



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)

Dakamarri, Bheemunipatnam Mandal, Visakhapatnam Dist. – 531 162 (A.P.)

Ph: +91-8922-248001, 248002 Fax: + 91-8922-248011

E-mail: principal@raghuenggcollege.com website: www.raghuenggcollege.com

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.	
<ul style="list-style-type: none"> ● 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)	
<p>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.</p> <p>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.</p> <p>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.</p>	



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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- Substantial



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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



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	engage in independent and life-long learning in the broadest context of technological change.
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.	
PSO 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- Substantial



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(23ES209) FOSS Lab							
(Common to CSE, CSC)							
Programme & Branch	B.Tech & CSE	Sem	Category	L	T	P	Credit
Prerequisites	Basic mathematics	3	Engineering Science	0	0	2	1
Preamble	The main objectives of the course is to make student						
Course Objectives: The course objectives of FOSS Lab are to discuss and make student familiar with the <ul style="list-style-type: none">To learn about the significance of FOSS.To be familiarized the basic commands in Linux.To be familiarized with Linux Operating system.To be familiarized with shell scripting.							
List of Experiments :							
1	Study of Unix/Linux command list: cd, cal,cat, banner, touch, man,who,cat, cd, cp,MV, ls, mv, rm, mkdir, rmdir, echo, more, date, history, chmod, pwd, cal,wc, sort, cut,paste, logout, shutdown.						
2	Demonstration of VI editor Session-1 a) Use vi editor to create a file called myfile.txt which contains some text. b) Correct typing errors during creation. c) Save the file d) Logout of the system Session-2 a) Log into the system b) Open the file created in session 1 c) Add some text d) Change some text e) Delete some text f) Save the Changes g) Logout of the system						
3	a) Write a shell script to generate the mathematical tables. b) Write a shell script to find the factorial of a given number. c) Write a shell script that computes the gross salary of a employee according to the following rules:						



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	<p>i) If basic salary is < 1500 then HRA =10% of the basic and DA =90% of the basic.</p> <p>ii) If basic salary is >=1500 then HRA =Rs500 and DA=98% of the basic</p>
4	<p>a) Write a shell script (small calculator) that adds, subtracts, multiplies and divides the two given numbers. There are two division options: one returns the quotient and the other remainder. The script requires three arguments: the operation to be used and the two integers. The operation is specified by options:</p> <p>Add -a</p> <p>Subtract -s</p> <p>Multiply -m</p> <p>Quotient -c</p> <p>Remainder -r</p> <p>b) Write a shell script to accept student number, name, and marks in five subjects. Find total, average and grade.</p> <p>Rules:</p> <p>Avg>=80 then grade A</p> <p>Avg<80&&Avg>=70 then grade B</p> <p>Avg<70&&Avg>=60 then grade C</p> <p>Avg<60&&Avg>=50 then grade D</p> <p>Avg<50&&Avg>=40 then grade E</p> <p>Else grade F</p> <p>c) Write a shell script to find the GCD of two given numbers.</p>
5	<p>a) Write a shell script to display string palindrome from given arguments.</p> <p>b) Write a shell script which will display Armstrong numbers from given arguments.</p> <p>c) Write a shell script to display reverse numbers from given argument list.</p>
6	<p>a) Write a shell script to find largest element in a array</p> <p>b) Write a shell script to determine whether a given number is a prime number or not.</p> <p>c) Write a shell script to generate a Floyd triangle for a given value.</p>
7	<p>a) Write a shell script to print all the primes below a given number is a prime number.</p> <p>b) Write a shell script to print the first 'n' Fibonacci numbers.</p> <p>c) Write a shell script which displays the list of all files in a given directory.</p>
8	<p>a) Write a shell script to sort elements of given array by using selection sort.</p> <p>b) Write a shell script to search given number using binary search.</p>
9	<p>a) Write a sed command that deletes the first character in each line in a file.</p>



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	b) Write a sed command that deletes the character before the last character in each line in a file. c) Write a sed command that swaps the first and second words in each line in a file.
10	a) Write an awk program to print sum, avg of students marks list b) Write an awk program to display students pass/fail report. c) Write an awk program to count the no. of vowels in a given file.
Total: 30hrs	
References/Manuals/Software :	
	Text Book :
	Laboratory Manual
	Virtual Labs link
Preamble	After completion of the course, students will be able to
COURSE OUTCOMES: On completion of the course , the student will be able to	
	BT Mapped (Highest Level)
CO 1	Identify and apply various Linux commands.
CO 2	Create a new file from scratch or edit an existing file using vi editor.
CO 3	Develop shell and awk scripts for specific needs

Mapping of COs with POs and PSOs

COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO 1	2	2	1	1	-	-	-	-	-	-	-	1	1	-
CO 2	1	1	1	2	-	-	-	-	-	-	-	-	1	-
CO 3	1	1	-	1	-	-	-	-	-	-	-	1	1	-
1 – Slight, 2 – Moderate, 3 – Substantial, BT- Bloom's Taxonomy														

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

(Signature)
Principal
(Seal/Stamp)