CODE: A10001	R23	H.T.No									

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN (AUTONOMOUS) **SET-1**

B.Tech I Year I Semester Regular Examinations JANUARY 2025

Subject Name: **COMMUNICATIVE ENGLISH**

Time: 3 Hours Branch: CSE **Max. Marks: 70**

Instructions:

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

PART-A					
1	a	What are the two possessions of Jim and Della, which make them proud?	2M	CO5	L1
	b	Define Intrapersonal Skills.	2M	CO4	L1
	c	Write two words using the following root words. i) Mono (ii) Aqua	2M	CO2	L2
	d	Write the synonym of i) Fortunate (ii) Endeavour (iii) Dwell (iv) Cease	2M	CO1	L2
	e	Identify the tenses. i) He has been solving this problem since yesterday. ii) I shall follow up with the client.	2M	CO2	L3
	f	Change the speech of the following sentence. i) My mother said," Don't eat fruits and vegetables without first washing them." ii) Tania requested her friend to lend her an umbrella.	2M	CO3	L6
	g	Rewrite the following jumble words in order. i) The cow around the tree running is. ii) Ringing a man the doorbell is. iii) The platform is on the train. iv) Sister my coffee loves.	2M	CO3	L3
	h	Define skimming and scanning.	2M	C04	L1
	i	Punctuate the following sentences. i) youre responsible for your belongings ii) whos the indian team captain	2M	CO1	L4
	j	Write the functions of apostrophe in English punctuation.	2M	CO3	L2
PART-B					
UNIT-I					
2	a	How do Jim's and Della's actions symbolize the strength of their love for each other?	5M	CO1	L1
	b	Mr. Venu Gopal is a new teacher. He introduces himself to the Principal Mr. Lakshmi Prasad in morning. (Construct short dialogue)	5M	CO1	L5
OR					
3	a	Spot incorrectly spelt words, and write down the	5M	CO2	L1

		correct spelling. 1. It is fasinating to see how the equipment works. 2. We enjoyed his humourous anecdotes. 3. She heads a foundation that supports the underprivilleged. 4. My neice is very careful about hygiene. 5. She presented her a beautiful bouque.			
	b	Read the following stanza and answer the following questions. **By thirty hills I hurry down,** **Or slip between the ridges** **By twenty thorpes, a little town** **And half a hundred bridges.** **Questions:** i)Who is the speaker of the above stanza? ii) The above stanza is extracted from the poem -------, and -------- is the poet. iii) How many villages and bridges were crossed by the speaker? iv) What is the final destination of the speaker? ii) Which lines are repeated by the speaker?	5M	CO1	L5
		UNIT-II			
4	a	What are the various words Alfred Tennyson uses to describe the sound of the brook? How does it contribute to the effect of the poem?	5M	CO1	L5
	b	Define articles and explain the principles of their usage with relevant examples.	5M	CO4	L1
		OR			
5	a	Prepare a short talk "A Person I admire in my life."	5M	CO4	L5
	b	Arrange the following sentence in Sequence. i) The foundation stone was laid in 1972. ii) As a result the city suffered from horrendous traffic congestion. iii) It was going to be the first in South Asia. iv) They plied in the center of the road. v) To ease traffic in the city, it was decided that an underground railway line would be built.	5M	CO3	L1
		UNIT-III			
6	a	Write the summary of Elon Musk's biography.	5M	CO5	L1
	b	Prepare Group Discussion notes on **"Old age homes."**	5M	CO5	L5
		OR			
7	a	Fill in blanks with suitable verb forms.	5M	CO2	L1

		i) Raman --------- (live) in Chennai for five years. ii) My mother is a teacher, she ---------- (teach) English subject. iii) Jyothi never ------- (tell) lies. iv) I --------- (teach) biology last year. v) My friend --------- (go) to abroad next week.			
	b	Paraphrase the following text. *Where the mind is without fear and the head is held high* *Where knowledge is free* *Where the world has not been broken up into fragments* *By narrow domestic walls* *Where words come out from the depth of truth* *Where tireless striving stretches its arms towards perfection* *Where the clear stream of reason has not lost its way* *Into the dreary desert sand of dead habit* *Where the mind is led forward by thee* *Into ever-widening thought and action* *Into that heaven of freedom, my Father, let my country awake.* - Rabindranath Tagore.	5M	CO4	L5
UNIT-IV					
8	a	Describe how the children found an exciting way to play with their new non- violence toys.	5M	CO1	L4
	b	Write difference between Formal communication and informal Communication with relevant examples.	5M	CO2	L1
OR					
9	a	Read the following Bar graph and answer the following questions The bar graph given below shows the sales of books (in thousand numbers) from six branches of a publishing company during two consecutive years 2000 and 2001. Sales of Books (in thousand numbers) from Six Branches - B1, B2, B3, B4, B5 and B6 of a publishing Company in 2000 and 2001.	5M	CO4	L3

		 1. In ----- year the ------ branch achieved the highest sale and in ------- year the ------ branch got the least sale. 2. The total sales of branches B4 and B6 in 2000 is greater than the total sales of branch B3 for both the years. State true or false. 3. What are the average sales of all the branches (in thousand numbers) for the year 2000? 4. Total sales of branches B1, B3 and B5 together for both the years (in thousand numbers) are ---------. 5. What does the above bar graph depicts? Which branch/branches has the 10% variation in their sale for the year 2000 and 2001?			
	b	Write a letter to the registrar of JNTUA requesting for the issue of migration certificates**.**	5M	CO6	L1
		UNIT-V			
10	a	What are the different ways in which Intrapersonal communication helps improve everyday life?	5M	CO5	L3
	b	Apply the following technical vocabulary in your own sentence. 1. Back up 2. Install 3. Access 4. Log-in 5. Blog	5M	CO4	L3
		OR			
11	a	What are the necessary steps to prepare &deliver a good presentation?	5M	CO5	L2
	b	Write an argumentative essay on "**Technology is ruining our ability to communicate**."	5M	CO5	L4

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CODE: A10004 | **R23** | **H.T.No:**

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS) **SET-2**

B.Tech I Year I Semester Regular Examinations JANUARY 2025

Subject: **Chemistry**

Branch: CSE

Time: 3 Hours **Max. Marks: 70**

Instructions:

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

PART-A					
1	a	Define the Heisenberg uncertainty principle.	2M	CO1	L1
	b	Calculate the bond order and magnetic nature of the O_2 molecule.	2M	CO1	L3
	c	What is a superconductor? Name one superconductive material.	2M	CO2	L1
	d	Write the classification of Nano materials.	2M	CO2	L1
	e	What are potentiometric titrations?	2M	CO3	L1
	f	Write the applications of H_2-O_2 fuel cell.	2M	CO3	L2
	g	Name the monomers of Teflon and Nylon-6,6.	2M	CO4	L1
	h	Define condensation polymerization with examples.	2M	CO4	L1
	i	Define the electromagnetic spectrum. Write the highest and lowest frequency radiating sources.	2M	CO5	L2
	j	Write the Beer-Lamberts law & Explain terms involved in it.	2M	CO5	L1
PART-B					
UNIT-I					
2	a	Write the significance of Ψ and Ψ^2.	5M	CO1	L2
	b	Describe the π-molecular orbitals of benzene with a neat diagram.	5M	CO1	L2
OR					
3	a	Derive the Schrodinger wave equation.	7M	CO1	L3
	b	Draw the molecular energy level diagram of carbon monoxide.	3M	CO1	L2
UNIT-II					
4	a	Classify supercapacitors based on type of electrodes.	5M	CO2	L4
	b	Define Superconductors and explain the basic concept of Super conductors.	5M	CO2	L2
OR					
5	a	Explain n-type and p-type semi-conductors and applications of semiconductors.	5M	CO2	L2
	b	List any five major applications of nanomaterials in various fields, such as electronics, medicine, and materials science.	5M	CO2	L1
UNIT-III					
6		Derive the Nernst equation for calculating electrode potential and explain its practical applications.	10M	CO3	L3
OR					
7	a	Explain the working principle of a Lithium ion battery.	5M	CO3	L2

	b	Discuss about the electrochemical sensors	5M	CO3	L2
UNIT-IV					
8	a	Discuss coordination polymerization, giving specific examples and detailing the mechanism of polymer formation.	7M	CO4	L6
	b	Discuss the characteristics of Nylon-6,6. What makes it suitable for certain industrial applications?	3M	CO4	L6
OR					
9	a	Examine the mechanism of conduction in polyaniline. What applications benefit from its conductive properties?	6M	CO4	L4
	b	Explain the mechanism of free-radical/ chain growth polymerization.	4M	CO4	L2
UNIT-V					
10	a	Summarize the Beer-Lamberts law and the absorption of radiation.	5M	CO5	L2
	b	Explain about PGA biodegradable polymer.	5M	CO5	L2
OR					
11		Classify chromatographic techniques based on different criteria. Provide examples and discuss the applications.	10M	CO5	L4

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CODE: A10002	R23	H.T.No:										

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS) **SET-2**

B.Tech I Year I Semester Regular Examinations Dec 2024

Subject Name: **Linear Algebra and Calculus**

Time: 3 Hours Branch: **CSE** **Max. Marks: 70**

Instructions:

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

		PART-A			
1	a	Find the rank of the matrix $\begin{bmatrix} 2 & 1 & 1 \\ 1 & -3 & 4 \\ 1 & 3 & 8 \end{bmatrix}$	2M	CO1	LI
	b	State Cauchy-Binet Formula.	2M	CO1	L2
	c	If $A=\begin{bmatrix} 1 & 2 \\ 8 & 6 \end{bmatrix}$ then find the eigen values of $A+2I$.	2M	CO2	LI
	d	Write the procedure about Diagonalization of a matrix	2M	CO2	LI
	e	State Rolle's theorem	2M	CO3	LI
	f	Find the coefficient of $(x-\pi/2)^2$ in the Taylor's series expansion of $\sin x$ about $x=\pi/2$.	2M	CO3	LI
	g	State Euler's theorem for two and three variables	2M	CO4	LI
	h	If $u=e^{x+y}$ and $v=x+y$, then find $\frac{\partial(u,v)}{\partial(x,y)}$.	2M	CO4	LI
	i	Find the value of the integral $\int_0^2\int_0^y x^3 y\,dxdy$	2M	CO5	LI
	j	Transform the integral into polar coordinates, $\int_0^a \int_0^{\sqrt{a^2-x^2}} (x^2+y^2)\,dy\,dx$	2M	CO5	LI
		PART-B			
		UNIT-I			
2	a	Reduce the matrix A to normal form and hence find its rank A= $\begin{bmatrix} 2 & 1 & 3 & 4 \\ 0 & 3 & 4 & 1 \\ 2 & 3 & 7 & 5 \\ 2 & 5 & 11 & 6 \end{bmatrix}$	5M	CO1	L1
	b	Apply Gauss Jordan method to solve the equations $x+y+z=9;\ 2x-3y+4z=13;\ 3x+4y+5z=40$.	5M	CO1	L3
		OR			
3	a	Solve the system of equations 5x+3y+7z=4,3x+26y+2z=9,7x+2y+10z=5	5M	CO1	L5
	b	Solve the following equations, by Jacobi's iteration method $15x+y-3z=19;\ 3x+20y-5z=-49;\ 2x-3y+12z=46$.	5M	CO1	L6
		UNIT-II			
4	a	Find the Eigen values and Eigen vectors of the matrix $\begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$	5M	CO2	L1
	b	Diagonalize the matrix A, where A= $\begin{bmatrix} -2 & 1 & 3 \\ 0 & -1 & 1 \\ 1 & 2 & 0 \end{bmatrix}$	5M	CO2	L3

		OR			
5	a	Verify Cayley-Hamilton theorem for the matrix $A=\begin{bmatrix}1 & 2 & 1\\ 0 & 1 & -1\\ 3 & -1 & 1\end{bmatrix}$ and hence find its inverse.	5M	CO2	L4
	b	Reduce the quadratic form $2x^2+2y^2+2z^2-2xy-2yz-2zx$ to the canonical form also find rank, index, and signature of the quadratic form.	5M	CO2	L5
		UNIT-III			
6	a	Verify Rolle's theorem for the function $f(x)=x^2-2x-3$ in the interval $[1, 3]$	5M	CO3	L4
	b	Verify Cauchy's mean value theorem for $f(x)=\sin x$ and $g(x)=\cos x$ in $[0, \pi/2]$.	5M	CO3	L4
		OR			
7	a	Prove that $\frac{\pi}{6}+\frac{1}{5\sqrt{3}}<\sin^{-1}\left(\frac{3}{5}\right)<\frac{\pi}{6}+\frac{1}{8}$	5M	CO3	L5
	b	Verify the Taylors theorem $f(x)=(1-x)^{\frac{5}{2}}$ with Lagrange's form of remainder upto 2 terms in the interval $[0, 1]$.	5M	CO3	L4
		UNIT-IV			
8	a	If $u=x+y+z,\ y+z=uv,\ z=uvw$, Show that $J\left(\frac{x,y,z}{u,v,w}\right)=u^2v$.	5M	CO4	L5
	b	Find the maxima and minima of the function $u(x,y)=x^3y^2(1-x-y)$	5M	CO4	L1
		OR			
9	a	Prove that the functions $u=3x-y+2z,\ v=x-y-4z$ and $w=2x-y-z$ are functionally related and find the functionally relation between them.	5M	CO4	L5
	b	Find the minimum value of $x^2+y^2+z^2=a^2$ given that $xyz=a^3$..	5M	CO4	L1
		UNIT-V			
10	a	Solve $\int_{-c}^{c}\int_{-b}^{b}\int_{-a}^{a}(x^2+y^2+z^2)\,dx\,dy\,dz$	5M	CO5	L5
	b	Evaluate $\int_0^1\int_0^{\sqrt{1-x^2}}\int_0^{\sqrt{1-x^2-y^2}} xyz\,dz\,dy\,dx$	5M	CO5	L5
		OR			
11	A	Find the area bounded the curves $y=x,\ y=x^2$	5M	CO5	L1
	b	Find the volume bounded by the *xy*-plane $x^2+y^2=1$ and the plane $x+y+z=3$. .	5M	CO5	L1

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CODE: A10101	R23	H.T.No:										

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS)

SET-2

B.Tech I Year I Semester Regular Examinations JANUARY 2025

Subject Name: **Basic Civil & Mechanical Engineering**

Time: 3 Hours Branch: CSE **Max. Marks: 70**

Note: Part A must be answered from page no 3-19 and Part B must be answered from 20-34 pages only.

PART-A (Civil Engineering Part) Answer all questions, each question carries one marks					
1	a	List the uses of Bricks?	1M	CO2	L2
	b	How do you define aggregate crushing?	1M	CO1	L3
	c	What are the different materials used in the construction industry?	1M	CO2	L3
	d	List the type of Pavements?	1M	CO2	L1
	e	What is Airport engineering?	1M	CO3	L2
Answer all three units, 03 X 10 = 30 Marks					
UNIT-I					
2	a	What is the role of civil Engineers in the society?	5M	CO1	L3
	b	Explain about Geotechnical Engineering ?	5M	CO1	L2
OR					
3	a	What is a brick and explain the tests on bricks?	5M	CO1	L4
	b	Explain about the types of cement in Detail?	5M	CO1	L2
UNIT-II					
4	a	Summarize the objectives of surveying?	5M	CO1	L1
	b	Explain the instruments used for leveling?	5M	CO2	L1
OR					
5	a	List the differences between rigid and flexible pavements?	5M	CO3	L2
	b	Explain briefly about camber, and rainwater runoff?	5M	CO1	L1
UNIT-III					
6	a	Discus the objectives of Rain water harvesting?	5M	CO1	L2
	b	Illustrate the importance of Environmental engineering?	5M	CO3	L6
OR					
7	a	Discuss about water quality specifications and tests?	5M	CO3	L1
	b	Write short notes on Railway engineering?	5M	CO3	L2
PART-B (Mechanical Engineering Part) Answer all questions, each question carries one marks					
8	a	List out the types of Boilers?	1M	CO2	L2
	b	What are ferrous metals?	1M	CO1	L1
	c	Define forging?	1M	CO2	L2
	d	Define Smart manufacturing?	1M	CO4	L1
	e	Discuss on a Hybrid vehicle?	1M	CO5	L3
Answer all three units, 03 X 10 = 30 Marks					
UNIT-I					
9	a	Role of Mechanical Engineering in Modern Industries	10M	CO1	L4
OR					
10	a	Discuss on Technology in Manufacturing sector?	5M	CO1	L3
	b	List out the Applications and advantages of ceramic materials?	5M	CO2	L2
UNIT-II					

11	a	Describe the parts and functions of two stroke petrol Engine?	5M	CO2	L2
	b	Discuss the importance of 3D Printing?	5M	CO2	L2
OR					
12	a	With a neat sketch describe about Refrigeration and Air-conditioning cycle?	5M	CO4	L3
	b	Highlight the importance of Electric and Hybrid vehicles?	5M	CO4	L3
UNIT-II					
13	a	With a neat sketch describe about Hydroelectric power plant?	5M	CO4	L3
	b	Applications CNC machines and 3D printing	5M	CO5	L3
OR					
14	a	Describe working principle of nuclear power plant with neat sketch?	5M	CO3	L2
	b	Describe about various Links and joints of Robotics?	5M	CO5	L2

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CODE: A10501	**R23**	**H.T.No:**									

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS)

B.Tech I Year I Semester Regular Examinations JANUARY 2025

Subject Name: **Introduction to Programming**

Branch: CSE and ECE

Time: 3 Hours **SET-1** **Max. Marks: 70**

Instructions:

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

PART-A					
1	a	Define Pseudo code. Write the benefits of writing the pseudo code.	2M	CO1	BTL1
	b	What is the difference between RAM and ROM?	2M	CO1	BTL1
	c	List the various loop control statements in C. What is the use of loop controlled statements?	2M	CO2	BTL2
	d	Write the distinction between entry-controlled loops and exit-controlled loops, and provide illustrative examples for each.	2M	CO2	BTL2
	e	What is the difference between continue and break statement?	2M	CO3	BTL1
	f	Define Array. Give an example.	2M	CO2	BTL1
	g	What is Nested structure? Give an example.	2M	CO1	BTL1
	h	How do you define and initialize a structure variable in C? Provide an example.	2M	CO4	BTL2
	i	List various modes of opening a text file.	2M	CO4	BTL1
	j	Specify the standard format for defining a function.	2M	CO5	BTL2
PART-B					
UNIT-I					
2	a	Explain about various features of C language.	5M	CO1	BTL2
	b	Describe the basic organization of a computer with a neat sketch.	5M	CO1	BTL2
OR					
3	a	Draw a flow chart to find the roots of a quadratic equation.	5M	CO2	BTL3
	b	Differentiate between Top-down approach and Bottom-up approach with examples.	5M	CO1	BTL4
UNIT-II					
4	a	Write a C Program to check a number is Perfect Square or not using if-else.	5M	CO2	BTL3
	b	Explain about if, if-else, switch statements with an example.	5M	CO1	BTL4
OR					
5	a	Write a C program to find the given year is a leap year or not.	5M	CO3	BTL3

	b	Write a program to print pyramid of numbers using for loop 1 1 2 3 1 2 3 4 5 1 2 3 4 5 6 7	5M	CO3	BTL3
UNIT-III					
6	a	Develop a C program to accept N numbers and arrange them in ascending order.	5M	CO2	BTL3
	b	Write a C program to find the sum of diagonal elements of a matrix.	5M	CO2	BTL4
OR					
7	a	Discuss about any 5 string handling functions.	5M	CO3	BTL2
	b	Write a C program to find Product of two 3X3 matrices.	5M	CO3	BTL3
UNIT-IV					
8	a	Write the differences between structure and union.	5M	CO1	BTL4
	b	Write a C program to find the Sum of n numbers using pointers.	5M	CO4	BTL5
OR					
9	a	Develop a C program to find the total, average of n students using structures.	5M	CO4	BTL2
	b	Write a C Program to store information of Students using Structure.	5M	CO3	BTL3
UNIT-V					
10	a	Differentiate between call by value and call by reference.	5M	CO4	BTL4
	b	Write a C program to calculate LCM of two numbers using recursive function.	5M	CO5	BTL5
OR					
11	a	Write a C program that accepts the name of a text file from the user, opens the file, reads its contents, and displays them on the screen.	5M	CO4	BTL3
	b	Create a C program to copy content of one file into another file using command line parameters.	5M	CO4	BTL3

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