RAGHU ENGINEERING COLLEGE
AUTONOMOUS
(Approved by AICTE, New Delhi, Accredited by NBA (CIV,ECE,MECH,CSE), NAAC with 'A⁺' grade
& Permanently Affiliated to JNTU-GV, Vizianagaram)
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RAGHU ENGINEERING COLLEGE (AUTONOMOUS)
VISAKHAPATNAM

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INSTITUTE VISION

Envisioning to be a world class technical institution by synergizing quality education with ethical values.

INSTITUTE MISSION

- To encourage training and research in cutting-edge technologies.
- To develop and strengthen strategic links with the industry.
- To kindle the zeal among the students and promote their quest for academic excellence.
- To encourage extra-curricular activities along with good communication skills.

QUALITY POLICY

RAGHU Engineering College underscores ethical values along with innovative teaching through an interactive, activity-based pedagogy; establishes the best of infrastructural facilities, inculcates engineering temper among the students through the use of the latest Information and Communication Technologies, and strives for an efficient, responsive and transparent administration in all areas.

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Department of Computer Science and Engineering

VISION

To generate competent professionals to become part of the industry and research organizations at the national and international levels.

MISSION

To impart high quality professional training in undergraduate level with emphasis on basic principles of computer science and Engineering and to foster leading edge research in the fast-changing field.

To inculcate professional behavior, strong ethical values, innovative research capabilities and leadership abilities in the young minds so as to work with a commitment.

- M1:To impart high quality professional training at undergraduate level with emphasis on basic principles of computer science and Engineering and to foster leading edge research in the fast-changing field.
- M2:To inculcate innovative research capabilities and leadership abilities in the young minds so as to work with a commitment.
- M3:To inculcate professional behavior, strong ethical values in the young minds so as to work with a commitment.

PROGRAMME EDUCATIONAL OBJECTIVES(PEOs)

PEO 1: To produce graduates with a strong foundation in mathematics, science, engineering fundamentals, laboratory and work-based experiences to formulate and solve engineering problems in computer science engineering domains and shall have proficiency in implementation software tools and languages.

PEO 2: To progressively impart training to the students for success in various engineering positions within the core areas in computer science engineering, computational or adapting to the latest trends by learning themselves.

PEO 3: To produce graduates having the ability to pursue advanced higher studies and research. To have professional and communication skills to function as leaders and members of multidisciplinary teams in engineering and other industries with strong work ethics, organizational skills, teamwork, and understanding of the importance of being a thorough professional.

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MAPPING OF MISSION STATEMENTS WITH PEOs

MS/PEO	PEO 1	PEO 2	PEO 3
MS 1	3	2	2
MS 2	2	3	2
MS 3	2	2	3

1-Slight , **2**- Moderate, **3**- Substatial

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PROGRAM OUTCOMES	
Graduates of Computer Science and Engineering Will:	
PO 1	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to solve complex engineering problems.
PO 2	**Problem analysis:** Identity, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO 3	**Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety and the cultural, societal, and environmental concerns.
PO 4	**Conduct investigations of complex problems**: Use research-based knowledge and research methods, including design of experiments, analysis, interpretation of data, and synthesis of the information to provide valid conclusions.
PO 5	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO 6	**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO 7	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of and need for sustainable development.
PO 8	**Ethics:** Apply ethical principles and commit to professional ethics, responsibilities, and norms of the engineering practice.
PO 9	**Individual and team work:** Function effectively as an individual and as a member or leader in diverse teams and multidisciplinary settings.
PO 10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO 11	**Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's work as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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PROGRAM SPECIFIC OUTCOMES (PSOs)
PSO 1: Apply the concepts and techniques of the Computer Science & Engineering branch and the Mathematical foundations in the significant domains to address the complex engineering problems.
PSO 2: Employ emerging computer languages, computer networks, database management systems and platforms in developing innovative career prospects as an entrepreneur.
PS0 3: Apply the knowledge of interdisciplinary skills, and domain-specific tools in working system processes to implement and deploy a quality-based software product to meet evolving needs.

Mapping of PEOs with POs and PSOs

PEO/PO	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
PEO 1	3	3	3	3	2	2	2	2		2		3	3	2	2
PEO 2	2	3	3	3	2	2	2	2	3	2	3	3	3	3	3
PEO 3	3	2	2	3	2	2	2	3	3	3	3	3	3	3	3

1-Slight , **2-** Moderate, **3-** Substatial

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(23ES210) BASIC WEB DESIGN LAB							
(Common to CSM & CSD)							
Programme &Branch	**B.Tech** **CSE (AI & ML), CSE(DS)**	**Sem**	**Category**	**L**	**T**	**P**	**C**
Prerequisites	**Foundational Knowledge of a Computer, Problem Solving, Logical Thinking and Basic Text-Editing**	**3**	Skill Enhancement course	**0**	**0**	**2**	**1**
Preamble	This course aims to equip students with the fundamental skills to design and develop interactive web pages.						

Course Objectives: The main objectives of the course is to

- Make use of HTML elements and their attributes for designing static web pages
- Build a web page by applying appropriate CSS styles to HTML elements
- Experiment with JavaScript to develop dynamic web pages and validate forms.

List of Experiments :

1	**Exercise - 1 (Lists, Links and Images)** a) Write a HTML program, to explain the working of lists. Note: It should have an ordered list, unordered list, nested lists and ordered list in an unordered list and definition lists. b) Write a HTML program, to explain the working of hyperlinks using <a> tag and href, target Attributes. c) Create a HTML document that has your image and your friend's image with a specific height and width. Also when clicked on the images it should navigate to their respective profiles. d) Write a HTML program, in such a way that, rather than placing large images on a page, the preferred technique is to use thumbnails by setting the height and width parameters to something like to 100*100 pixels. Each thumbnail image is also a link to a full sized version of the image. Create an image gallery using this technique

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2	**Exercise - 2 (HTML Tables, Forms and Frames)** a) Write a HTML program, to explain the working of tables. (use tags: <table>, <tr>, <th>, <td> and attributes: border, rowspan, colspan) b) Write a HTML program, to explain the working of tables by preparing a timetable. (Note: Use <caption> tag to set the caption to the table & also use cell spacing, cell padding, border, rowspan, colspan etc.). c) Write a HTML program, to explain the working of forms by designing Registration form. (Note: Include text field, password field, number field, date of birth field, checkboxes, radio buttons, list boxes using <select>&<option> tags, <text area> and two buttons ie: submit and reset. Use tables to provide a better view). d) Write a HTML program, to explain the working of frames, such that page is to be divided into 3 parts on either direction. (Note: first frame image, second frame paragraph, third frame hyperlink. And also make sure of using "no frame" attribute such that frames to be fixed).
3	**Exercise – 3 (HTML 5 and Cascading Style Sheets, Types of CSS)** a) Write a HTML program, that makes use of <article>, <aside>, <figure>, <figcaption>, <footer>, <header>, <main>, <nav>, <section>, <div>, <span> tags. b) Write a HTML program, to embed audio and video into HTML web page. c) Write a program to apply different types (or levels of styles or style specification formats) - inline, internal, external styles to HTML elements. (Identify selector, property and value).
4	**Exercise - 4 (Selector forms)** Write a program to apply different types of selector forms • Simple selector (element, id, class, group, universal) • Combinator selector (descendant, child, adjacent sibling, general sibling) • Pseudo-class selector • Pseudo-element selector • Attribute selector
5	**Exercise - 5 (CSS with Color, Background, Font, Text and CSS Box Model)**

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	a) Write a program to demonstrate the various ways you can reference a color in CSS.
	
	b) Write a CSS rule that places a background image halfway down the page, tilting it horizontally. The image should remain in place when the user scrolls up or down.
	
	c) Write a program using the following terms related to CSS font and text:
	        i. font-size ii. font-weight iii. font-style
	        iv. text-decoration v. text-transformation vi. text-alignment
	
	d) Write a program, to explain the importance of CSS Box model using
	        i. Content ii. Border iii. Margin iv. padding

6	**Exercise - 6 (Applying JavaScript - internal and external, I/O, Type Conversion)** **a)** Write a program to embed internal and external JavaScript in a web page. b) Write a program to explain the different ways for displaying output. c) Write a program to explain the different ways for taking input. d) Create a webpage which uses prompt dialogue box to ask a voter for his name and age. Display the information in table format along with either the voter can vote or not
7	**Exercise – 7 (JavaScript Pre-defined and User-defined Objects)** a) Write a program using document object properties and methods. b) Write a program using window object properties and methods. c) Write a program using array object properties and methods. d) Write a program using math object properties and methods. e) Write a program using string object properties and methods. f) Write a program using regex object properties and methods. g) Write a program using date object properties and methods. h) Write a program to explain user-defined object by using properties, methods, accessors, constructors and display.
8	**Exercise - 8 (JavaScript Conditional Statements and Loops)** **a)** Write a program which asks the user to enter three integers, obtains the numbers from the user and outputs HTML text that displays the larger number followed by the words

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"LARGER NUMBER" in an information message dialog. If the numbers are equal, output HTML text as "EQUAL NUMBERS".

b) Write a program to display week days using switch case.

c) Write a program to print 1 to 10 numbers using for, while and do-while loops.

d) Write a program to print data in object using for-in, for-each and for-of loops

e) Develop a program to determine whether a given number is an 'ARMSTRONG NUMBER' or not. [Eg: 153 is an Armstrong number, since sum of the cube of the digits is equal to the number i.e.,13 + 53+ 33 = 153]

f) Write a program to display the denomination of the amount deposited in the bank in terms of 100's, 50's, 20's, 10's, 5's, 2's & 1's. (Eg: If deposited amount is Rs.163, the output should be 1-100's, 1-50's, 1- 10's, 1-2's & 1-1's)

9

Exercise – 9 (JavaScript Functions and Events)

a) Design an appropriate function should be called to display
   i. Factorial of that number
   ii. Fibonacci series up to that number
   iii. Prime numbers up to that number
   iv. Is it palindrome or not

b) Design a HTML having a text box and four buttons named Factorial, Fibonacci, Prime, and Palindrome. When a button is pressed an appropriate function should be called to display
   i. Factorial of that number
   ii. Fibonacci series up to that number
   iii. Prime numbers up to that number
   iv. Is it palindrome or not

c)Write a program to validate the following fields in a registration page
   i. Name (start with alphabet and followed by alphanumeric and the length should not be less than 6 characters)
   ii. Mobile (only numbers and length 10 digits)
   iii. E-mail (should contain format like xxxxxxx@xxxxxx.xxx)

Total: 30hrs

References/Manuals/Software :

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1	**Text Books:**
	1) Programming the World Wide Web, 7th Edition, Robet W Sebesta, Pearson, 2013.
	2) Web Programming with HTML5, CSS and JavaScript, John Dean, Jones & Bartlett Learning, 2019 (Chapters 1-11)
2	**Virtual Labs link**
	1) https://www.w3schools.com/html
	2) https://www.w3schools.com/css
	3) https://www.w3schools.com/js/

Preamble	Upon successful completion of this course, students will be able to construct static web pages using HTML elements and attributes, Enhance web page through the application of CSS styles and Develop interactive and dynamic web pages by utilizing JavaScript.

COURSE OUTCOMES: On completion of the course , the student will be able to	**BT Mapped** (Highest Level)
CO 1	Designing static web pages by applying HTML.	Design
CO 2	Applying different types of styles using CSS	Apply
CO 3	Apply dynamic validations on designed web pages using java script.	Apply

CSM

Mapping of COs with POs and PSOs

COs/POs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO 1	1	2	2	3	1	-	-	-	-	-	-	1	2	1	-
CO 2	1	2	2	3	1	-	-	-	-	-	-	1	2	1	-

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CO 3	1	2	2	3	1	-	-	-	-	-	-	1	2	1	-
1 – Slight, 2 – Moderate, 3 – Substantial, BT- Bloom's Taxonomy															

(Signature)   (Signature)
Head of the Department   Principal
(Seal/Stamp)   (Seal/Stamp)