



Government Polytechnic Mumbai

(Academically Autonomous Institute of Maharashtra Government)

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gpmumbai@gpmumbai.ac.in

Programme: Information Technology

Second Semester

With effect from 2016-17

Course Code	Course Title	C/O	Credits				Examination Scheme					
			L	P	TU	Total	Theory		PR	OR	TW	Total
							TH	TS				
HU16102	Communication Skills	C	---	---	2	2				50*		50
SC16108	Mathematics II	C	3	----	1	4	70	30				100
SC16104	Engineering Physics	C	3	2	---	5	70	30			50	150
IT16202	Programming in C	C	3	4	----	7	70	30	50*			150
EC16204	Basics of Electronic Engineering	C	3	2	---	5	70	30	50			150
HU16104	Environmental Studies	C	----	----	2	2				25*	25	50
IT16203	Web Technology	C	1	4	----	5			50*		50	100
	TOTAL		13	12	5	30	280	120	150	75	125	750

Abbreviations: C- Compulsory; O- Optional; L- Theory Lecture; P-Practical; TU-Tutorial; TH- Theory Paper; TS- Term Tests (02); PR-Practical Exam; OR-Oral Exam; TW- Term Work.

* Indicates assessment by External Examiner

Academic Coordinator

Head of Department
(Information Technology)

Principal
Government Polytechnic Mumbai

Programme : CE/ME/EC/CO/IF/IS/EE/LG/LT									
Course Code: HU16102				Course Title: Communication Skills					
Compulsory / Optional: Compulsory									
Teaching Scheme and Credits				Examination Scheme					
TH	TU	PR	Total	TH	TS	PR	OR	TW	Total
	2	-	2	-	-	-	50*	-	50

*External Examiner

Rationale:

The medium of instruction in the technological field is English, so it is necessary for the students of Engineering and Technology to learn and express through English language. These students are the future technicians, must be able to face the interview, handle the questions and present them in a proper way, acquire confidence to participate in the group discussion, introduced with the modern communication technology and be able to use these Medias for effective communication.

Course Outcomes:

Student should be able to

CO1	Develop the ability of listening and conversation skills.
CO2	Learn the social etiquettes and manners.
CO3	Acquire the practical knowledge of interview.
CO4	Participate in group discussion.
CO5	Identify the need of public speech and new techniques of communication.
CO6	Enable the students to be a good team leader

Course Content Details:

Unit No	Topics / Sub-topics
1	Listening Skills : Importance of good listening, Types of listening, Effective listening, How to overcome the obstacles in good listening
2	Social etiquettes : Business ethics, Telephone / Mobile etiquettes, E-mail etiquettes, Table manners & respect, Small talk and punctuality
3	Conversation skills : How to begin the conversation, Proper use of body language, Tone, voice and pauses, Use of proper grammar and words, How to end the conversation
4	Interview Skills : Introduction, Types of Interview, Preparing for an interview, Mock interview

5	Group Discussion : Need and importance of group discussion, Emotional stability, Communication with knowledge, Logical conclusion, Role of moderator in the group discussion
6	Public Speech : Welcome Speech, Farewell Speech, Guest's introduction, Vote of thanks

Sr. No.	Unit	Experiment/Assignment	Approx. Hours
1	1	Development of listening skills.	02
2	1	Teacher will read out a passage thrice. And the students will listen carefully following the guidelines and answer the questions.	04
3	2	Presentation of conversation on telephone / mobile (2 students)	04
4	2	Presentation of table manners and etiquettes.	04
5	3	Conversation on the given situation	04
6	4	Mock interview (6 students)	04
7	5	Group Discussion (6 students + 1 moderator)	04
8	6	Public speech	01
9	6	Presentation of welcome and farewell speech	02
10	6	Guest's introduction speech and vote of thanks	02
Total			32

References/Books

Sr.No.	Author	Title	Publication
1	Meenakshi Raman Sangita Sharma	Communication Skills	Oxford Higher Education
2	Homai Pradhan D.S.Bhende Vijaya Thakur	Business Communication	Himalaya Publishing House
3	Curriculum Development Centre	A Course in Technical English	Somaiya Publications Pvt.Ltd.

Course Curriculum Development Committee:

a. Internal Faculty

- 1) Smt. S.S. Kulkarni
- 2) Mrs. K.S. Pawar

b. External Faculty :- 1) Mr. Sandeep Barde



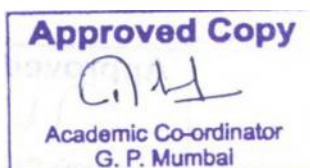
Academic Coordinator



Head of Department
(Science)



Principal
Government Polytechnic
Mumbai



Programme Code: CE/ME/ EE/IS/EC/CO/IF/RT									
Course Code:SC16108				Course Title: Mathematics-II					
Compulsory / Optional: Compulsory									
Teaching Scheme and Credits				Examination Scheme					
TH	TU	PR	Total	TH	TS	PR	OR	TW	Total
3	1	-	4	70 (3 Hrs.)	30	-	-	-	100

Rationale:

The study of mathematics is necessary to develop in the student, the skills essential for Studying engineering subjects. The subject is an extension of basic mathematics of first semester, which is a pre requisite, for engineering studies.

Course Outcomes:**Student will be able to:**

CO1	Define the basic principles of function, limits, derivatives, complex number and relations between two variables.
CO2	Apply rules, concept and properties to solve the problems.
CO3	Classify various types of statistical data.

Course Content Details:

Unit No	Topics / Sub-topics
1	1. <u>Function</u> 1.1 Concept of function, domain and range, 1.2 Type of functions (Only definitions).
2	2. <u>Limit</u> 2.1 Concept of limit 2.2 Limit of Algebraic, Trigonometric, Logarithmic and Exponential functions with simple example.
3	3. <u>Derivatives</u> 3.1 Definition of the derivative. 3.2 Derivatives of standard function.(No proof by first principle) 3.3 Differentiation of sum, difference, product and quotient of two or more functions 3.4 Differentiation of composite, inverse, implicit, parametric, exponential and logarithmic functions with simple example. 3.5 Second order derivative.
4	4. <u>APPLICATION OF DERIVATIVES</u> 4.1 Geometrical meaning of derivative 4.2 Tangents & Normals to the curve, 4.3 Maxima & minima of the functions 4.4 Radius of Curvature.

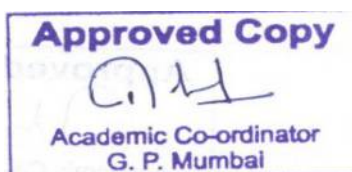
5	5. <u>STATISTICS</u> 5.1 Basic definitions-raw data, variate,frequency,cumulative frequency 5.2 Classification of data, class interval, mid value, length of the interval 5.3 Measure of central tendency – (mean, median & mode) 5.4 Mean deviation, Standard deviation, Coefficient of variance
6	6 <u>Complex number</u> 6.1 Definition & Algebra of complex numbers 6.2 Geometrical representation of complex number 6.3 Modulus & amplitude of complex number 6.4 Polar form of complex number 6.5 De moivre's theorem (no proof) , roots of complex number 6.6 Exponential form of complex number, Circular & Hyperbolic functions of complex numbers, relation between Circular & Hyperbolic functions, real & imaginary parts of Circular & Hyperbolic functions
7	7. <u>Numerical Analysis</u> 7.1 Solution of Algebraic equations using – i) Bisectional method ii) Regular – Falsi method , iii) Newton- Raphson method 7.2 Solution of simultaneous equation (i) Gauss elimination method (ii) Jacobi's method (iii) Gauss-Seidal method

Suggested Specifications Table with Hours and Marks (Theory):

Unit No	Topic Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
1	Function	04	02	02	00	04
2	Limits	08	04	02	04	10
3	Derivatives	13	04	04	06	14
4	Application of derivatives	07	00	04	04	08
5	Statistics	12	04	04	06	14
6	Complex number	12	02	04	04	10
7	Numerical analysis	08	02	04	04	10
Total		48	18	24	28	70

Legends: R- Remember; U-Understand; A- Apply and above levels (Bloom's revised Taxonomy).

Notes: This specification table shall be treated as a general guideline and actual distribution of marks may slightly vary from table. But the questions from each topic should be asked as per marks weightage. Numerical questions are to be asked only if specified.



List of Tutorials:**Note:** 1) Tutorials are to be used to get enough practice.

2) Make group of 20 student and for each group minimum 10 problems are to be given.

Sr. No.	Unit	Tutorials	Approx. Hours
1	1	Function	01
2	2	Limits	02
3	3	Derivatives	01
4	3	Derivatives	02
5	3	Derivatives	01
6	4	Application of derivatives	01
7	5	Statistics	01
8	5	Statistics	02
9	6	Complex number	01
10	6	Complex number	02
11	7	Numerical analysis.	02
Total			16

References/ Books:

Sr.No.	Name of Book	Author	Publisher
1	Mathematics for polytechnic students	S.P. Deshpande	Pune VidyarthiGruhaPrakashan
2	Mathematics for polytechnic students (Volume I)	H. K. Das	S.ChandPrakashan
3	Companion to basic maths	G. V. Kumbhojkar	PhadkePrakashan
4	Applied Maths	N. Raghvendra Bhatt Late Shri R Mohan Singh	Tata McGraw Hill Publication


Course Curriculum Development Committee:**a. Internal Faculty**

i. Miss.J.J.Ratnanai.

ii. Mr.V.S.Patil

b. External Faculty

i. Prof. P. S. Dave


Academic Coordinator

**Head of Department
(Science)**

**Principal
Govt. Polytechnic Mumbai**

Programme : Diploma in CE/EE/EC/ME/CO/IF/IS/LG/LT/RT Engineering									
Course Code: SC16104				Course Title: Engineering Physics					
Compulsory / Optional: Compulsory									
Teaching Scheme and Credits				Examination Scheme					
TH	TU	PR	Total	TH	TS	PR	OR	TW	Total
3	-	2	5	70 (3 Hrs.)	30	-		50	150

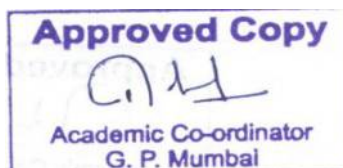
Rationale:

The subject is included under the category of science. The special feature of the subject is to develop the laboratory skill using principles of scientific phenomenon. This course will serve to satisfy the need of the technical student for his development in technical field. Deep thought is given while selecting the topics related to all programmes which will develop intellectual skills of the students. Ultimately the focus of the course is on psychomotor skill.

Course Outcomes:

After the completion of course, students will be able to

CO1	Know the physical quantities accurately, to measure using different instruments and to interpret the results from observations and calculations.
CO2	Know the physical properties of the various materials that are used by the engineer and to understand the principle and laws of physics.
CO3	Know the basic facts in Physics viz, force, elasticity, viscosity, surface tension, waves and light and to apply the knowledge to correlate the properties of materials, their engineering uses and applications.
CO4	Classify and develop laboratory skills including the use of variety of physics apparatus, the compilation of data, its interpretation and analysis.
CO5	Achieve refined presentation skills through the presentation of coherent and comprehensible written accounts of laboratory work.



Course Content Details:

Unit No	Topics / Sub-topics
1	Physical Measurements and Units <p>1.1 Fundamental Physical quantities, examples.</p> <p>1.2 Derived physical quantities, examples.</p> <p>1.3 Definition and requirements of unit</p> <p>1.4 System of units, C. G. S., M. K. S. and S. I. units.</p> <p>1.5 Rules to write the unit and conventions of units and numerical.</p> <p>1.6 Error – Definition, types of errors and minimization of errors.</p>
2	Motions: <p>2.1 Linear motion –Definition, equation of motions: $v = u + at$, $s = ut + \frac{1}{2}at^2$, $v^2 = u^2 + 2as$ and numerical.</p> <p>2.2 Periodic motions- a) Oscillatory motion, b) Vibratory motion, c) Spin motion, d) S.H.M. (only definition and examples), e) Circular motion.</p> <p>2.3 Circular motion :</p> <p>a) Introduction of the terms: Time period, frequency, amplitude, wavelength, phase. Uniform circular motion, Radius vector, linear velocity, Angular velocity , Angular acceleration,</p> <p>b) Relation between linear velocity and angular Velocity, Radial or centripetal acceleration (derivation), Three equations of motion (no derivations) Centripetal and Centrifugal force, examples and applications.</p> <p>c) Banking of Roads, its necessity and applications. Numericals based on the topic</p>
3	General Properties of Matter: <p>3.1 Elasticity:</p> <p>3.1.1 Elastic, plastic and rigid substances, their examples.</p> <p>3.1.2 Types of deformations.</p> <p>3.1.3 Definition of elasticity, stress, strain and its types.</p> <p>3.1.4 Hooke's Law and elastic limit.</p> <p>3.1.5 Stress versus Strain curve when the wire is under continuously increasing stress, yield point, breaking point.</p> <p>3.1.6 Young's Modulus, bulk modulus and modulus of rigidity – Definition, explanation and numerical.</p>

	<p>3.1.7 Factor of safety.</p> <p>3.1.8 Applications of elasticity.</p> <p>3.2 Viscosity :</p> <p>3.2.1 Concept and Definition of viscosity, velocity gradient.</p> <p>3.2.2 Newton's law of viscosity, Co-efficient of viscosity, unit of viscosity</p> <p>3.2.3 Stokes' law, terminal velocity, derivation of Stokes' formula.</p> <p>3.2.4 Streamline flow, turbulent flow, critical velocity, examples.</p> <p>3.2.5 Reynolds' number and its significance.</p> <p>3.2.6 Applications of viscosity and numerical.</p> <p>3.3 Surface Tension :</p> <p>3.3.1 Concept of surface tension.</p> <p>3.3.2 Adhesive and cohesive forces, examples.</p> <p>3.3.3 Laplace's Molecular theory of surface tension</p> <p>3.3.4 Angle of contact, its significance.</p> <p>3.3.5 Expression for surface tension by capillary rise method.</p> <p>3.3.6 Effect of impurity and temperature.</p> <p>3.3.7 Applications of surface tension.</p> <p>3.3.8 Numericals.</p>
4	<p>Sound and Acoustic :</p> <p>4.1 Sound Waves :</p> <p>4.1.1 Wave motion, types of waves – progressive, longitudinal and transverse waves.</p> <p>4.1.2 Characteristics of longitudinal and transverse waves and comparison.</p> <p>4.1.2 Free or natural vibrations and forced vibrations, resonance – definition and examples.</p> <p>4.1.3 Newton's formula for velocity of sound and Laplace's correction.</p> <p>4.1.4 Effect of temperature , pressure & humidity on velocity of sound and numerical.</p> <p>4.1.5 Determination of velocity of sound by resonance method.</p> <p>4.2 Acoustics :</p> <p>4.2.1 Definition of echo, reverberation , reverberation time and acoustic</p> <p>4.2.2 Sabine's formula for reverberation time no (derivation)</p> <p>4.2.3 Factors affecting acoustics of sound.</p> <p>4.2.4 Acoustical planning of building.</p> <p>4.2.5 Numericals.</p>

5	<p>Optics and Optical Fibers :</p> <p>5.1 Optics :</p> <p>5.1.1 Revision of reflection and refraction of light.</p> <p>5.1.2 Laws of refraction, Snell's law.</p> <p>5.1.3 Determination of refractive index.</p> <p>5.1.4 Dispersion, dispersive power, Prism formula (no derivation)</p> <p>5.1.5 Critical angle, Total internal reflection. Examples and applications.</p> <p>5.1.6 Numericals.</p> <p>5.2 Optical Fibers :</p> <p>5.2.1 Principle of propagation of light through optical fiber.</p> <p>5.2.2 Structure of optical fiber.</p> <p>5.2.3 Concept of numerical aperture and acceptance angle (formula).</p> <p>5.2.4 Types of optical fiber.</p> <p>5.2.5 Method of production of optical fiber.</p> <p>5.2.6 Applications (electronics and medical) and comparison with electrical cable for communication.</p>
6	<p>Nanotechnology, Laser and Ultrasonic:</p> <p>6.1 Nanotechnology :</p> <p>6.1.1 Introduction to nanotechnology.</p> <p>6.1.2 Definition of nanoscale, nanometer and nanoparticles, nanotechnology.</p> <p>6.1.3 Definition and examples of nanostructured materials.</p> <p>6.1.4 Methods of production of nanomaterial-</p> <p>a. Top down approach.</p> <p>b. Bottom up approach.</p> <p>6.1.5 Techniques for the measurement of nanoparticles.</p> <p>6.1.6 Applications of nanotechnology in different fields -</p> <p>a. electronics, b. automobile, c. medical, d. textile, e. cosmetics,</p> <p>e. environmental, f. space and defense.</p> <p>6.2 LASER and Ultrasonic :</p> <p>a) LASER</p> <p>6.2.1a) LASER introduction,</p> <p>6.2.1b) Properties of laser,</p> <p>6.2.1c) Spontaneous and stimulated emission,</p> <p>6.2.1d) Population inversion, Optical pumping,</p> <p>6.2.1e) Types of LASER, He-Ne Laser- construction and method of production.</p> <p>6.2.1f) Applications of LASER.</p>

	b) Ultrasonic: 6.2.2a) Ultrasonic waves and infrasonic waves. 6.2.2b) Audible range of soundwave, 6.2.2c) Piezoelectric effect and magnetostriction effect. 6.2.2d) Methods for the production of ultrasonic wave (any one), 6.2.2e) Properties of ultrasonic wave. 6.2.2f) Applications for distance measurement, hidden flaws detection, signaling, drilling holes, metal cutting.
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Suggested Specifications Table with Hours and Marks (Theory):

Unit No	Topic Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
1	Physical Measurements and Units	6	2	2	4	8
2	Motion	8	2	4	2	12
3	General properties of matter	10	3	3	2	15
4	Optics and Fiber optics	8	3	3	2	12
5	Sound and Acoustics	6	3	3	2	8
6	Nano Technology, Laser and Ultrasonic.	10	3	3	2	15

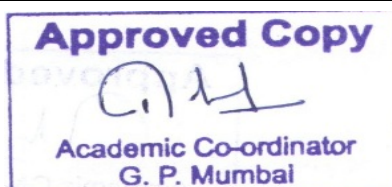
Legends: R- Remember; U-Understand; A- Apply and above levels (Bloom's revised Taxonomy).

Notes: This specification table shall be treated as a general guideline and actual distribution of marks may slightly vary from table. But the questions from each topic should be asked as per marks weightage. Numerical questions are to be asked only if specified.

List of experiments/Assignments:

(Minimum **TEN** experiments should be completed by each student)

Sr. No.	Unit	Experiment/Assignment	Approx. Hours
1	1	To measure the dimensions of given objects and to determine their volume using Vernier caliper.	2
2	1	To measure the dimensions of given objects and to determine their volume using micrometer screw gauge.	2
3	2	To determine Acceleration due to gravity by simple pendulum	2
4	3	To determine coefficient of viscosity of liquid by Stokes' method.	2
5	3	To determine coefficient of viscosity of liquid by Poiseuille's method.	2
6	3	To determine the surface tension of liquid using capillary rise method.	2
7	3	To determine the Young's modulus of elasticity of wire using Young's apparatus.	2
8	4	To determine refractive index by pin method.	2



9	4	To determine refractive index by total internal reflection.	2
10	4	To determine refractive index using spectrometer	2
11	5	To determine velocity of sound by resonance method.	2
12	5	To determine sound absorption coefficient of different materials.	2
13	6	Flaws detection using ultrasonic waves.	2
14	6	Experiments on LASER	2
15	6	To plot the characteristics of photo cell.	2
16	All	Showing Video on different applications related to umits,	2
Total			32

Notes: If possible videos should be shown on different topics- especially on topics – LASER, Ultrasonic, TIR, Refractive index and on spectra.


References/ Books:


Sr.No.	Name of Book	Author	Publisher
1	Applied Physics	Manikpure&Deshpan de	S.Chand& Company
2	Applied Physics	B.G.Bhandarkar	Vrinda Publication
3	Optics & Optical Fibers	BrijlalSubhramanyan	
4	Engineering Physics	Gaur and S.L.Gupta	S.Chand& Company
5	Resnick and Halliday	Physics	Tata McGraw Hills
6	H.C.Varma	Physics part I & II	
7	D.S.Mathur	Properties of Matter	
8	Dr. A. U. Warad	Basic Physics	

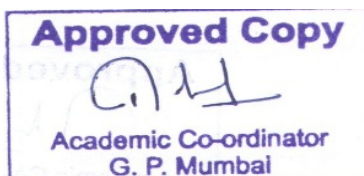
Course Curriculum Development Committee:

- i. **Internal Faculty:-** Dr. A. U. Warad.
- ii. **External Faculty :-** Mrs. S. A. Thorat


Academic Coordinator


Head of Department
(Science)


Principal
Govt. Polytechnic, Mumbai



Programme : CO/IT									
Course Code: IT16202				Course Title: Programming in C					
Compulsory / Optional: Compulsory									
Teaching Scheme and Credits				Examination Scheme					
TH	TU	PR	Total	TH	TS	PR	OR	TW	Total
03	--	04	07	70 (3 Hrs.)	30	50*	--	--	150

*Assessed by External Examiner

Rationale:

In today's information technology era, computer technology plays an important role. Computer applications are all pervasive in day to day life of human being. It become compulsory to all employable to have sound knowledge of how computer works and process data and information.

This subject covers from the basic concept of C to pointers in C. This subject will act as "programming concept developer" for students. It will also act as "Backbone" for subjects like OOPS, VB, Windows Programming, JAVA, OOMD, etc.

Course Outcomes:

Student should be able to

CO1	Illustrate the Flowchart and describe an algorithm for a given program.
CO2	Develop Conditional and iterative statements to write C programs.
CO3	Exercise user defined functions to solve real time problems
CO4	Describe C Programs using pointers and to allocate memory using dynamic memory management functions
CO5	Develop programs using input and output operations
CO6	Understand the concepts of constants, variables, data types and operators.

Course Content Details:

Unit No	Topics / Sub-topics
1	<p>Program Logic development</p> <p>1.1 Fundamentals of algorithms: Notion of an algorithm. Pseudo-code conventions like assignment statements and basic control structures.</p> <p>1.2 Algorithmic problems: Develop fundamental algorithms for (i) Exchange the values of two variables with and without temporary variable, (ii) Counting positive numbers from a set of integers, (iii) Summation of set of numbers, (iv) Reversing the digits of an integer, (v) Find smallest positive divisor of an integer other than 1, (vi) Find G.C.D. and L.C.M. of two as well as three positive integers, (vii) Generating prime numbers.</p> <p>1.3 Flow chart: flow charts for all algorithms developed</p>

2	<p>Basics of C programming</p> <p>2.1 Different approaches in programming: Procedural approach, Object Oriented approach, Event Driven approach.</p> <p>2.2 Structure of C: Header and body, Use of comments, Compilation of a program.</p> <p>2.3 Data Concepts: Variables, Constants, data types like: int, float char, double and void. Qualifiers: short and long size qualifiers, signed and unsigned qualifiers. Declaring variables, Scope of the variables according to block, Hierarchy of data types.</p> <p>2.4 Basic Input output: C program structure, Input and output using printf() and scanf(), character I/O. (Programs based on I/O)</p>
3	<p>Control Structures</p> <p>3.1 Decision making: If Statement, If else statement, Nesting of if-else</p> <p>3.2 branching: The switch statement</p> <p>3.3 Looping: While loop, Do-while loop, For loop</p> <p>3.4 Ternary operator</p> <p>3.5 Go to statement</p> <p>3.6 Use of break and continue statements</p>
4	<p>Arrays and Strings</p> <p>4.1 One dimension, two dimension and multidimensional arrays</p> <p>4.2 Array declaration</p> <p>4.3 Array initialization</p> <p>4.4 calculating the length of an array</p> <p>4.5 Operation on array</p> <p>4.6 String input/output</p> <p>4.7 String operations</p> <p>4.6 Array of strings</p>
5	<p>Structure and Union</p> <p>5.1 Basic Concept</p> <p>5.2 Structure declaration, initialization</p> <p>5.3 Structure within structure</p> <p>5.4 Nested Structures</p> <p>5.5 Array of Structure</p> <p>5.5 Union</p>
6	<p>Functions</p> <p>6.1 Concept of library functions</p> <p>6.2 String functions (comparison, concatenation, length)</p> <p>6.3 User-defined functions</p> <p>6.3 Local & global variables</p> <p>6.4 Parameter passing</p> <p>6.5 Storage classes</p>

7	Pointers 7.1 Basic concept 7.2 Pointer & arrays 7.3 Pointer & functions 7.4 Pointer arithmetic
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Suggested Specifications Table with Hours and Marks (Theory):

Unit No	Topic Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
1	Program Logic development	05	01	03	03	07
2	Basics of C programming	09	04	06	02	12
3	Control Structures	10	04	06	06	16
4	Arrays and Strings	08	02	04	04	10
5	Structure and Union	05	02	02	04	08
6	Functions	05	02	02	04	08
7	Pointers	06	01	04	04	09
Total		48	16	27	27	70

Legends: R- Remember; U-Understand; A- Apply and above levels (Bloom's revised Taxonomy).

Notes: This specification table shall be treated as a general guideline and actual distribution of marks may slightly vary from table. But the questions from each topic should be asked as per marks weightage. Numerical questions are to be asked only if specified.

List of experiments/Assignments:

Sr. No.	Unit	Experiment/Assignment	Approx. Hours
1	1	Write an algorithm and draw the flow chart for following: a) To find out number is odd or even. b) To find out factorial value of a number. c) To check a number is prime number or not.	04
2	1,2	Program based on Input/output statement. a) To find out number is odd or even. b) To find out factorial value of a number. c) To check a number is prime number or not.	04
3	1,2,3	Program using control structures: Decision making a) To find whether the input number is even or odd. b) To find whether the number entered is positive or negative.	04

4	3	Program using control structures: Branching a) To find the greatest number among three numbers using nested if b) Program that asks user an arithmetic operator ('+', '-', '*', or '/') and two operands and perform the corresponding calculation on the operands using switch case.	04
5	3	Program using control structures: Looping(using loops) a) To find the sum of first n natural numbers where n is entered by user. b) To Find Number of Digits in a Number. c) To check whether a number is palindrome or not. d) To Generate Multiplication Table.	04
6	4	Program to perform insert and delete operation on one dimensional array.	04
7	4	Program to accept values in 2-Dimensional 3 by 3 arrays and displays the sum of all the elements.	04
8	4	Program using array of strings.	04
9	5	Program using structure and union a) To store information of 3 students (Name, Roll No, Marks) b) To store information of 2 employees (emp_id, name, salary) and display the details of the employee having salary greater than Rs. 5000.	04
10	6	Program to perform different operations on string.	04
11	6	Program using function(call by value) a) to swap to numbers b) to find square of a given number	04
12	6	Program using function(call by reference) a) To swap to numbers b) To find square of a given number	04
13	7	Program using pointer.	04
14	7	Program to compute the sum of all elements stored in an array using pointers	04
15	7	Program using pointer Arithmetic.	04
16		Mini Project	04
Total			64

References/ Books:


Sr. No.	Name of Book	Author	Publisher
1	The C Programming Language	Brian W. Kernighan, Dennis Ritchie	Prentice Hall
2	Programming in ANSI C	E. Balgurusamy	The Mc-Graw Hill
3	Let us C	Yashawant Kanetkar	BPB Publications

Course Curriculum Development Committee:**a. Internal Faculty**

- i. Ms. U.C.Khake (Lecturer in Computer Engineering, Govt. Polytechnic Mumbai)
- ii. Ms. S. A. H. Shaikh (Lecturer in Information Technology, Govt. Polytechnic Mumbai)
- iii. Mrs. V. S. Lokhande (Lecturer in Computer Engineering, Govt. Polytechnic Mumbai)

b. External Faculty

- i. Ms. Nisha Vartha (Lecturer in Information Technology, Govt. Polytechnic Thane)


Academic Coordinator

**Head of Department
(Information Technology)**

**Principal
Govt. Polytechnic Mumbai**

Programme : CO/IT/IS									
Course Code: EC16204				Course Title: Basics of Electronics Engineering					
Compulsory / Optional: Compulsory									
Teaching Scheme and Credits				Examination Scheme					
TH	TU	PR	Total	TH	TS	PR	OR	TW	Total
3	-	2	5	70 (3 Hrs.)	30	50	-	-	150

Rationale:

This course is one of the core subject and it covers fundamentals of electronics. Therefore it is necessary for the students of electronics and related branches to study. It includes basic principles, construction of semiconductor devices, their biasing techniques and simple applications. Student will be able to analyze and apply knowledge of this subject.

Course Outcomes: Student should be able to:

CO1	Learn the fundamentals of electronics.
CO2	Know the principle of diodes and transistors. Understand the construction and materials used for diodes and transistors.
CO3	Identify the components from their configuration and sketch their symbols.
CO4	Evaluate the characteristics of electronic components
CO5	Assemble, test and analyze basic circuits such as rectifiers, amplifiers, clipper, oscillator etc.

Course Content Details:

Unit No	Topics / Sub-topics
1	Semiconductor Theory: 1.1 Review of atomic structure, Effect of Heat on atomic structure. Concept of Energy band theory, Classification of material on the basis Energy band theory Conductor, Insulator Semiconductor. 1.2 Intrinsic and Extrinsic Semiconductors, P-type and N-type Semiconductors. Majority and minority charge carriers. 1.3 P-N Junction formation, Concept of depletion layer and barrier Potential. 1.4 Biasing of PN Junction: Forward and reverse biased. Reverse breakdown: Avalanche breakdown. Reverse Saturation current. 1.5 PN junction Diode: V-I characteristics, Diode current Equation, Effect of temperature, Static and dynamic resistance.

	<p>1.6 Comparison of Si and Ge Diode. Packages of Diode.</p> <p>1.7 Definition of following terms: Forward voltage and Forward Current, PIV, Power dissipation of diode, Junction Capacitance, Barrier potential / Knee Voltage.</p> <p>1.8 Differentiate faulty and good Diode.</p>
2	<p>Diode applications:</p> <p>2.1 Review of Transformer: Step Up, Step down (Not for exam)</p> <p>2.2 Rectifier: Definition , Types, Circuit diagram, waveforms and Working of(a) Half wave rectifier (b) Full Wave rectifier (Centre Tapped) (c) Bridge rectifier.</p> <p>2.4 Definition of following terms: Ripple factor, efficiency of Rectifier, TUF, Peak-to –peak voltage, Peak voltage, rms voltage.</p> <p>2.5 Comparison of Rectifiers on types, number of diodes used, efficiency, ripple factor, TUF, rms voltage, Average voltage.</p> <p>2.6 Filters: Need of filter, Types of filters: Capacitor, Choke input and Π-type filters. Working and Input ,Output waveforms.(Refer 2.2)</p> <p>2.7 Diode as clipper and clamper</p> <p>(a) Circuit diagram, waveform and working of positive and negative (series and shunt)</p> <p>(b) Circuit diagram, waveform and working of positive and negative Clamper.</p>
3	<p>Special Diodes :</p> <p>Symbol, construction, characteristics, working, application and general specification of the following diodes:</p> <p>3.1 Zener Diode, Zener diode as a regulator.</p> <p>3.2 Block diagram of series regulated power supply, Definition of load & line regulation.(Simple numerical on load & line regulation no derivation to be asked in the exam)</p> <p>3.3Light Emitting Diode, Calculation of series resistance.</p> <p>3.4Photo Diode.</p>
4	<p>Transistor Fundamentals:</p> <p>4.1 Bipolar Junction Transistor: Two diode analogy of transistor, Packages and</p>

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Academic Co-ordinator
G. P. Mumbai

	<p>terminal identification of Transistor.</p> <p>4.2 Symbol, Construction and working of PNP and NPN transistors.</p> <p>4.3 Transistor configuration: CE, CB, CC modes.</p> <p>4.4 Characteristics of transistors in CE configuration. Expression of collector current, Concept of collector leakage current. Relation between α and β. (no derivation to be asked in the exam)</p> <p>4.5 Concept of Early Effect.</p> <p>4.6 Transistor Parameters/ Ratings: Maximum collector current, Maximum collector voltage, Maximum Base current, Maximum power dissipation, Operating frequency range, Current gain (h_{fe}).</p> <p>4.7 Importance of Heat sink.</p> <p>4.8 Differentiate faulty and good Transistor.</p>
5	<p>BJT biasing:</p> <p>5.1 Introduction: Need of biasing, DC Operating point and load line, factors contributing to thermal instability, Effect of temperature (Thermal runaway), Stability Factor</p> <p>5.2 Transistor biasing: Circuit and analysis of biasing network such as Fixed bias, Collector feedback bias, Emitter Bias, Voltage divider bias.</p> <p>5.3 Application of Transistor as a Switch</p> <p>5.4 Single stage Common Emitter (CE) amplifier: Working and frequency response</p>
6	<p>Field Effect Transistor:</p> <p>6.1 Introduction, Symbol, Packages and terminal identification of FET (N channel, P channel)</p> <p>6.2 JFET: Construction of JFET, Formation of depletion region, Operation, Output and Transfer characteristics.</p> <p>6.3 JFET Parameters, relation between JFET parameters.</p> <p>6.4 Comparison between BJT and FET.</p>
7	<p>Introduction to Oscillators:</p> <p>7.1 Need and condition for oscillators (Barkhausen criteria)</p> <p>7.2 Types of feedback : Positive and Negative</p>

	7.3 Type of oscillator: RC phase shift oscillator and Hartley oscillator: Working, frequency expression and applications.
	7.4 Introduction to Multivibrators: Concept of Astable, Monostable and Bistable

Suggested Specifications Table with Hours and Marks (Theory):

Unit No	Topic Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
1	Semiconductor Theory	10	04	04	04	12
2	Diode Applications	10	04	09	02	15
3	Special Diodes	04	02	04	02	08
4	Transistor Fundamentals	08	06	08	02	16
5	BJT Biasing	08	02	04	04	10
6	Field Effect Transistor	04	02	03	00	05
7	Introduction to Oscillators	04	02	02	00	04
Total		48	22	34	14	70

Legends: R- Remember; U-Understand; A- Apply and above levels (Bloom's revised Taxonomy).

Notes: This specification table shall be treated as a general guideline and actual distribution of marks may slightly vary from table. But the questions from each topic should be asked as per marks weightage. Numerical questions are to be asked only if specified.

List of experiments/Assignments: (any 12 experiments)

Sr. No.	Unit	Experiment/Assignment	Approx. Hours
1	-	Introduction of front panel and controls of multimeter, CRO, Function generator and their use for testing and measurement.	02
2	1	To construct and test the V-I characteristic of semiconductor P-N diode. Find out static, dynamic resistance and knee voltage. Find the maximum current and PIV of diode from datasheet of given diode.	02
3	2	To construct and test half wave rectifier. Observe and measure input and output waveforms.(peak voltage, peak to peak voltage, R.M.S voltage, Calculate average voltage)	02
4	2	To construct and test full wave Center tapped rectifier with filter. Observe and measure input and output waveforms.(peak voltage, peak to peak voltage, R.M.S voltage, Calculate average voltage.)	02
5	2	To construct and test Bridge Full wave rectifier with filter. Observe and measure input and output waveforms. (Peak voltage, peak to peak voltage, R.M.S voltage, Calculate average voltage.). Observe the effect of filter capacitor on ripple.	02
6	3	To construct and test the V-I characteristic of Zener diode.	02
7	3	To construct and test Zener regulator. Find out load and line regulation.	02
8	3	To construct and test the V-I characteristics of LED.	02

9	4	To construct and test input and output characteristics of BJT and Calculate input resistance and output resistance of BJT in CE Mode.	04
10	5	To construct and test transistor as switch and Observe input and output waveforms.	02
11	5	To construct and test the frequency response of single stage CE amplifier and Calculate gain bandwidth product of given circuit.	04
12	6	To construct and test the output characteristic of FET. Label and interpret the various parameters on it.	04
13	7	To construct, test and verify oscillation frequency of RC phase shift oscillator	02
Total			32

References/ Books:

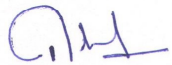
Sr.No.	Name of Book	Author	Publisher
1	A text book of Applied Electronics	R. S. Sedha	S. Chand and Co. Ltd.
2	Electronic Devices and circuits	Allen Mottershead	Prentice Hall of India Ltd.
3	Basic Electronics	Bernard Grob	McGraw Hill
4	Principles of Electronics	V. K. Mehta	S. Chand and Co. Ltd.
5	Electronic Device and circuit	G. K. Mitthal	Khanna publishers
6	Electronic Principles	Albert Malvino	Tata McGraw Hill
7	Basic Electronic and Linear circuit	N. N. Bhargava, S. C. Gupta	Tata McGraw Hill

Course Curriculum Development Committee:**a. Internal Faculty**

- i. Mr.S.R.Aher
- ii. Ms. Monali B. Ghodke
- iii. Ms.Avanti S.Pawar

b. External Faculty

- i. Mr.Ghadyalji


Academic Coordinator
(R. A. Patil)


Head of Department

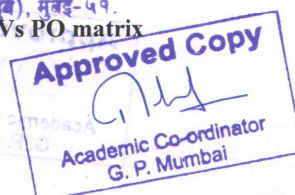

Principal
Govt. polytechnic Mumbai

Course Name:- Basics of Electronics Engineering,

Course Code:-EC16204

CO Vs PO matrix

Basics of Electronics Engineering



EC16204

Programme : Diploma in CE/CO/EC/EE/IT/IS/LG/LT/ME/RT									
Course Code: HU16104				Course Title: Environmental Studies					
Compulsory / Optional: Compulsory									
Teaching Scheme and Credits				Examination Scheme					
TH	TU	PR	Total	TH	TS	PR	OR	TW	Total
	2		2			-	25*	25 [@]	50

* Oral exam shall be based on the Term Work

@ TW shall be based on tutorial

Rationale:

Environmental studies is the interdisciplinary academic field which systematically studies human interaction with the environment in the interests of solving complex problems. It is a broad field of study that includes also the natural environment, built environment, and the sets of relationships between them. The turn of the twentieth century saw the gradual onset of its degradation through depletion of resources such as air, water and soil; the destruction of ecosystems and the extinction of wildlife by our callous deeds without any concern for the well-being of our surrounding. We are today facing a grave environmental crisis. It is therefore necessary to study environmental issues to realize how human activities affect the environment and what could possibly be the remedies or precautions which need to be taken to protect the environment.

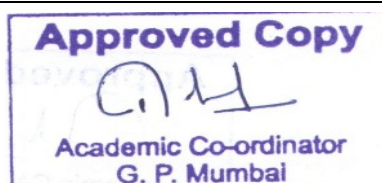
Course Outcomes:

Student should be able to

CO1	State importance of environment
CO2	Identify key issues about environment
CO3	Analyze the reasons for environment degradation
CO4	Distinguish the various improvement methods
CO5	Identify measures taken by the world bodies to restrict and reduce degradation

Course Content Details:

Unit No	Topics / Sub-topics
1	Nature of Environmental Studies: <ul style="list-style-type: none"> 1.1 Definition, Scope and Importance of the environmental studies 1.2 Importance/significance of the environmental studies irrespective of course 1.3 Need for creating public awareness about environmental issues 1.4 Ways/means/methods of creating public awareness 1.5 Some important terms related with Environmental Studies



2	<p>Natural Resources and Associated Problems:</p> <p>2.1 Introduction</p> <p>2.2 Renewable Resources</p> <p>2.3 Forest Resources:</p> <ul style="list-style-type: none"> ○ General description of forest resources ○ Functions and benefits of forest resources ○ Effects on environment due to over exploitation of forest resources: <ul style="list-style-type: none"> ▪ Due to deforestation ▪ Due to timber extraction ▪ Due to dams ▪ Due to building of waterways <p>2.4 Water Resources:</p> <ul style="list-style-type: none"> ○ Hydrosphere: Different sources of water: Surface Water, Ground Water & Frozen Water ○ Use and overexploitation of surface and ground water ○ Effect of floods, draught, dams etc. on water resources and community <p>2.5 Mineral Resources:</p> <ul style="list-style-type: none"> ○ Categories of mineral resources ○ Basics of mining activities ○ Mine safety ○ Effect of mining on environment <p>2.6 Food Resources:</p> <ul style="list-style-type: none"> ○ Food for all (Food Security) ○ Effects of modern agriculture ○ World food problem <ul style="list-style-type: none"> • Case Study: Adverse environmental effect of Bhakra Nangal Dam
3	<p>Ecosystems:</p> <p>3.1 Concept of Ecosystem</p> <p>3.2 Classification</p> <p>3.3 Structure and functions of ecosystem: Structure (Components), Functions & Food Chain</p> <p>3.4 Energy flow in ecosystem: Gross primary product and Net primary product, Autotrophic levels and Bioaccumulation</p> <p>3.5 Major ecosystems in the world</p> <p>3.6 Case Study: Silent Spring</p>
4	<p>Biodiversity and Its Conservation:</p> <p>4.1 Definition of Biodiversity</p> <p>4.2 Levels of biodiversity:</p>

	<p>Genetic, Species, Community & Ecosystem</p> <p>4.3 Value of biodiversity</p> <p>4.4 Threats to biodiversity: Habitat destruction, Invasive species, Genetic pollution, Overexploitation, Hybridization, Climate change & Overpopulation</p> <p>4.5 Conservation of biodiversity: In-situ & Ex-situ</p> <p>4.6 Case Study of any two endangered species</p>
5	<p>Environmental Pollution:</p> <p>5.1 Definition of environmental pollution</p> <p>5.2 Air pollution:</p> <ol style="list-style-type: none"> Definition Classification: Types of air pollution, Types of air pollutants Sources: Anthropogenic & Natural Effects: Health effects, Climate change, Global warming, Acid rain, Ozone layer depletion & Photochemical smog Prevention: Particulate control, Scrubbers, NO_x control, VOC abatement, Acid gas control & Mercury control <p>5.3 Water Pollution:</p> <ol style="list-style-type: none"> Definition Water trivia facts Water pollution trivia facts Classification: Surface, Groundwater, Oxygen depletion in waters, Nutrient pollution, Microbiological pollution, Suspended matter & Chemical pollution Sources/Causes of pollution: Sewage & waste water, Marine dumping, Industrial waste water, Nuclear waste, Oil pollution, Underground storage leakages, Atmospheric deposition and Eutrophication Effects of water pollution Prevention (What you can do) Treating water pollution, Water pollution at home <p>5.4 Soil Pollution: Definition, sources, effects, prevention</p> <p>5.5 Noise Pollution: Definition, sources, effects, prevention</p> <p>5.6 Case Study: Bhopal Gas Tragedy and Minamata Disease</p>
6	<p>Social Issues and Environment:</p> <p>6.1 Concept of development</p> <p>6.2 Sustainable development: Environmental, Economic, Social & Cultural</p>

	<p>sustainability</p> <p>6.3 Water conservation and its method</p> <p>6.4 Watershed management, its components and treatment measure/methods</p> <p>6.5 Rain water harvesting: Definition, Methods and Benefits</p> <p>6.6 Climate Change: Causes</p> <p>6.7 Global warming, Acid rain, Ozone Layer Depletion,</p> <p>6.8 Nuclear Accidents and Holocaust: Basic Terms, Accidents Myth of a reactor explosion, Effects of Nuclear accidents and Nuclear holocaust</p> <p>6.9 Concept of Carbon Credits and its advantages</p> <p>6.10 Case studies of Three mile island, Chernobyl, Fukushima disaster</p>
7	<p>Environmental Protection:</p> <p>Brief description of the following acts and their provisions:</p> <ul style="list-style-type: none"> • Environmental Protection Act, 1986 • Air (Prevention and Control of Pollution) Act, 1981 • Water (Prevention and Control of Pollution) Act, 1974 • Wildlife Protection Act 1972 • Forest Conservation Act, 1980 & 1988 • Population Growth: Aspects (Social, Environmental, Ecological & Cultural) • Human Health and Human Rights • Case Studies: Mumbai Trans Harbour Link;

Suggested Specifications Table with Hours and Marks (Theory): Not required

List of Tutorials:

Sr. No.	Unit	Tutorial/Termwork	Approx. Hours
1	All	<p>One write-up on each unit (altogether seven in number) that summarizes the whole chapter and presents all the important points/material on it</p> <p>Weightage in Term Work marks--10</p>	16
2	All	<p>10 MCQs (twenty questions each) at the start of each tutorial based on the topic of previous tutorial unit</p> <p>Weightage in Term Work marks-- 10</p>	06
3	All	<p>A project report on any one project of the following:</p> <p>1. Visit to a local area to document environmental assets such</p>	10

		as river / forest / grassland / hill / mountain 2. Visit to a local polluted site: Urban/Rural/Industrial/Agricultural 3. Study of common plants, insects, birds 4. Study of simple ecosystems of ponds, river, hill slopes etc Weightage in Term Work marks-- 05	
Total			32

References/ Books:

Sr. No.	Author	Title	Publisher
01	Anindita Basak	Environmental Studies	Pearson Education
02	R. Rajgopalan	Environmental Studies from Crises to Cure	Oxford University Press
03	Dr. R. J. Ranjit Daniels, Dr. Jagdish Krishnaswamy	Environmental Studies	Wiley India


Course Curriculum Development Committee:**a. Internal Faculty**

1. Dr. D. K. Gupta.
2. Mrs. S. S. Chavan
3. Mrs. Meera Ansarwadekar

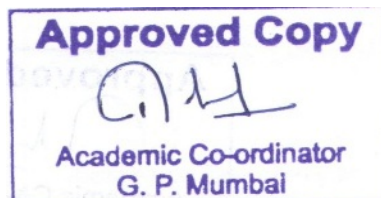
b. External Faculty

Mr. Sudhir Nimbalkar (Engineer, BMC, Building Proposals, Bandra West)


Academic Coordinator


Head of Department
(Civil Engineering)


Principal
Govt. polytechnic Mumbai



Programme : Diploma in Information Technology/Computer Engineering									
Course Code: IT16203				Course Title: Web Technology					
Compulsory / Optional: Compulsory									
Teaching Scheme and Credits				Examination Scheme					
TH	TU	PR	Total	TH	TS	PR	OR	TW	Total
1	-	4	5	-	-	50*	-	50	100

*External Examiner

Rationale:

Diploma holders of Information Technology often work to develop professional looking static and dynamic websites using different Web Technologies. Some common Web technologies which are used to develop websites are HTML, Javascript, CSS, XML, XHTML, AJAX, ASP.NET, PHP.

This is a Hands-on course in designing and developing Static World Wide Web pages using HTML (HyperText Markup Language) and CSS (Cascading Style Sheets) which will develop abilities in students to create and deploy Static Web pages.

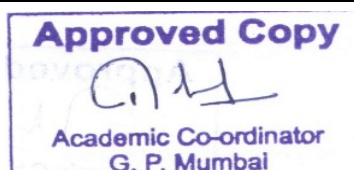
Course Outcomes:

Student should be able to

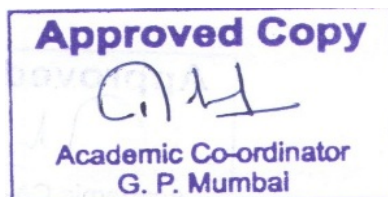
CO1	Visualize the basic concept of HTML.
CO2	Recognize the elements of HTML.
CO3	Read and write HTML code.
CO4	Understand concept of CSS and write code.
CO5	Create a fully functioning static website.
CO6	Develop the concept of web publishing.

Course Content Details:

Unit No	Topics / Sub-topics
1	INTRODUCTION TO WEB TECHNOLOGY 1.1 Careers in Web Technologies and Job Profiles 1.2 Web Site Design Principles – How the Website Works?, Five Golden rules of web designing, Analyze your Audience, Build a Web Site Development Team, Filenames and URLs, Directory Structure, Diagram the Site. 1.3 Planning Site Navigation – Creating Usable Navigation, Using Text Based Navigation, Using Graphics- Based Navigation.
2	HTML 4.01: INTRODUCTION TO ELEMENTS OF HTML 2.1 Basic structure tags: !DOCTYPE, HTML, HEAD, TITLE, BODY with attributes. 2.2 Block level tags and horizontal rules: Headings, Paragraphs, Breaks, Divisions, Centered Text, Block Quotes, Preformatted text, Address, HR tag.



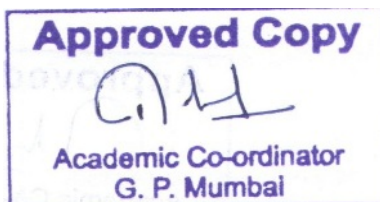
	<p>2.3 Text level tags and special characters: Bold, Italic, Teletype, Underline, Strikethrough, Superscript, Subscript, DIV tag</p> <p>2.4 Working with lists: Ordered Lists, Unordered Lists, Definition Lists, Nested Lists.</p> <p>2.5 URL and Anchor tag: URL: Types of URLs, Absolute URLs, Relative URLs. Anchor Tag: Linking various documents for internal and external links. Marquee Tag.</p> <p>2.6 IMAGES, COLORS AND BACKGROUNDS: IMG tag and different Image formats, colors and backgrounds.</p>
3	<p>TABLE, FRAME AND FORMS</p> <p>3.1 Working with table: TABLE tag with attributes. TABLE, TR, TH, TD tags, border, cell spacing, cell padding, width, align, bgcolor attributes.</p> <p>3.2 Working with frame: Types of Frames with their attributes Creating frames: FRAMESET tag – rows, cols attributes, FRAME tag –name, frame border, margin height, margin width, src, resize, scrolling attributes. Use of NOFRAMES tag, Frame targeting.</p> <p>3.3 Working with forms and controls: Creating basic form: FORM tag, action and method attributes. Form fields: Single line text field, password field, multiple line text area, radio buttons, and check boxes. Pull down menus: SELECT and OPTION tags. Buttons: submit, reset and generalized buttons.</p>
4	<p>HTML5</p> <p>4.1 Introduction to HTML5</p> <p>4.2 Whats new in HTML5: New Structure Tags (SECTION, NAV, ARTICLE, ASIDE, HEADER, FOOTER), New Form Tags (search, tel, url, email, number and range), HTML5 DocType.</p>
5	<p>INTRODUCTION TO XHTML 1.1</p> <p>5.1 What is XHTML (EXtensible HyperText Markup Language)?</p> <p>5.2 Difference between HTML & XHTML</p> <p>5.3 Introduction to Doc Types (Strict, Transitional and Mobile)</p>
6	<p>CASCADING STYLE SHEETS 2.0</p> <p>6.1 Introduction to CSS</p> <p>6.2 Types of Style Sheets (Inline, Internal and External)</p> <p>6.3 Creating Style Sheet</p> <p>6.4 CSS Properties</p> <p>6.5 CSS Styling(Background, Text Format, Controlling Fonts)</p> <p>6.6 Working with block elements and objects</p> <p>6.7 Working with Lists and Tables</p> <p>6.8 CSS Id and Class</p> <p>6.9 Box Model(Introduction, Border properties, Padding Properties, Margin properties)</p> <p>6.10 CSS Color</p> <p>6.11 Creating page Layout and Site Designs.</p>



7	CASCADING STYLE SHEETS (CSS 3.0) 7.1 INTRODUCTION TO CSS 3 7.2 NEW CSS3.0 PROPERTIES: CSS Rounded Corners, Border Images, Border Shadows, CSS Gradients, CSS Background properties, Text-Shadow Property, Text-Stroke Property.
8	PUBLISHING AND MAINTAINING YOUR WEB SITE 8.1 Publishing Your Web Site 8.2 Testing Your Web Site 8.3 Refining and Updating Your Content 8.4 Attracting Notice to Your Web Site. 8.5 Create Web Sites and Publishing on free web servers (Joomla, Yola, Zoho etc)

Suggested Specifications Table with Hours and Marks (Theory):

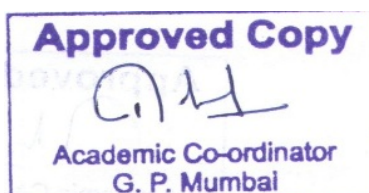
Unit No	Topic Title	Teaching Hours	Distribution of Theory Marks
1	Introduction to web technology	2	Not Applicable
2	Html 4.01: introduction to elements of HTML	2	
3	TABLE, FRAME and FORMS	3	
4	HTML5	1	
5	Introduction to XHTML 1.1	1	
6	Cascading style sheets 2.0	4	
7	Cascading style sheets (CSS 3.0)	2	
8	Publishing and maintaining your web site	1	
Total		16	



List of experiments:

Sr. No.	Unit	Experiments	Approx. Hours
1	1	Build a Website Development Team, Analyze your Audience, Identify the Contents, decide Filenames and URL, create Directory Structure for your website, Diagram your selected web Site. For Example: 1. Web site for Information Technology/ Computer Department. 2. Web site for any Vehicle Showroom. 3. Web site for Travel and Tourism Agency. 4. Web site for any Sport.(Ex. Cricket, Tennis etc.) 5. Any other suggested topic by subject teacher.	4
2	2	Write a HTML code for creating Web page using structure tags for displaying “Welcome to HTML” message.	1
3	2	Create a web page for displaying a paragraph using Block level, HR tags, Text level tags and special characters.	2
4	2	Create a web page for implementing different types of Lists.	2
5	2	Create a web page to link web page in the same directory, different directory, in a subdirectory of a parent directory, any other directory, and link to Email ID for your website.	2
6	2	Create a web page for changing colors of links using BODY tag attributes.	1
7	2	Create a web page using IMG tag implementing various attributes, implementing image as a button and setting image as background.	1
8	3	Create a web page implementing all formatting and table tag.	2
9	3	Create a web page for students Registration form using FORM tag.	3
10	3,4	Create a web page using HTML5 tags (Structure Tags, Form Tags)	2
11	6	Create a web page for applying Background, Text Format, and Controlling Fonts using CSS.	2
12	6,7	Create a web page for demonstration of CSS applying Internal/External/ Inline style.	2
13	6,7	Working with List, HTML elements box, Positioning and Block properties in CSS 3.0.	2
14	6,7	Creating one page Layout using CSS.	2
15	8	Mini project Creation and Publishing Finalizing Mini Project containing minimum Ten web pages from above practicals and Publishing it.	4
Total			32

Notes: If possible an industrial visit should be arranged or videos should be shown of different websites and CSS.



References/ Books:

Sr. No.	Name of Book	Author	Publisher
1	HTML and XHTML – The complete reference	Thomas Powell	Tata McGraw Hill, New Delhi.
2	Html5 Black Book	Kogent Learning Solutions Inc.	DreamTech
3	Murach's HTML5 and CSS3	Zak Ruvalcaba and Anne Boehm	Murach
4	Learning Web Design	Robbins	O'Reilly
5	SAMS Teach Yourself HTML & CSS in 24 Hours	Dick Oliver	Pearson Education Publication
6	HTML,XHTML and CSS	Anne Bohem	Murach's Publication

REQUIRED SOFTWARE:

Text editor of your choice: Notepad++ (windows), Komodo Edit (mac), Edge Code (Creative Cloud) Web Browser of your choice: Mozilla Firefox, Google Chrome, Internet Explorer, Safari, opera.

REFERENCE SITES:

<http://www.w3schools.com/html>

http://www.w3schools.com/html/html_xhtml.asp

<http://www.december.com/html/>

<https://pantherfile.uwm.edu/vanpelt/www/709-webdesignmanual-3Feb05.pdf>

<http://www.html.net/>

<http://www.2createawebsite.com>


<http://webdesign.about.com>


Course Curriculum Development Committee:**a. Internal Faculty**


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