

Syllabus Book

Diploma Engineering (CE/CH/CV/IT/ME)



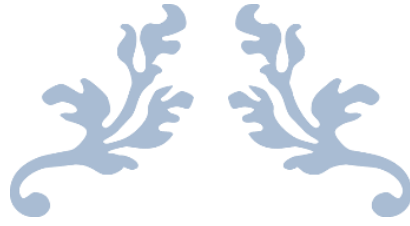
P P Savani University

School of Engineering
Institute of Diploma Studies

Effective From: 2021-22
Authored by: P P Savani University

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**FIRST YEAR
DIPLOMA ENGINEERING**



P P SAVANI UNIVERSITY

SCHOOL OF ENGINEERING

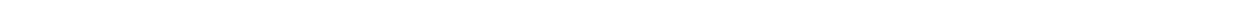
INSTITUTE OF DIPLOMA STUDIES

TEACHING & EXAMINATION SCHEME FOR DIPLOMA ENGINEERING PROGRAMME AY:2021-22

Sem.	Course Code	Course Title	Offered By	Teaching Scheme					Examination Scheme						
				Contact Hours				Credit	Theory		Practical		Tutorial		Total
				Theory	Practical	Tutorial	Total		CE	ESE	CE	ESE	CE	ESE	
1	IDSH1010	Fundamentals of Mathematics	SH	3	0	2	5	5	40	60	0	0	50	0	150
	IDSH1020	Engineering Physics	SH	3	2	0	5	4	40	60	20	30	0	0	150
	IDME1010	Basics of Mechanical & Civil Engineering	ME	2	4	0	6	4	40	60	40	60	0	0	200
	IDCE1010	Computer Applications	CE	3	4	0	7	5	40	60	40	60	0	0	200
	IDME1020	Engineering Workshop	ME	0	2	0	2	1	0	0	50	0	0	0	50
	CFLS1030	Functional English-I	CFLS	2	0	0	2	2	40	60	0	0	0	0	100
					Total	27	21								850
2	IDSH1040	Engineering Mathematics	SH	3	0	2	5	5	40	60	0	0	50	0	150
	IDSH1050	Fundamentals of Chemistry	SH	3	2	0	5	4	40	60	20	30	0	0	150
	IDCV1010	Engineering Mechanics	CV	3	2	0	5	4	40	60	20	30	0	0	150
	IDIT1010	Introduction to Computer Programming	IT	3	4	0	7	5	40	60	40	60	0	0	200
	IDSH1060	Electrical & Electronics Workshop	SH	0	2	0	2	1	0	0	50	0	0	0	50
	CFLS1040	Functional English-II	CFLS	2	0	0	2	2	40	60	0	0	0	0	100
					Total	26	21								800



SEMESTER 1



P P Savani University
School of Engineering
Institute of Diploma Studies

Department of Applied Science & Humanities

Course Code: IDSH1010

Course Name: Fundamentals of Mathematics

Prerequisite Course(s): Algebra, Geometry, Trigonometry till 9th Standard level

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
3	0	2	5	40	60	-	-	50	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the course:

To help learners to

- outlining logarithm properties.
- implementing concepts of Determinants and Matrices for solving science and engineering problems.
- presenting usefulness of trigonometry.
- acquire knowledge of co-ordinate geometry and ability to work with applications to Engineering Mathematics.

Course Content:

Module No.	Content	Hours	Weightage in %
1.	Logarithm Basic concept of logarithm, Rules and related examples, Applications of logarithm.	5	14
2.	Determinants and Matrices Basic concept of determinants and matrices, Addition and subtraction, Product, Inverse up to 3X3 matrix, Solution of simultaneous equations up to three variables, Applications of determinants and matrices.	9	18
3.	Trigonometry Basic concept of trigonometry, Units of angles (degree and radian), Allied & compound angles, Multiple-submultiples angles, Graph of sine and cosine, Periodic function, Sum and factor formulae, Inverse trigonometric function, Applications of trigonometry.	9	18
4.	Co-ordinate geometry Introduction, Point, Distance formula, Mid-point, Locus of a point, Straight lines, Slope of a line, Equation of a straight line, The general equation, Angle between two lines, Circle, Tangent and normal, Equation of tangent and normal.	6	15

5.	Vectors Basic concept of vector and scalar, Addition and subtraction, Product of vectors, Geometric meaning of scalar and vector product, Angle between two vectors, Applications of dot and cross product, Work done and moment of force.	8	15
6.	Mensuration Basic concept of Mensuration, Area of Triangle, Square, Rectangle, Trapezium, Parallelogram, Rhombus and Circle surface, Volume of Cuboids, Cone, Cylinder and Sphere.	8	20

List of Tutorials:

Sr. No.	List of Tutorial	Hours
1.	Logarithm-1	2
2.	Logarithm-2	2
3.	Determinants and Matrices-1	2
4.	Determinants and Matrices-2	2
5.	Determinants and Matrices-3	2
6.	Trigonometry-1	2
7.	Trigonometry-2	2
8.	Trigonometry-3	2
9.	Co-ordinate geometry-1	2
10.	Co-ordinate geometry-2	2
11.	Vectors-1	2
12.	Vectors-2	2
13.	Mensuration-1	2
14.	Mensuration-2	2
15.	Mensuration-3	2

Text Book:

Title	Author(s)	Publication
Advanced Mathematics for Polytechnic	Dr. N. R. Pandya	Macmillan Publication
Engineering Mathematics - 3 rd Edition	Anthony croft & others	Pearson Education Publication

Reference Book:

Title	Author(s)	Publication
Basic Mathematics	G.C. Patel and Ami C. Shah	Atul Prakashan
Applied Mathematics for Polytechnics - 10 th Edition	H. K. Dass	H. K. Dass
Applied Mathematics	W. R. Neelkanth	Sapna Publication

Course Evaluation:

Theory:

- Continuous Evaluation consists of two tests, each of 30 marks and 1 hour of duration and average of the same will be converted to 30 marks.

- Faculty evaluation consists of 10 marks as per the guidelines provided by the Course Coordinator.
- End Semester Examination consists of 60 marks.

Tutorial:

- Continuous evaluation consists of performance of tutorial which will be evaluated out of 10 Marks for each tutorial and average of the same will be converted to 30 marks.
- MCQ based examination consists of 20 marks.

Course Outcome(s):

After the completion of the course, the student will be able to

- Use Logarithm for solving mathematical problems.
- The students are expected to acquire necessary background in Trigonometry to appreciate the importance of the geometric study as well as for the calculation and the mathematical analysis.
- The students are expected to acquire necessary background in Determinants and Matrices so as to appreciate the importance of the Determinants are the factors that scale different parameterizations so that they all produce same overall integrals, i.e. they are capable of encoding the inherent geometry of the original shape.

P P Savani University
School of Engineering
Institute of Diploma Studies

Department of Applied Science & Humanities

Course Code: IDSH1020

Course Name: Engineering Physics

Prerequisite Course(s): Concept of Science up to 9th Standard

Teaching & Examination Scheme

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
3	2	0	4	40	60	20	30	0	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the course:

- The student will demonstrate the ability to think in core concept of their engineering application by studying various topics involved in branch specific applications.
- The student will demonstrate the ability to use appropriate mathematical techniques and concepts to obtain quantitative solutions to problems in physics.
- In courses involving laboratory, the student will demonstrate the ability to collect and analyze data and to prepare coherent reports of his or her findings.

Course Content:

Module No.	Content	Hours	Weightage in %
1.	SI Units & Measurements: Need of measurement and unit in engineering and science, Definition of unit and requirements of standard unit, Systems of units- CGS, MKS and SI, Fundamental and Derived quantities and their units, Least count and range of instrument, Vernier caliper, Micrometer screw gauge, Accuracy, Precision, Error and types of error, Estimation of errors - Absolute error, Relative error and Percentage error, Rules and identification of significant figures	5	10
2.	Motion in a Plane: Scalar and vector quantities, Position and displacement vectors, General vectors and their notations, Equality of vectors, multiplication of vectors by a real number, Addition and subtraction of vectors, Relative velocity, Unit vector, Resolution of a vector in a plane - rectangular components, Scalar and Vector product of vectors, Motion in a plane, Cases of uniform velocity and uniform acceleration-projectile motion, Uniform circular motion	6	15

3.	<p>Force and Motion: Recapitulation of equations of motion, Newton's 1st law of motion, Force, basic forces in motion, Gravitational force, Electrostatic force, Electromagnetic force, Nuclear force, Inertia, types of inertia, Momentum and Newton's 2nd law of motion, Impulse of force, Impulse as the product of force and time, impulse as the difference of momentum, Newton's 3rd law of motion and its examples, Law of conservation of momentum</p>	6	15
4.	<p>Work, Energy and Power: Work done by a constant force and a variable force, Kinetic energy, Work-energy theorem, Power, Notion of potential energy, Potential energy of a spring, Conservative forces, Conservation of mechanical energy (kinetic and potential energies), Non-conservative forces, Motion in a vertical circle, Elastic and inelastic collisions in one and two dimensions</p>	5	10
5.	<p>Mechanical Properties of Solids and fluids: Deforming force, Restoring force, Elastic and plastic body, Stress and Strain with their types, Elastic limit, Hooke's law, Young's modulus, Bulk modulus, Modulus of rigidity and Relation between them (no derivation), Stress- Strain diagram, Yield point, Ultimate stress, Breaking stress, Factor of safety. Pascal's law and its applications (hydraulic lift and hydraulic brakes), Effect of gravity on fluid pressure, Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its applications, Surface energy and surface tension, angle of contact</p>	8	20
6.	<p>Heat Transfer: Introduction to thermodynamics, Temperature and Heat, Transmission of heat - Conduction, Convection and Radiation, Good and bad conductor of heat with examples, Law of thermal conductivity, Coefficient of thermal conductivity and its S.I. unit Heat capacity and Specific heat of materials, Celsius, Fahrenheit and Kelvin temperature scales and their conversion formula</p>	5	10
7.	<p>Oscillations: Periodic motion - time period, frequency, displacement as a function of time, Periodic functions, Simple harmonic motion (S.H.M) and its equation, Phase Oscillations of a spring-restoring force and force constant, Energy in S.H.M. Kinetic and potential energies, Simple pendulum derivation of expression for its time period, Free, forced and damped oscillations (qualitative ideas only), resonance</p>	5	10
8.	<p>Waves: Wave motion, Transverse and longitudinal waves, Speed of wave motion, Displacement relation for a progressive wave, Principle of superposition of waves, Reflection of waves, Standing waves in strings and organ pipes, Fundamental mode and harmonics, Beats, Doppler effect</p>	5	10

List of Practical:

Sr. No.	List of Practical	Hours
1.	To study about basic unit conversion and dimension analysis.	4
2.	To measure length and diameter of the given object using Vernier callipers.	2
3.	To measure the thickness of slit and diameter of wire with help of micrometer Screw Gauge.	2
4.	To determine the surface tension of water by capillary rise method.	4
5.	To Verify Ohm's Law by using an Ammeter & Voltmeter	2
6.	To determine the wavelength of sound produced (i) in an air column and the velocity of sound in air at room temperature using a resonance column and a tuning fork.	4
7.	To determine Young's modulus of a material of a beam by the method of bending of a beam.	4
8.	To determine the modulus of rigidity of the material of wire by dynamical method.	2
9.	To determine the value of 'g' by using a Simple Pendulum.	2
10.	Measurement of g: Use of a Kater's Pendulum.	2
11.	To measure the temperature of given material by any temperature measuring instrument.	2

Text Book:

Title	Author(s)	Publication
Basic physics for Diploma group -1	-	Atul Prakashan

Reference Books:

Title	Author(s)	Publication
Physics Part-I and II	Resnick and Haliday	Wiley Eastern Publication
Concept of Modern Physics	Arthur Beiser	Tata McGraw Hill
Concept of Physics	H C Verma	-
Fundamental of physics	Gomber & Gogia	Pradeep publications Jalandhar
NCERT Physics part 1 & 2	-	NCERT

Course Evaluation:**Theory:**

- Continuous Evaluation Consist of Two Test Each of 30 Marks and 1 Hour of duration.
- Faculty evaluation consists of 10 marks as per the guidelines provided by the Course Coordinator.
- End Semester Examination will consist of 60 Marks Exam.

Practical:

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 10 Marks.
- Internal Viva component of 10 Marks.
- Practical performance/quiz/drawing/test of 20 Marks during End Semester Exam.
- Viva/Oral performance of 10 Marks during End Semester Exam.

Course Outcome(s):

After the completion of the course, the student will be able to

- demonstrate the ability to think in core concept of their engineering application by studying various topics involved in branch specific applications.
- demonstrate the ability to use appropriate mathematical techniques and concepts to obtain quantitative solutions to problems in physics
- demonstrate the ability to collect and analyze data and to prepare coherent reports of his or her findings.
- learn some basics of laws of motion and mechanics.
- learn measuring all properties of solid, liquid and gases which use full further study in engineering program like thermodynamics, solid mechanics soil test etc.
- identify good & bad conductors of heat and proper temperature scale for temperature Measurement.
- understand idea about waves and their propagation which is useful for further study of digital communication.

P P Savani University
School of Engineering
Institute of Diploma Studies

Department of Mechanical Engineering

Course Code: IDME1010

Course Name: Basics of Mechanical and Civil Engineering

Prerequisite Course(s): -

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
02	04	00	04	40	60	40	60	00	00	200

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to

- acquire an inclusive knowledge of fundamental concept of Mechanical Engineering.
- understand working of simple mechanical devices.
- study and gain significance of Mechanical Engineering in various fields.
- read and interpret the building drawing
- select different types of construction materials as per requirements

Course Content:

Module No.	Content	Hours	Weightage in %
1.	Introduction of Mechanical Engineering: Introduction, Scope, Importance, Basic terminologies in mechanical engineering, Basic mechanical components used in routine, Pipe and pipe fittings, Hand tools, Power tools	02	7
2.	Heat interactive equipment: Heat transfer and its Modes, Boilers, Classification and Working, Concept of Accessories and Mountings – Types, Applications, Prime movers, Meaning, Classification, Steam turbine working, Layout of thermal power plant, Working and applications, Internal combustion engines – Definition, Classification, Components, Working of two-stroke and four-stroke engines, S.I. and C.I. engines	04	13
3.	Power Transmission and Safety: Power transmission: Importance, Modes, Types, Applications, Couplings in power transmission, Safety norms to be followed for preventing accidents.	03	10
4.	Hydraulic and pneumatic devices: Concept of theory of fluid flow, general properties of fluid flow, Pumps, Water turbines, and Air compressors – working principle,	03	10

	types, parts, performance, troubles and remedies, applications.		
5.	Manufacturing processes: Overview of manufacturing processes, Welding concept and overview, Types, Arc and Gas welding, Accessories and Consumables, Precautions and Safety during arc and gas welding, Casting - Introduction, Applications.	03	10
6.	Civil Engineering: An Overview Introduction, Branches, Scope, Impact, Role of Civil Engineer, Unit of measurement, Unit conversion (Length, Area, Volume).	02	7
7.	Civil Engineering Surveying: Surveying & leveling (its importance and types), Necessity for leveling, Principals of surveying, Instrument/tools used for survey and level, Various methods of finding the field survey measurements, Chain and Compass Survey	05	17
8.	Civil Engineering Drawing: Types of building drawings, Abbreviation, conventions & symbols in civil drawing, building byelaws for planning of residential building and industrial building, Planning of simple residential and industrial building	04	13
9.	Construction Materials: Common construction materials such as cement, Brick, Stone, Timber, Steel and Concrete, Properties of each materials & their acceptable standards, Quality parameters of materials, Estimations and costing for simple structure (only the material cost)	04	13

List of Practical:

Sr. No.	Details of Practical	Hours
1.	Study of few selected boilers, accessories and mountings	02
2.	Numerical based on heat interactive equipment	02
3.	Study of power and motion transmission systems	04
4.	Numerical based on power transmission and safety	02
5.	Study of various pumps	04
6.	Numerical based on hydraulic and pneumatic devices	02
7.	Study and demonstration of basic machine tools	04
8.	Numerical based on manufacturing processes	02
9.	Machine parameters of wheel and differential axel apparatus	04
10.	Study and demonstration of basic mechanical equipment	04
11.	Unit Conversation Exercise	02
12.	Linear Measurement.	04
13.	Angular Measurement (Prismatic Compass)	04
14.	Angular Measurement (Surveyor Compass)	04
15.	Determine R.L of given point by Dumpy level without change point.	04
16.	Determine R.L of given point by Dumpy level with change point.	04
17.	Brick masonry bonds	04
18.	Aggregate experiments	02
19.	Brick masonry tests	02

Reference Book(s):

Title	Author/s	Publication
Elements of Mechanical engineering	P. S. Desai and S. B. Soni	Atul Prakashan
Theory of Machines	R. S. Khurmi and J. K. Gupta	S. Chand
Heat engine	Shah and Pandya	Charotar Publishing House
Hydraulic machines	Jagdish Lal	Metropolitan Book Company
Elements of Workshop	Hazara Chaudhary	Asia Publishing House
Text book on Surveying & Levelling	S. B. Junnarkar and H. J. Shah	Laxmi Publication

Course Evaluation:**Theory:**

- Continuous Evaluation Consist of Two Test Each of 30 Marks and 1 Hour of duration.
- Faculty evaluation consists of 10 marks as per the guidelines provided by the Course Coordinator.
- End Semester Examination will consist of 60 Marks Exam.

Practical:

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 10 Marks.
- Internal Viva component of 10 Marks.
- Practical performance/quiz/drawing/test of 20 Marks during End Semester Exam.
- Viva/Oral performance of 10 Marks during End Semester Exam.

Course Outcome(s):

After the completion of the course, the students will able to

- Understand basics of mechanical systems
- Understand importance of mechanical systems/engineering in various fields.
- Understand various surveying methods used in civil engineering
- Understand basic requirements of civil engineering

P P Savani University
School of Engineering
Institute of Diploma Studies

Department of Computer Engineering

Course Code: IDCE1010

Course Name: Computer Applications

Prerequisite Course (s): --

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
03	04	00	05	40	60	40	60	00	00	200

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to

- Familiarize with components of computer and basic operations of it.
- Provide practical and hands-on experience of application used to create documents.
- Introduce internet and its usage.

Course Content:

Module No.	Content	Hours	Weightage in %
1.	Basics of Computer System Introduction and Characteristics, Generation, Classification, Applications, describe computer hardware and software, Identify I/O, Devices, describe functioning of CU, ALU and memory unit, differentiate various types of printers, Demonstrate various file handling operations, Introduction to Memory, Memory hierarchy, Primary memory and its type, Secondary memory, Classification of Secondary memory, Cache Memory and Virtual Memory.	08	20
2.	Computer Software Software concept Classification of Software, System software and Application Software, Overview of Operating System, Objectives and Functions of O.S, Types of Operating System, Batch Processing, Multiprogramming, Time Sharing OS, Features of DOS, Windows and UNIX, Programming Languages, Compiler, Interpreter, Computer Virus Different Types of computer virus, Detection and prevention of Virus Application of computers in different Domain. Installation of device drivers and other required software, need and method of backup.	08	15

3.	Using MS-Word Use basics text formatting features, manipulate text, use page Setup features, use spell and grammar utility, Work with graphics/ clipart, Create and manipulate table, use auto shapes and its formatting with text, Use Image and table formatting.	07	15
4.	Using MS-Excel Use basic formatting and data entry features, use formula and functions, Work with graphics, Create and manipulate charts, Use header and footer options, Setup page layout and print worksheet	07	20
5.	Using MS - PowerPoint Create new presentation and apply basic formatting features, use master slide, Create and manipulate table, Work with objects and clips, Work with video, Work with audio, use special effects, Use navigation and hyper linking, Custom Animation and Transitions	07	15
6.	Multi Media, Internet usage and Google Applications Introduction of Multimedia, Types of Multimedia, and Use of Multimedia in various platforms, Describe Internet, WWW and Web Browsers: Web Browsing software, Surfing the Internet, Chatting on Internet, Basic of electronic mail, Using Emails, Document handling, Network definition, Common terminologies: LAN, WAN, Node, Host, Workstation, bandwidth, Network Components: Servers, Clients, Communication Media. Introduction of Google Applications, Gmail, Google Drive, Docs, Spreadsheet	08	15

List of Practical(s):

Sr. No	List of Practical	Hours
1.	Introduction to different hardware components of PC and Assembling of PC.	02
2.	Installation of OS and other Software. Partitions of Drive, Compression Utilities: WinZip, Defragmenting Hard, Formatting Hard disk, etc.	04
3.	Use accessories utilities of windows OS the User Interface, Using Mouse and Moving Icons on the screen, The My Computer Icon, The Recycle Bin, Status Bar, Start and Menu & Menu-selection, Running an Application, Windows Explorer Viewing of File, Folders and Directories, Creating and Renaming of files and folders, Opening and closing of different Windows, Control Panels, Setting the date and Sound, Create Users and password.	02
4.	Entering and editing text in document file. Apply formatting features on Text like Bold, Italics, Underline, font type, color and size, Apply features like bullet, numbering in Microsoft word.	04
5.	Create and manipulate tables, create documents, insert images, format tables, Smart art, Chart in Microsoft word, Insert Hyperlink, Page number and textbox in word.	04

6.	Create Event Registration Form and Resume in Microsoft word.	04
7.	Entering and editing data in worksheet, Fill Series, fill with formatting and without formatting Using Microsoft Excel.	02
8.	Create and manipulate Charts, Shape, Sparkline Charts, Clipart, and table.	04
9.	Filter Data Using Filter and advanced filter function with more than 2 conditions, Freeze row & Column in Microsoft Excel.	02
10.	Create Mark sheet, and Pay slips using Excel, Apply various formula and functions in the sheet.	06
11.	Print sheet using print area, Page setting, print titles, Adjusting margins, Page break, headers and footers.	02
12.	Basic operations of Power point, Create PPT and inset and delete slides in power point, Use of Master Slide in Presentation, Create Project presentations, Lecture presentations, Apply Custom animation & Transition. Apply basic formatting features in presentation like font, font size, font color, text fill, spacing and line spacing Formatting text boxes, word arts, styles bullet and numbering in Microsoft power point. Working with drawing tools, applying shape or picture styles, Applying object borders, object fill, object effects in Microsoft Power point.	16
13.	Working with video, Link to video and sound files using power point.	02
14.	Internet Searching, Browsers, Various functions of Browsers (Eg. Bookmark, Customize Settings), Study of components like switches, bridges, routers, Wi-Fi router,	02
15.	Introduction of Google application, Compose Gmail, File attachment, add signature.	02
16.	Demonstration of Google drive, Sharing File Using Google drive, Spreadsheet, Docs and Google slides	02

Reference Book(s):

Title	Author/s	Publication
Computer Course	R.Taxali	Tata McGraw Hills. New Delhi.
MS-Office for Dummies	Wallace Wang	Wiley India, New Delhi
Basic Computer Engineering	Petes S. J., Francis.	Tata McGraw-Hill Education, 2011

Web Material Link(s):

- <http://www.digimat.in/nptel/courses/video/106104128/L01.html>
- <https://www.youtube.com/watch?v=3QiItmIWmOM>

Course Evaluation:

Theory

- Continuous Evaluation Consist of two Tests of 30 Marks and 1 Hour of duration and average of the same will be converted to 30 marks.
- Faculty evaluation consists of 10 marks as per the guidelines provided by the Course Coordinator.
- End Semester Examination will consist of 60 Marks Exam.

Practical

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 20 Marks.
- Internal Viva component of 20 Marks.
- Practical performance/quiz/test of 30 Marks during End Semester Exam.
- Viva/Oral performance of 30 Marks during End Semester Exam.

Course Outcome(s):

After completion of the course, the student will be able to

- Design assemble and disassemble computer component.
- Use MS Office software for word-processing, data analysis and preparing presentation.
- Use Internet and Google Application for better documentation.

P P Savani University
School of Engineering
Institute of Diploma Studies

Department of Mechanical Engineering

Course Code: IDME1020

Course Name: Engineering Workshop

Prerequisite Course(s): -

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
00	02	00	01	00	00	50	00	00	00	50

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to

- Understand basic know-how of various hand tools and their use in different sections of manufacturing
- Understand the use of workshop practices in day to day industrial as well domestic life that help to dissolve the routine problems
- Build the understanding of the complexity of the industrial job, along with time and skills requirements of the job
- Learn about the safety measures to be taken while working in workshop.
- Learn about operation wise tool selection.

Course Content:

Module No.	Content	Hours
1.	Introduction and Demonstration of Safety Norms and various shops: Introduction to various shops / sections and workshop layouts, Safety norms to be followed in a workshop.	-
2.	Fitting shop: Introduction of fitting shop, Safety, Making a job as per drawing including marking and performing other operations	-
3.	Carpentry shop: Introduction of carpentry shop, Safety, Making a job as per drawing including marking and performing other operations	-
4.	Smithy shop: Introduction of smithy shop, Safety, Making a job as per drawing including marking and performing other operations	-
5.	Sheet metal shop: Introduction of sheet metal shop, Safety, Making a job as per drawing including marking and performing other operations	-

6.	Pipe fitting: Introduction of pipe fitting shop, Safety, understanding various pipe fitting tools and performing operations	-
7.	Machine Shop: Introduction and demonstration of various machines like Lathe, Drilling, Grinding, Hack Saw Cutting etc.	-

List of Practical:

Sr. No.	List of Practical	Hours
1.	Introduction and Demonstration of Safety Norms and various shops.	02
2.	To Perform a Job of Fitting Shop.	04
3.	To Perform a Job of Carpentry Shop.	06
4.	To Perform a Job of Black Smithy shop.	06
5.	To Perform a Job of Sheet metal Shop.	04
6.	To Perform a Job of Plumbing Shop	04
7.	Introduction to Machine Tool	04

Reference Book(s):

Title	Author/s	Publication
Workshop Technology-I	Hazra and Chaudhary	Media promoters & Publisher private limited.
Workshop practice manual	K.Venkata Reddy	B. S. Publications
Mechanical workshop practice	K.C. John	PHI

Course Evaluation:

Practical:

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 20 Marks.
- Internal Viva component of 20 Marks.
- Practical performance/quiz/test of 30 Marks during End Semester Exam.
- Viva/Oral performance of 30 Marks during End Semester Exam.

Course Outcome(s):

After the completion of the course, the students will able to

- Understand basic know-hows of tool usage and safe working in workshop.
- Correlate industrial workings.
- Develop skills to work in industry.

P P Savani University
School of Engineering
Institute of Diploma Studies

Centre for Skill Enhancement & Professional Development

Course Code: CFLS1030
 Course Name: Functional English-I
 Prerequisite Course(s): --

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
02	00	00	02	40	60	00	00	--	--	50

Objective(s) of the Course:

To help learners to

- hone English Grammar to use language effectively in everyday life.
- use tenses to
- build vocabulary.
- understand and use Sentence formation and types.
- use comparative degree to express comparison.
- create sentence in active-passive voice.

Course Content:

Module No.	Content	Hours	Weightage in %
1.	Parts of Speech - I <ul style="list-style-type: none"> • Types of Nouns • Verb • Pronoun (personal, possessive) • Adverbs • Adjectives 	05	12
2.	Parts of Speech - II <ul style="list-style-type: none"> • Use of Prepositions of time and place • Conjunctions • Interjections • Articles 'A, An, and The' • Indicators- this, that, these, those 	05	13
3.	Tenses <ul style="list-style-type: none"> • Present and past simple form of 'to be' – am/is/are/was/were • Present Tense (all forms) • Past Tense (all forms) • Future Tense (all forms) 	06	25

4.	Vocabulary <ul style="list-style-type: none"> • Basic Vocabulary • Academic Vocabulary • Jargons 	03	12
5.	Auxiliary Verb <ul style="list-style-type: none"> • So, neither-nor, either-or • Shall, should, can, could, may, might, must 	03	13
6.	Types of Sentences <ul style="list-style-type: none"> • Simple, Compound, and Complex sentences • Practice of Assertive, Negative, Interrogative, Exclamatory Sentences • Question Tag • 'WH' Questions • 'How much' & 'How Many' • Reported Speech • Active-Passive voice 	08	25

Text Book (s):

Title	Author/s	Publication
High School English Grammar & Composition	Wren & Martin	Blackie ELT Books (An imprint of S. Chand Publishing)

Reference Book (s):

Title	Author	Publication
Intermediate English Grammar (Second Edition)	Raymond Murphy	Cambridge University Press
Advanced English Grammar	Martin Hewings	Cambridge University Press

Course Evaluation:

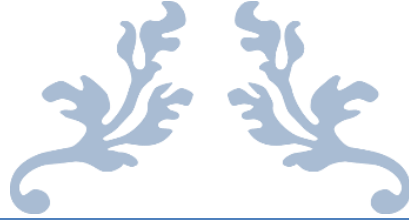
Theory:

- Continuous Evaluation Consist of two Tests of 30 Marks and 1 Hour of duration and average of the same will be converted to 30 marks.
- Faculty evaluation consists of 10 marks as per the guidelines provided by the Course Coordinator.
- End Semester Examination will consist of 60 Marks Exam.

Course Outcome(s):

After completion of the course, the student will be able to

- use English grammar to communicate effectively.
- use tenses in the real-word communication.
- identify and use parts of speech effectively to express themselves.
- use various vocabulary to express thoughts.
- understand familiar words related to everyday communication.
- draft simple, compound, and complex sentences.
- express comparison effectively.
- use active-passive voice.
- use reported speech.



SEMESTER 2



P P Savani University
School of Engineering
Institute of Diploma Studies

Department of Applied Science & Humanities

Course Code: IDSH1040

Course Name: Engineering Mathematics

Prerequisite Course(s): Algebra, Geometry, Trigonometry till 9th Standard level

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
3	0	2	5	40	60	-	-	50	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the course:

To help learners to

- to give a comprehensive coverage at an introductory level to the subject of Functions and Limits, Differentiation, Integration and First Order Differential Equations.
- recognize importance of differentiation and integration for solving engineering problems.

Course Content:

Module No.	Content	Hours	Weightage in %
1.	Functions and Limits Introduction, Function, Types of function, Classification of function, Limit of a function, Properties of limit, Standard limits, limit of trigonometric functions.	5	14
2.	Differentiation Introduction, Differentiation, Geometric meaning, Derivative using first principle, Derivative of standard functions, Working rules, Differentiation of composite function, Differentiation of parametric functions, Differentiation of implicit function, Derivative using logarithms, Successive differentiation, Applications of differentiation (Velocity, Acceleration, Maxima & Minima simple problems).	9	18
3.	Integration Introduction, Integration of standard functions, Integration by substitution, Integration by parts, Integration using partial fraction, Definite integrals, Theorem on definite integrals, Applications of Integration (Area and Volume simple problems).	9	18
4.	Differential Equations of First order and First degree Introduction, Formation of differential equations, Solution of differential equations, Separation of variables, Homogeneous equations, Exact Differential Equations, Integrating factor method, Linear differential equation.	9	18

5.	Complex Number Introduction, Mathematical Operations, Polar form, Modulus, Amplitude Form, De Moivre's Theorem.	6	18
6.	Statistics Introduction, Central tendency, Mean, Mean of discrete observations, Mean of grouped data, Step deviation method, Median, Median for grouped data, Mode, Standard deviation, Standard deviation for grouped data.	7	14

List of Tutorials:

Sr. No.	List of Tutorial	Hours
1.	Functions and Limits-1	2
2.	Functions and Limits-2	2
3.	Differentiation-1	2
4.	Differentiation-2	2
5.	Differentiation-3	2
6.	Integration-1	2
7.	Integration-2	2
8.	Integration-3	2
9.	Differential Equations of First order and First degree-1	2
10.	Differential Equations of First order and First degree-2	2
11.	Complex Number-1	2
12.	Complex Number-2	2
13.	Complex Number-3	2
14.	Statistics-1	2
15.	Statistics-2	2

Text Book:

Title	Author(s)	Publication
Advanced Mathematics for Polytechnic	Dr. N. R. Pandya	Macmillan Publication
Engineering Mathematics - 3 rd Edition	Anthony Croft & others	Pearson Education Publication

Reference Book:

Title	Author(s)	Publication
Applied Mathematics for Polytechnics - 10 th Edition	H. K. Dass	H. K. Dass
Applied Mathematics	W. R. Neelkanth	Sapna Publication
Polytechnic Mathematics	Deshpande S P	Pune Vidyarthi Gruh Prakashan, 1984
Polytechnic Mathematics	Prakash D S	S Chand, 1985

Course Evaluation:**Theory:**

- Continuous Evaluation consists of two tests, each of 30 marks and 1 hour of duration and average of the same will be converted to 30 marks.
- Faculty evaluation consists of 10 marks as per the guidelines provided by the Course Coordinator.
- End Semester Examination consists of 60 marks.

Tutorial:

- Continuous evaluation consists of performance of tutorial which will be evaluated out of 10 Marks for each tutorial and average of the same will be converted to 30 marks.
- MCQ based examination consists of 20 marks.

Course Outcome(s):

After the completion of the course, the student will be able to

- apply differentiation and integration for solving engineering problems.
- implementing statistical methods for solving real world problems.
- the cumulative effect of the original quantity or equation is the Integration
- Tell the difference between a resultant and a concurrent force to model simple physical problems in the form of a differential equation, analyze and interpret the solutions.

P P Savani University
School of Engineering
Institute of Diploma Studies

Department of Chemical Engineering

Course Code: IDSH1050

Course Name: Fundamentals of Chemistry

Prerequisite Course(s): --

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
3	2	0	4	40	60	20	30	0	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to

- The student will understand the interdisciplinary nature of chemistry and to integrate knowledge of mathematics, physics and other disciplines to a wide variety of chemical problems.
- The student will understand the importance of the Periodic Table of the Elements, how it came to be, and its role in organizing chemical information.
- The student will acquire a foundation of chemistry of sufficient breadth and depth.

Course Content:

Module No.	Content	Hours	Weightage in %
1.	Atomic Structure, Molecular Mass, Acids and Bases Atom Definition Fundamental particles of Atom their Mass, Charge and Location. Atomic number and Mass number, Definition Isotopes and Isobars with suitable examples. Formation of cation and anion by electronic concept of oxidation and reduction.	05	15
2.	Molecular Mass Molecule, Molecular Formula, Molecular Mass, Mole, Definition Simple calculations. Avogadro's Hypothesis – Relationship between Molecular Mass and vapour Density, Avogadro Number.	05	10
3.	Chemical Bonding and Structure of Molecules Chemical Bond, Valence, Valence Electrons, Bonding and Non Bonding Electrons, Lewis Symbols, Octet Rule. Definition, Condition for Formation of Ionic Bond, Factors Governing Formation of Ionic Bond, Metallic Bond, Covalent Bond and Coordinate Covalent Bond: Hydrogen Bonding,	06	15
4.	Acids and Bases Theories of Acids and Bases, Arrhenius Theory, Lowry – Bronsted Theory, Lewis Theory, Advantages of Lewis Theory, pH and pOH	06	10

	Definition, Numerical problems, Indicator, Definition and Examples, Buffer solution, Definition, Types of buffer solution with examples, Application of pH in Industries.		
5.	Solutions Definition, Methods of expressing concentration of a solution Molarity, Molality, Normality, Mole fraction and Percentage Mass – Simple problems.	05	10
6.	Colloids True solution and Colloidal solution, Definition, Differences, Types of colloids – Lyophilic and Lyophobic colloids. Differences Properties, Tyndall effect, Brownian movement, Electrophoresis and Coagulation. Industrial applications of colloids, Smoke Precipitation by Cottrell's method, Purification of water, Cleansing action of soap, Tanning of leather and Sewage disposal.	06	15
7.	Electrochemistry Electrolyte definition, Strong and Weak electrolytes, Examples. Electrolysis definition, Mechanism, Industrial application of Electrolysis, Electroplating, Preparation of surface, Process Factors affecting the stability of the coating, Chrome plating, Electroless plating definition, Advantages of Electroless plating over electroplating, Applications of Electroless plating.	06	15
8.	Electrochemical-Cell Electrochemical Cell definition, Representation of a Cell, Single Electrode Potential definition, Galvanic Cell, Formation of Daniel Cell, Electrochemical Series, Definition and Significance, Electrolytic Concentration Cell definition and Formation.	06	10

List of Practical

Sr No	List of Practical/Tutorial	Hours
1.	Using a chemical balance.	02
2.	Introduction to chemistry laboratory – Molarity, Normality, Primary, Secondary standard solutions, Volumetric titrations, Quantitative analysis, Quantitative analysis etc.	04
3.	Demonstration: Preparation of solutions of different concentrations	04
4.	Preparation of standard solution of Oxalic acid.	04
5.	Preparation of standard solution of Sodium Carbonate.	04
6.	Determination of strength of a given solution of Sodium Hydroxide by titrating it against standard solution of Oxalic acid.	04
7.	Determination of strength of a given solution of Hydrochloric acid by titrating it against standard Sodium Carbonate solution.	04
8.	Determination of temporary and permanent hardness in water sample using EDTA as standard solution.	02
9.	Conduct metric titration of strong acid vs. strong base	02

Text Book(s):

Title	Author/s	Publication
Text Book of Engineering Chemistry	Chawla S.	Dhanpat Rai & Co. Pvt. Ltd., Delhi, 2003.
Engineering Chemistry	Sharma B. K.	Krishna Prakashan Media (P) Ltd, Meerut.,2001

Reference Book(s):

Title	Author/s	Publication
Concise Inorganic Chemistry	J.D. Lee	Wiley India
Textbook of Engineering Chemistry (4th Edition)	R. Gopalan, D. Venkappaya, S. Nagarajan	Vikas Publishing house Ltd.

Web Material Link(s):

https://onlinecourses.nptel.ac.in/noc21_cy45/preview

<https://nptel.ac.in/noc/courses/noc17/SEM2/noc17-cy03/>

Course Evaluation:**Theory:**

- Continuous Evaluation consists of two tests each of 30 marks and 1 Hour of duration, which will be converted to 30 marks.
- Faculty evaluation consists of 10 marks as per the guidelines provided by the course coordinator.
- End Semester Examination consists of 60 marks.

Practical:

- Continuous Evaluation consists of performance of Practical which should be evaluated out of 10 marks for each practical and average of the same will be converted to 10 marks.
- Internal Viva consists of 10 marks.
- Practical performance/quiz/drawing/test of 15 marks during End Semester Exam.
- Viva/Oral presentation consists of 15 marks during End Semester Exam.

Course Outcome(s):

After completion of the course, the student will be able to

- understand the relevance of fundamentals and applications of chemical sciences and chemistry.
- have sound knowledge on Electrochemistry.
- be aware about the role of chemical engineer in various chemical industries.

P P Savani University
School of Engineering
Institute of Diploma Studies

Department of Civil Engineering

Course Code: IDCV1010

Course Name: Engineering Mechanics

Prerequisite Course(s): -

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
03	02	00	04	40	60	20	30	00	00	150

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to

- understand different types of forces, systematic evaluation of effect of these forces, behavior of rigid and deformable bodies subjected to various types of forces, at the state of rest or motion of the particles.
- understand behavior of structural element under the influence of various loads.

Course Content:

Module No.	Content	Hours	Weightage in %
1.	Introduction Engineering Mechanics Basic concepts: Definitions, Basic assumptions, Scalar & Vector quantities, Free, Forced and fixed vectors, Force System: Force, Classification & Representation,	02	10
2.	Coplanar Concurrent Force system Force as a Vector, Composition of forces, Parallelogram Law, Resolution, Principle of Transmissibility of forces, Resultant of coplanar force system., Equilibrium of coplanar force system, Free body diagrams, Determination of reactions, Equilibrium of a body under three forces, Lami's theorem	09	20
3.	Coplanar Non-Concurrent force systems: Moment of a force, Vector representation, Moment for coplanar force system, Varignon's theorem, Couple, Vector representation, Resolution of a force into a force and a couple., force Systems: Coplanar Concurrent Force system and Coplanar Non-Concurrent force system.	09	20
4.	Friction: Introduction, Wet and Dry friction, Theory of Dry friction, Angle of friction, Angle of Repose, Cone of friction, Coulomb's laws of friction.	07	15

5.	Centre of Gravity: Center of Gravity, Center of Mass and Centroid of curves, areas, volumes, Determination of centroid by integration, Centroid of composite bodies.	09	15
6.	Moment of Inertia: Definition of Moment of inertia of area, Perpendicular axis theorem and Polar moment of Inertia, Parallel axis theorem, Moment of inertia of simple areas by integration, Moment of Inertia of Composite Areas., Moment of Inertia of masses, Parallel axis theorem for mass moment of inertia, Mass moment of inertia of simple bodies by integration, Mass moment of inertia of composite bodies	09	20

List of Practical:

Sr. No.	List of Practical	Hours
1.	Coplanar Concurrent Forces	04
2.	Law of parallelogram	02
3.	Coplanar Non concurrent forces	02
4.	Lami's Theorem	02
5.	Coefficient of static friction	02
6.	Parallel force system	02
7.	Numerical practice on Force System	04
8.	Numerical practice on C.G.	04
9.	Numerical practice on M.I.	04
10.	Numerical practice on Friction	04

Reference Book(s):

Title	Author/s	Publication
Applied Mechanics	S. B. Junnarkar & H. J. Shah	Charotar Publication
Engineering Mechanics,	Meriam and Karaige,	Wiley-India
Engineering Mechanics: Statics & Dynamics	S Rajsekaran	Vikas Publication
Engineering Mechanics of Solids	Popov E.P	Prentice Hall of India
Engineering Mechanics,	Meriam and Karaige,	Wiley-India

Course Evaluation:

Theory:

- Continuous evaluation consists of two tests each of 15 marks and 1 hour of duration.
- Submission of assignment which consists of solving 20 numerical and it carried 10 marks of evaluation.
- End semester examination will consist of 60 marks exam.

Practical:

- Continuous Evaluation consists of performance of practical which should be evaluated out of 10 marks for each practical and average of the same will be converted to 10 marks.
- Internal viva consists of 10 marks.
- Practical performance/quiz/drawing/test consists of 15 marks during End Semester Exam.

- Viva/Oral performance consists of 15 marks during End Semester Exam.

Course Outcome(s):

After learning the course, the students should be able to

- understand fundamental principles of mechanics, equilibrium, statics reactions and internal forces in statically determinate beams.
- apply principles of statics for determine C.G and M.I of a different geometrical shape and Understand basics of friction and its importance.
- critically analyze problem and solve the problem related to mechanical elements and analyze the deformation behavior for different types of loads.

P P Savani University
School of Engineering
Institute of Diploma Studies

Department of IT Engineering

Course Code: IDIT1010

Course Name: Introduction to Computer Programming

Prerequisite Course (s): NA

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
03	04	00	05	40	60	40	60	00	00	200

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to

- develop understanding of basic concepts that can be used in programming language.
- develop the algorithm as well as flowchart for particular problem.
- enforce logical thinking.
- understand the fundamentals of programming concepts and methodology.
-

Course Content:

Module No.	Content	Hours	Weightage in %
1.	Introduction to Programming Language Classification of Programming Languages, Generations of Programming Languages - Machine Language, Assembly Language, High-Level Language, 4GL.	04	10
2.	Introduction to C, Constants, Variables and Data Types: Features of C Language, the Structure of C Program, Flow Charts and Algorithms Types of Errors, Debugging, Tracing the Execution of the Program, Watching Variables Values in Memory. Character Set, C Tokens, Keyword and Identifiers, Constants and Variables, Data Types - Declaration and Initialization, User Define Type Declarations - Typedef, Enum, Basic Input, and Output Operations, Symbolic Constants, Overflow and Underflow of Data.	08	18
3.	Operators, Expressions, and Managing I/O Operations: Introduction to Operators and its Types, Evaluation of Expressions, Precedence of Arithmetic Operators, Type Conversions in Expressions, Operator Precedence and Associativity. Introduction to Reading a Character, Writing a Character, Formatted Input and Output.	06	15

4.	Conditional Statements: Decision Making & Branching: Decision Making with If and If - else Statements, Nesting of If-else Statements, The Switch and go-to statements, Ternary (?:) Operator. Looping: The while Statement, The Break Statement & The Do. While loop, The FOR loop, Jump within loops - Programs.	07	15
5.	Arrays: Introduction, One-dimensional Arrays, Two-dimensional Arrays, Concept of Multidimensional Arrays.	07	14
6.	Strings: Declaring and Initializing String Variables, Arithmetic Operations on Characters, Putting Strings Together, Comparison of Two Strings, String Handling Functions.	06	14
7.	User-Defined Functions: Concepts of User-defined Functions, Prototypes, function Definition, Parameters, Parameter Passing, Calling a Function, Recursive Function, Macros and Macro Substitution	07	14

List of Practical:

Sr. No	List of Practical	Hours
1.	Introduction to C programming environment, compiler, Linker, loader, and editor. C Program to display "HELLO PPSU"	04
2.	Working with basic elements of C languages (different input functions, different output functions, different data types, and different operators)	08
3.	Working with C control structures (if statement, if-else statement, nested if-else statement, switch statement, break statement, goto statement)	10
4.	Working with C looping constructs (for loop, while loop, do-while and nested for loop)	10
5.	Working with the array in C (1-D array, and 2-D array)	08
6.	Working with strings in C (input, output, different string inbuilt functions)	08
7.	Working with user-defined functions in C (function with/without return type, function with/without argument, function and array)	08
8.	Working with recursive function in C	04

Text Book(s):

Title	Author/s	Publication
Programming in ANSI C	E. Balagurusamy	Tata McGraw Hill
Introduction to Computer Science	ITL Education Solutions Limited	Pearson Education

Reference Book(s):

Title	Author/s	Publication
Programming in C	Ashok Kamthane	Pearson
Let Us C	Yashavant P. Kanetkar	Tata McGraw Hill
Introduction to C Programming	Reema Thareja	Oxford Higher Education
Programming with C	Byron Gottfried	Tata McGraw Hill

Web Material Link(s):

- <http://www.digimat.in/nptel/courses/video/106104128/L01.html>
- <https://www.youtube.com/watch?v=3QiItmIWmOM>

Course Evaluation:**Theory:**

- Continuous Evaluation consists of two tests, each of 30 marks and 1 hour of duration and average of the same will be converted to 30 marks.
- Faculty evaluation consists of 10 marks as per the guidelines provided by the Course Coordinator.
- End Semester Examination consists of 60 marks.

Practical:

- Continuous Evaluation consists of performance of practical which will be evaluated out of 10 marks for each practical and average of the same will be converted to 20 marks.
- Internal viva consists of 20 marks.
- Practical performance/quiz/drawing/test consists of 30 marks during End Semester Exam.
- Viva/ Oral performance consists of 30 marks during End Semester Exam.

Course Outcome(s):

After the completion of the course, the student will be able to

- learn the fundamentals of programming.
- develop efficient programs with their own logic & capabilities.
- understand the syntax and semantics of the C language.

P P Savani University
School of Engineering
Institute of Diploma Studies

Department of Science & Humanities

Course Code: IDSH1060

Course Name: Electrical & Electronics Workshop

Prerequisite Course(s): Concept of Science up to 9th Standard

Teaching & Examination Scheme

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
0	2	0	1	00	00	20	30	0	0	50

Objective(s) of the course:

To help learner to

- think in core concept of their engineering application by studying various topics involved in branch specific applications.
- identify basic fundamental electronic components in circuits.
- learn to use common electronic component on breadboard.
- understand components of instruments, terminology and applications.
- demonstrate the ability to collect and analyze data and to prepare coherent reports of his or her findings.

Sr. No.	List of Practical	Hours
1	To Understand & Draw the symbols of various electronic devices.	2
2	To identify resistors, capacitors using Different codes.	2
3	Verification of Truth tables of Logic Gates (NAND, NOR, EX-OR, AND, OR, NOT).	4
4	To study cathode ray oscilloscope and perform measurements.	4
5	To study digital multi-meter and perform testing of various components.	2
6	To study soldering- de-soldering techniques.	2
7	To study wiring diagram of ceiling Fan.	2
8	How Fluorescent Lights Work.	2
9	To study about stair case wiring two-way switch.	2
10	Explaining the function of Refrigerator and Air conditioner.	4
11	Explaining the core concept of power transmission.	4

Evaluation:

- Continuous Evaluation consists of performance of practical which will be evaluated out of 10 marks for each practical and average of the same will be converted to 20 marks.
- Internal viva consists of 30 marks.

Course Outcome:

After completion of the course, the student will be able to

- demonstrate the ability to think in core concept of their engineering application by studying various topics involved in branch specific applications.
- develop the ability to collect and analyze data and to prepare coherent reports of his or her findings.

**P P Savani University
School of Engineering
Institute of Diploma Studies**

Centre for Language Studies

Course Code: CFLS1040

Course Name: Functional English-II

Prerequisite Course(s): -- CFLS1030 Functional English-I

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
02	00	00	02	40	60	00	00	--	--	50

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to:

- understand difference between formal and functional English.
- use English in daily life.
- communicate thoughts.
- be an efficient Listener.
- be an efficient speaker.
- sharpen reading skills.
- improve writing skills.

Course Content

Module No.	Content	Hours	Weightage in %
1.	Introduction to Functional English <ul style="list-style-type: none"> • Formal Vs. Functional English • Functional English in daily life • Importance of LSRW Skills 	03	10
2.	Listening <ul style="list-style-type: none"> • Difference between Hearing and Listening • Listening to get information • Listening to understand • Listening instructions to follow 	05	20
3.	Speaking <ul style="list-style-type: none"> • Introducing Self • Expressing likes and dislikes • Talking about Family • Describing Surrounding • Narrating Memorable Incidents • Inquiring, Requesting, Ordering, Questioning, Answering 	07	20

4.	Reading <ul style="list-style-type: none"> • Reading to Comprehend • Read to Scan • Read to Skim • Reading information from authentic material • Reading Newspaper, Magazines, Books 	07	25
5.	Writing <ul style="list-style-type: none"> • Importance of Punctuations • Strategies to develop Paragraphs • Paragraph writing by comprehending pictures, map, tables, and authentic material • Expressing like, dislikes, experiences • Narrating stories, incidents • Writing short letters 	08	25

Text Book (s):

Title	Author/s	Publication
Communication Skills	Parul Papat & Kaushal Kotadia	Pearson, 2015
Functional English for Communication	Ujjwala Kakaria, Tanu Gupta	Sage Publications

Reference Book (s):

Title	Author/s	Publication
Communication Skills, 2 nd Edition	Sanjay Kumar, Pushp Lata	Oxford University Press, 2015
Communication Skills for Engineers	Sunita Mishra	Pearson, 2011

Course Evaluation:

Theory:

- Continuous Evaluation consists of two tests each of 25 marks. Test one can be based on Reading and Writing Skills whereas Test Two can be based on Listening and Reading Skills.
- End Semester Examination consists of 60 marks.

Course Outcome(s):

After completion of the course, the student will be able to

- understand difference between formal and functional English.
- understand the need of Communication Skills in personal and professional life.
- improve listening skills.
- introduce themselves and talk about family efficiently.
- express their likes, dislikes, desires effectively.
- narrate incidents, events, experiences.
- comprehend authentic material.
- practice scanning and skimming.
- use punctuations accurately while writing.
- draft paragraphs, and letters.



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