



**MATURI VENKATA SUBBA RAO (MVSR) ENGINEERING COLLEGE**  
**NADERGUL, HYDERABAD**  
**(Autonomous)**

2451-22-750-006

**B.E. I/IV, CIE- 1, January 2022-23 (Sem. I)**

**Subject: Linear Algebra and Calculus**  
**Branches: AIML&DS**

*1<sup>st</sup> - Sem*

*1<sup>st</sup> - mid*

**Sub. Code: U22BSN01MT**  
**Time: 1 Hour**

**SET- 2**

**Max Marks: 20**

**Note:** Answer all questions from Part-A, and any two questions from Part-B

S. No	Part - A (3 × 2=6 Marks)	Max. Marks	CO	BL
I	Determine whether the following set of vectors $\{(2, 2, 1), (1, -1, -1), (1, 0, 1)\}$ are linearly dependent (or) linearly independent.	2	1	2
II	Find the sum and product of the Eigenvalues of the matrix $A = \begin{bmatrix} 2 & 3 & -2 \\ -2 & 1 & 1 \\ 1 & 0 & 2 \end{bmatrix}$	2	2	2
III	State Rolle's Theorem.	2	3	1
<b>Part - B (2 × 7=14 Marks)</b>				
IV	(a) Find the rank of the matrix $A = \begin{bmatrix} 2 & 1 & 3 & 5 \\ 4 & 2 & 1 & 3 \\ 8 & 4 & 7 & 13 \\ 8 & 4 & -3 & -1 \end{bmatrix}$	3	1	2
	(b) Solve the system of equations $x + y + z = 6$ ; $x + 2y + 3z = 14$ ; $x + 4y + 7z = 30$	4	1	3
V	(a) Find the Eigenvalues of the matrix $A = \begin{bmatrix} 1 & 1 & 1 \\ 0 & 2 & 1 \\ -4 & 4 & 3 \end{bmatrix}$	3	2	2
	(b) Use Cayley- Hamilton theorem to find $A^{-1}$ for the matrix $A = \begin{bmatrix} 1 & 2 & 0 \\ -1 & 1 & 2 \\ 1 & 2 & 1 \end{bmatrix}$	4	2	3
VI	(a) Verify Lagrange's mean value theorem for the function $f(x) = \cos x$ in $\left[0, \frac{\pi}{2}\right]$	3	3	2
	(b) Verify Cauchy's mean value theorem for the functions $f(x) = x^2$ and $g(x) = x^3$ in $[1, 2]$	4	3	3

*Done*



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B.E I/IV, I Internal Examination 2022-23

**SUBJECT: Programming for Problem Solving Using C**

**Time: 1 Hour**

**Max Marks: 20**

**Note:** Answer all questions from Part-A, and Any Two from Part-B

S. No	Question: Part – A ( $3 \times 2=6$ Marks)	Max. Marks	CO	BL	PI
1	Define algorithm and explain its characteristics. ✓	2M	CO1	1	1.3.1
2	Write and explain the syntax of 'for' loop. ✓	2M	CO2	3	1.1.1
3	Define String and Write syntax to declare a string. ✓	2M	CO3	2	1.3.1

S.No	Question: Part - B ( $2 \times 7=14$ Marks)	Max. Marks	CO	BL	PI
4	a) Write a 'C' Program to check whether given year is leap year or not. ✓	5M	CO1	3	1.3.1
	b) What is the difference between break and continue statements in C. ✓	2M	CO2	1	1.1.1
5	a) Write a 'C' Program to demonstrate linear search. ✓	5M	CO2	3	1.3.1
	b) Write and explain about the phases in executing a C program ✓	2M	CO1	2	1.3.1
6	a) Write a 'C' Program to design arithmetic calculator using switch case. ✓	5M	CO1	3	1.3.1
	b) List and explain about any 2 predefined string manipulation functions. ✓	2M	CO2	2	1.3.1

*Hyder*



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B.E. I/IV, CIE- 1, January 2022-23 (Sem. I)

Subject: Engineering Chemistry

Sub. Code: U21BSN01CH

Branch: Common to IT, EEE, CSE (AI&ML, DS, IOT)

Time: 1 Hour

Max Marks: 20

Note: Answer all questions from Part-A, and any two from Part-B

S. No	Part – A (3 × 2=6 Marks)	Max. Marks	CO	BL
1	What is waterline corrosion?	2	2	1
2	Define (i) Knocking (ii) Octane Number	2	5	1
3	What is atom economy?	2	6	1
<b>Part - B (2 × 7=14 Marks)</b>				
4	(a) Consider the cell $\text{Fe}/\text{Fe}^{2+}(0.1\text{M}) // \text{Cu}^{+2}/\text{Cu}(0.01\text{M})$ at $25^{\circ}\text{C}$ (i) Write the electrode reactions and cell reaction (ii) Calculate EMF of the above cell. (iii) Predict feasibility/spontaneity of the reaction. (Given $E_{\text{Fe}^{2+}/\text{Fe}}^{\circ} = -0.44\text{V}$ & $E_{\text{Cu}^{+2}/\text{Cu}}^{\circ} = +0.34\text{V}$ ) <span style="margin-left: 100px;"><small>anode</small></span> <span style="margin-left: 100px;"><small>cathode</small></span>	4	1	2,3
	(b) What is Cathodic Protection? Explain sacrificial anodic protection method.	3	2	1,2
5	(a) Explain the fractional distillation of petroleum with a neat, labeled diagram.	4	5	2
	(b) Describe the construction, working of lead acid battery during its discharge.	3	5	2
6	(a) List and explain any 3 factors that affect rate of corrosion.	3	2	1,2
	(b) What is Bio-diesel? Explain trans esterification of Biodiesel.	4	5	1,2



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B.E I/IV, I Internal Examination 2022-23 (Sem-I)

Subject: English

Common to: CSE, EEE, Mech & Auto, IT

Time: 1 Hour

Sub. Code: U21HSN01EG

Max Marks: 20

**SET- 2**

**Note:** Answer *all* questions from Part-A, and *any two* from Part-B

S. No	Question: Part – A (3 × 2=6 Marks)	Max. Marks	CO	BL
I	<p>Choose the correct answer. 6 * ½ = 3 M</p> <p>1. There was ---- one-eyed man standing at the entrance. (a) the (b) a (c) an (d) no article</p> <p>2. Suma goes to ----- school by the school bus. (a) the (b) a (c) an (d) no article</p> <p>3. The students met after several years ----- the alumni reunion. (a) in (b) by (c) on (d) across</p> <p>4. The train is due ----- 7 P.M. (a) on (b) over (c) for (d) at</p> <p>5. ----- people gathered in the ground to listen to the speech by the politician. (a) few (b) many (c) several (d) more</p> <p>6. Lalith distributed ----- packets of food to the homeless. (a) a few (b) few (c) a little (d) little</p>	3	1	2
II.	<p>1. Choose the appropriate word close in meaning (synonym) to the underlined word. ½ M</p> <p>The special TV report <u>disrupted</u> regular programming. a) satisfied b) complemented c) interrupted d) continued</p> <p>2. Choose the appropriate word opposite in meaning (antonym) to the underlined word. ½ M</p> <p>Majority of young children write <u>legibly</u>. a) illicitly b) illegibly c) illegally d) illegitimately</p>	2	3	2
III.	<p>1. Write a word each using the given affixes. a. Im-, b. -ance (½ * 2 = 1)</p> <p>2.a. Write the constituent words of the given one: (½ * 1 = ½) edutainment = ---- + ----</p> <p>b. Write a compound word with “after” (½ * 1 = ½)</p>	2	CO1 & 2	3
IV.	<p align="center"><b>Question: Part - B (2 × 7=14 Marks)</b></p> <p>a. Read the given passage and answer the questions that follow.</p> <p>I may be as uncivil as I may please and the law will protect me against violent retaliation. I may be haughty or boorish and there is no penalty to pay except the penalty of being written down an ill-mannered fellow. The law doesn't compel me to say “please” or to attune my voice to other people's sensibilities anymore than it says that I shall not wax my moustache or dye my hair or wear ringlets down my back. It does not recognize the laceration of our feelings as a case for compensation. There is no allowance for moral and intellectual damages in these matters.</p> <p>1. Name the title and author of this passage?</p> <p>2. “I may be haughty or boorish and there is no penalty to pay except the penalty of being written down an ill-mannered fellow.” – What does this sentence imply?</p> <p>3. Write the antonym of the word “ill-mannered.”</p>	4	1	3

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	<p>4. Give the meaning of the word "Laceration."</p> <p><b>b. Expand the given clues into a paragraph in about 200 words.</b>  Rapid technological advancements- population growth unmanaged – exploitation of resources – enhanced lifestyle - fast depleting natural resources- alarming climatic changes- various factors – severe consequences- adapt new technologies- aim at sustainable development- design means to conserve natural resources.</p>	3		4
V.	<p><b>a. Read the given passage and answer the questions that follow.</b>  WASSERKOPF [grinning]: I know! Exactly seven meters! [They are paralyzed. He looks about in triumph.] Ha, ha! Seven meters! I know it lasted that long. It's possible I'm wrong, and if I am I fail. Seven meters! Ha, ha! Seven meters long! Seven meters! Please give me back my tuition fees. [The Masters look at each other; at their wit's ends]  THE HISTORY MASTER [decisively]: Seven meters? Right! Your answer is excellent.  WASSERKOPF [incredulously]: What. What did you say?  THE HISTORY MASTER [swallowing manfully and watching the Principal out of the corner of his eye]: The answer is correct, as a matter of fact. The candidate has shown us that his thought processes are not merely superficial, and that he has investigated the subject in accordance with moderns researches based on based on based on  THE MATHEMATICS MASTER: Relativity, of course. The quantum theory. Planck. Einstein. It's all very simple. [To the History Master] Don't say another word. We understand perfectly. Einstein has taught us that time is as real as space and matter. It consists of atoms, and may be synthesized into a unified whole, and may be measured like anything else. Reduce the mass-system to a unit and a year may be represented by a meter, or seven years by seven meters. We may even assert that the Thirty Years War lasted seven years only because ...</p> <ol style="list-style-type: none"> <li>1. From the above passage, what does the question pertain to?</li> <li>2. How does the Mathematics teacher justify Wasserkopf's answer that the World war lasted for seven metres?</li> <li>3. Give the meaning of the word "incessant."</li> <li>4. What kind of a person is Wasserkopf?</li> </ol> <p><b>b. Write a paragraph in about 150 words on "Importance of time management for students."</b></p>	4 3	CO2	3
VI.	<ol style="list-style-type: none"> <li>1. Re-write the sentences as directed <ol style="list-style-type: none"> <li>(a) Convert the following sentences into active voice [2M] <ol style="list-style-type: none"> <li>i) Accidents are caused by dangerous driving.</li> <li>ii) The kids were taught some new tricks by the magician.</li> </ol> </li> <li>(b) Give one-word substitutes for the following [2M] <ol style="list-style-type: none"> <li>(i) One who is capable of using both hands</li> <li>(ii) Longing for past</li> </ol> </li> </ol> </li> <li>2. Fill in the blanks with the correct connectives from the list given.  [6x1/2=3M]  <div style="border: 1px solid black; padding: 5px;"> <p>Though, during, as long as, nevertheless, therefore, in spite of, as a result</p> </div> <ol style="list-style-type: none"> <li>i) The economy collapsed, ----- the government had to resign..</li> <li>ii) You may spend time the way you want, ----- you never neglect your studies.</li> <li>iii) I already knew a lot about cyber security. -----, the lecture was</li> </ol> </li> </ol>			3

~~Refused~~





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	<p>quite interesting</p> <p>iv)----- the low temperatures during the winter, Moscow is always worth visiting.</p> <p>v) Sea levels will probably rise in the next few decades ----- of global warming.</p> <p>vi) The chirping of birds can be seen on rise ----- winter.</p>			
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*Reply*

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2451-22-750-006.

B.E. I/IV, CIE- 1, January 2022-23 (Sem. I)

Subject: INDIAN CONSTITUTION  
Branch: CSE, CSE-(DS) & CSE-(AIML)  
Time: 1 Hour

Sub. Code: U21MCN01PO

Max Marks: 20

**SET- 1**

**Note:** Answer all questions from Part-A, and any two from Part-B

S. No	Part – A (3 × 2=6 Marks)	Max. Marks	CO	BL
I	Name the chairman and other members of the Drafting Committee.	2	1	1
II	The Government of India Act 1935 was based on?	2	1	2
III	Explain the classification of the Directive Principles of State Policies	2	2	2
<b>Part - B (2 × 7=14 Marks)</b>				
IV	Explain how the writ jurisdiction of the Supreme Court differs from that of a high court.	7	2	3
V	Distinguish between Fundamental Rights and Directive Principles of State Policy	7	2	3
VI	Write about the Cabinet Mission Plan	7	1	2

