation is evaluated by your class in charge. Report must be submitted during power point presentation.. A Viva voce comprising comprehensive questions based on training undergone. <br> **Etiquette:** Dress properly, Behave well, Portray good image as a university student, Be punctual, Observe work ethics, Concern for safety, Be professional. | **100** |

**Text Book/References Books/ Websites:** *Nil*

**Suggested List of Laboratory Experiments :- (Expandable):** *Nil*

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