

Hall Ticket Number:

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SET - 1

SVIET23

SRI VASAVI INSTITUTE OF ENGINEERING AND TECHNOLOGY (A)

I B. Tech I Semester Regular Examinations, January-2024

CHEMISTRY (B23SH12)

[Computer Science and Engineering]

Time: 3 Hours

Max. Marks: 70

PART-A

10X2=20

- | | | | | |
|---|---|---|------------|------|
| 1 | a | What is a bonding molecular orbital? | (Remember) | [2M] |
| | b | How do you calculate the bond order? | (Remember) | [2M] |
| | c | What are super conductors? Give an example? | (Remember) | [2M] |
| | d | What are Nano materials? | (Remember) | [2M] |
| | e | What is an electrochemical Cell? | (Remember) | [2M] |
| | f | What is a primary cell? Give an example? | (Remember) | [2M] |
| | g | Write the preparation of PVC? | (Remember) | [2M] |
| | h | What is Addition polymer? Give an example? | (Remember) | [2M] |
| | i | State Beer's law? | (Remember) | [2M] |
| | j | Write the applications of HPLC? | (Remember) | [2M] |

PART-B

5X10=50

- | | | | | |
|-----------|---|--|--------------|------|
| 2 | a | Explain about π -molecular orbitals of benzene? | (Understand) | [5M] |
| | b | Explain about particle in one dimensional method? | (Understand) | [5M] |
| OR | | | | |
| 3 | a | Draw the energy level diagrams for CO molecules, indicating the bonding and anti-bonding molecular orbitals. Discuss the stability and bonding characteristics | (Understand) | [5M] |
| | b | Explain the molecular orbital theory and its application in bonding for both homo- and heteronuclear diatomic molecules. | (Applying) | [5M] |
| 4 | a | What is Superconductor? Explain about type I and type II superconductors? | (Remember) | [5M] |
| | b | Explain the Preparation, properties and applications of C60 Fullerenes? | (Understand) | [5M] |
| OR | | | | |
| 5 | a | What is super capacitor? Explain about electrostatic double layer capacitors? | (Remember) | [5M] |
| | b | Define Semiconductor? Explain types of Semiconductors? | (Remember) | [5M] |

- 6 a Derive the Nernst equation? Discuss its applications. (Understand) [5M]
b Explain conducto metric titration (acid-base) (Understand) [5M]
- OR**
- 7 a Give an account of construction, working and applications of – (Applying) [5M]
lithium-ion battery?
b Explain about Potentio metric sensor with example? (Understand) [5M]
- 8 a Explain the preparation, properties and applications of Polyl Lactic (Understand) [5M]
Acid (PLA)
b Explain about Conducting polymers with poly acetylene examples? (Understand) [5M]
- OR**
- 9 a Explain the preparation, properties and applications of BUNA- S? (Understand) [5M]
b Explain about thermo plastics and thermo setting plastics? (Understand) [5M]
- 10 a Explain about Instrumentation IR spectros copies? (Understand) [5M]
b Explain about the UV –Visible spectroscopy (Understand) [5M]
- OR**
- 11 a What is chromatography? Explain its classification? (Understand) [5M]
b Explain the principle and applications of HPL Chromatography (Understand) [5M]

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SET - 2

SVIET23

SRI VASAVI INSTITUTE OF ENGINEERING AND TECHNOLOGY (A)

I B. Tech I Semester Regular Examinations, January-2024

ENGINEERING PHYSICS (B23SH14)

[CE, MECH, ECE, CSE-AIML]

Time: 3 Hours

Max. Marks: 70

PART-A

10X2=20

		PART-A	Marks	CO	BTL
		All Questions Carry Equal Marks (10*2 = 20M)			
1	(a)	What are Newton's rings? Give their applications?	[2M]	CO1	K1
	(b)	How is the spectrum formed by the grating is different from a prism?	[2M]	CO1	K2
	(c)	Explain the terms- Unit-cell and Lattice parameters?	[2M]	CO2	K2
	(d)	Draw the (101) and $(1\bar{2}2)$ planes of a cubic cell?	[2M]	CO2	K1
	(e)	Explain magnetization and magnetic field intensity?	[2M]	CO3	K2
	(f)	Define polarizability and write its expression in dielectric material?	[2M]	CO3	K1
	(g)	State Heisenberg's Uncertainty Principle?	[2M]	CO4	K2
	(h)	Explain briefly about Fermi level?	[2M]	CO4	K2
	(i)	Define Energy band gap and write its physical significances?	[2M]	CO5	K1
	(j)	Write any two applications of Hall Effect?	[2M]	CO6	K1
PART - B			Marks	CO	BTL
UNIT-I					
2	a)	A monochromatic light is incident normally on a uniform thin film of refractive index μ . Find the condition that make the film appear dark in reflected view?	[6M]	CO1	K3
2	b)	Distinguish between the ordinary ray and extraordinary ray?	[4M]	CO1	K4
OR					
3	a)	Analyze qualitatively the Fraunhofer diffraction at single slit?	[6M]	CO1	K4
3	b)	Classify the Fraunhofer diffraction from the Fresnel diffraction?	[4M]	CO1	K4
4	a)	Describe the Simple Cubic (SC) sub lattice and calculate its atomic packing factor?	[6M]	CO2	K3
4	b)	Silver has FCC structure and its atomic radius is 1.441\AA . Find the spacing of (220) planes?	[4M]	CO2	K3
OR					

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SET - 1

SVIET23

SRI VASAVI INSTITUTE OF ENGINEERING AND TECHNOLOGY (A)

I B. Tech I Semester Regular Examinations, January-2024

Basic Electrical & Electronics Engineering (B23EC11)

[Common to the Branches CE, ME, ECE, CSE(AIML)]

Time: 3 Hours

Max. Marks: 70

PART-A

Section-1

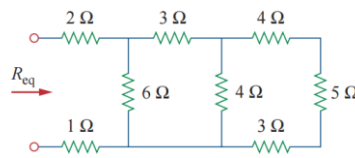
5X1 = 5M

- | | | | | |
|---|----|--|------------|------|
| 1 | a. | Define Peak Factor. | Remember | [1M] |
| | b. | State Super Position theorem. | Remember | [1M] |
| | c. | Mention the principle of operation of a Transformer. | Understand | [1M] |
| | d. | Mention any two types of tariffs used for electricity billing. | Remember | [1M] |
| | e. | List any two examples of non-conventional energy sources. | Understand | [1M] |

Section-2

3X10 = 30M

- | | | | | |
|---|----|---|---------|-------|
| 2 | a. | Derive the voltage and current relationships in R, L, C elements and draw it's Phasor diagrams. | Analyze | [6 M] |
| | b. | Find R_{eq} . | Apply | [4 M] |



OR

- | | | | | |
|---|----|---|---------|--------|
| 3 | a. | Draw the power triangle showing relation between various types of power and power factor. | Apply | [5 M] |
| | b. | The equation for an alternating current is given by $i = 77 \sin 314t$. Find the peak value, frequency, time period and instantaneous value at $t = 2$ ms. | Apply | [5 M] |
| 4 | | Discuss in detail on construction of PMMC Instruments and compare MC and MI instruments. | Analyze | [10 M] |

OR

- | | | | | |
|---|----|--|---------|----------------|
| 5 | a. | Explain in detail about construction and working of Three phase induction motor | Analyze | [5 M] |
| | b. | Describe in brief about Construction of Wheat Stone bridge and mention its applications. | Analyze | [5 M] |
| 6 | | Describe in detail about the process of conversion of Solar light Energy to Electricity with suitable diagram. | Apply | [4 M]
[6 M] |

OR

- | | | | | |
|---|--|--|------------|-------|
| 7 | | Explain the operation of Nuclear power plant including various parts in it and also give its construction details. | Understand | [10M] |
|---|--|--|------------|-------|

PART-B

Section-1

5X1 = 5M

- | | | |
|---|---|-----------------|
| 8 | a. Draw V-I characteristics of PN Junction Diode. | Understand [1M] |
| | b. Sketch the output waveforms for Full Wave rectifier. | Remember [1M] |
| | c. Draw block diagram of electronic instrumentation system. | Understand [1M] |
| | d. State Demorgan's laws of Boolean algebra. | Remember [1M] |
| | e. Convert $(586)_{10} = (\quad)_8$ | Evaluate [1M] |

Section-2

3X10 = 30M

- | | | |
|---|---|----------------|
| 9 | Draw and explain the circuit diagram of an NPN transistor in CC configuration and describe the static input and output characteristics. | Analyze [10 M] |
|---|---|----------------|

OR

- | | | |
|----|---|------------------|
| 10 | a. List out few comparisons of CB, CE and CC configurations. | Understand [5 M] |
| | b. Draw input and output characteristics of CE configuration. | Analyze [5 M] |

- | | | |
|----|--|---------------|
| 11 | Describe the circuit diagram and working of commonemitter (RC coupled) amplifier in detail and write its applications. | Analyze [10M] |
|----|--|---------------|

OR

- | | | |
|----|---|------------------|
| 12 | a. Explain the block diagram of a regulated power supply (RPS)? Mention few applications of it. | Apply [5 M] |
| | b. Compare the working of various rectifier circuits in detail. | Understand [5 M] |
| 13 | a. Distinguish between Combinational and sequential circuits. | Analyze [4 M] |
| | b. Draw the logic symbols and truth tables of Basic Gates and Universal gates. | Remember [6 M] |

OR

- | | | |
|----|--|----------------|
| 14 | Design a full adder circuit and explain its operation with neat diagram and truth table. | Evaluate [10M] |
|----|--|----------------|

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SET - 2

SVIET23

SRI VASAVI INSTITUTE OF ENGINEERING AND TECHNOLOGY (A)

I B. Tech I Semester Regular Examinations, January-2024

COMMUNICATIVE ENGLISH (B23SH11)

[Computer Science and Engineering]

Time: 3:00 Hours

Max. Marks: 70

Part – A

1. a) Describe Della's flat? [BL2][2]
b) Find the synonyms for the following words: [BL1][2]
i) shabby ii) prosperity iii) agile iv) ardent
c) How does the brook 'sparkle'? [BL1][2]
d) List any four cohesive devices and use them in your own sentences. [BL1][2]
e) What companies does Elon Musk own? [BL1][2]
f) Define compound word, types and provide examples. [BL1][2]
g) What is the theme of the 'Toys of Peace' by Saki? [BL1][2] h)
Choose the right word given in the bracket and fill in the blank. [BL1][2]
i) We will be _____ the tunnel in 30 seconds. (exciting /exiting)
ii) This tea might _____ your mood. (affect/effect)
i) Explain the purpose of interpersonal communication? [BL2][2] j)
Identify the error in the given sentences and rewrite them. [BL3][2]
i) I must to call him immediately.
ii) Every students like the teacher.

Part – B

2. a) What moral lessons are stressed upon in "The Gift of Magi". [BL1] [5]
b) Explain in detail the reading strategies of skimming and scanning with examples. [BL2] [5]
Or
3. Outline the short story "The Gift of Magi". [BL2][10]
4. a) Discuss the role of nature in the poem. How does Tennyson use the brook and its surroundings to convey deeper emotions or reflections on the human experience? [BL5] [5]
b) Examine the use of personification in "The Brook." How does the poet breathe life into the brook, and what effects does this literary device have on the reader's engagement with the poem? [BL4] [5]
Or
5. a) Develop a paragraph on the 'Importance of Technical education' at present scenario. [BL3] [5]
b) Consider the tone of the poem. How does Tennyson's choice of words and expressions create a specific emotional atmosphere throughout "The Brook"? [BL1][5]
6. a) Explain Musk's contributions to technological advancements, particularly in the electric vehicle and space exploration industries. [BL2][5]
b) Identify the tense forms of the underlined verbs in the given below sentences. [BL3][5]
i) How long have you known Ajay?
ii) I have been cleaning the house all morning.

iii) The students are writing their annual exams.

iv) We have seen this film already.

v) Kangaroos live in Australia.

Or

7. a) Assess Elon Musk's role as an innovative leader in the tech and space industries. How has his leadership style contributed to the success of companies like SpaceX and Tesla?

[BL6][5]

b) Discuss Elon Musk's influence on the entrepreneurial mind set and risk-taking in business.

[BL5][5]

8. a) Analyze the role of children in Saki's story, 'The Toys of Peace'. How are they portrayed? and what significance do they hold in the narratives?

[BL4][5]

b) Build your resume with the following qualifications for the post of System Analyst:

B.Tech, two years of experience, Python, Java certifications.

[BL3][5]

Or

9. a) Discuss how Saki's experiences and worldview might have influenced the theme and perspectives in the story.

[BL5][5]

b) Assume yourself as Krishna, resident of ABC colony, Vijayawada. Write a letter to the editor of 'The Hindu' daily, expressing your opinion and views on the increased human dependence on technology. Right from a small child to an adult, or even an old man, everyone wants gadgets only-cell phone, I-pod, laptop, etc. This also has a negative effect on social relationships.

[BL4][5]

10. a) Explain how social media platforms influence and shape interpersonal communication in today's society.

[BL2][5]

b) Identify the common error/r in the given sentences and rewrite them.

[BL3][5]

i) My sister has eighteen years.

ii) I live in United States of America.

iii) They entered into the hall.

iv) She doesn't listen me.

v) Sheela speaks English beside Hindi.

Or

11.a) Assess the impact of technology on interpersonal communication in the modern era.

[BL6][5]

b) Develop an essay on the importance of artificial intelligence in everyday life.

[BL3][5]

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SET - 1

SVIET23

SRI VASAVI INSTITUTE OF ENGINEERING AND TECHNOLOGY (A)

I B. Tech I Semester Regular Examinations, January-2024

LINEAR ALGEBRA & CALCULUS (B23SH13)

[Common to the All Branches]

Time: 3 Hours

Max. Marks: 70

PART - A

1. a) What is the rank of a non-singular matrix? L1 CO1 [2M]
- b) Explain the consistency criteria for non-homogenous system of m equations in n unknowns. L2 CO1 [2M]
- c) Find the eigenvalues of A^2 . If the eigenvalues of A are 1, 2 and 3. L1 CO2 [2M]
- d) Show that $A^5 = 16A$ if $A = \begin{bmatrix} 0 & 2 \\ 2 & 0 \end{bmatrix}$ L2 CO2 [2M]
- e) State Cauchy's mean value theorem. L1 CO3 [2M]
- f) Expand $\sin(x)$ in the powers of $(x - \pi/2)$ up to third degree term. L2 CO3 [2M]
- g) What is the condition for the functional dependence of the functions $u(x,y)$ and $v(x,y)$? L1 CO4 [2M]
- h) Write the necessary condition for the stationary values of the function $f(x,y)$. L2 CO4 [2M]
- i) What are the limits of r and θ over the region of the circle $r = 2a \cos \theta$? L1 CO5 [2M]
- j) Show that $\int_0^1 \int_0^2 \int_0^3 y \, dz dy dx = 6$. L2 CO5 [2M]

2. a) Find the inverse of the matrix $\begin{bmatrix} 1 & 1 & 3 \\ 1 & 3 & -3 \\ -2 & -4 & -4 \end{bmatrix}$ by using Gauss-Jordan method. L3 CO1 [5M]
- b) Show that the system $3x + y + 2z = 3, 2x - 3y - z = -3, x + 2y + z = 4$ is consistent and hence solve it. L2 CO1 [5M]

or

3. a) Identify the rank of the matrix $\begin{bmatrix} 1 & 2 & 3 & 0 \\ 2 & 4 & 3 & 2 \\ 3 & 2 & 1 & 3 \\ 6 & 8 & 7 & 5 \end{bmatrix}$ by reducing it Echelon form. L3 CO1 [5M]
- b) Apply Gauss-Seidel iteration method to find the system of equations $10x + y + z = 12, 2x + 10y + z = 13, 2x + 2y + 10z = 14$ L3 CO1 [5M]

4. a) Determine the eigenvalues and eigenvectors of the matrix $\begin{bmatrix} -2 & 2 & -3 \\ 2 & 1 & -6 \\ -1 & -2 & 0 \end{bmatrix}$. L5 CO2 [5M]

b) Make use of Caley-Hamilton theorem to find the inverse of the matrix

$$\begin{bmatrix} 1 & 1 & 3 \\ 1 & 3 & -3 \\ 2 & -4 & -4 \end{bmatrix}$$

L3 CO2[5M]

or

5. Determine the rank, index and signature of the quadratic form

$4x^2 + 3y^2 + z^2 - 8xy - 6yz + 4xz$ into canonical form by using orthogonal transformation.

L3 CO2 [10M]

6. a) Verify Rolle's theorem for $f(x) = (x + 2)^3(x - 3)^4$ in $(-2, 3)$.

L3 CO3 [5M]

b) Using Lagrange's mean value theorem for $f(x) = \tan^{-1}x$, $1 \leq x \leq 4/3$, show that

$$\frac{\pi}{4} + \frac{3}{25} < \tan^{-1}\left(\frac{4}{3}\right) < \frac{\pi}{4} + \frac{1}{6}.$$

L3 CO3 [5M]

or

7. a) Obtain Maclaurin's series expansion of $f(x) = \log(1 + x)$, $|x| < 1$.

L3 CO3 [5M]

b) Using Taylor's theorem, prove that $x - \frac{x^3}{6} < \sin x < x - \frac{x^3}{6} + \frac{x^5}{120}$ for $x > 0$.

L3 CO3 [5M]

8. a) If $u = x^2 + y^2 + z^2$ and $x = e^{2t}$, $y = e^{2t} \cos 3t$, $z = e^{2t} \sin 3t$ then find $\frac{du}{dt}$ as a total derivative and verify the result by direct substitution.

L5 CO4 [5M]

b) If $u = x + y + z$, $v = xy + yz + zx$, $w = x^2 + y^2 + z^2$ then find $\frac{\partial(u,v,w)}{\partial(x,y,z)}$

L3 CO4 [5M]

or

9 a) Expand $x^2y + 3y - 2$ in the powers of $(x - 1)$ and $(y + 2)$ using Taylor's theorem.

L3 CO4 [5M]

b) Determine the dimensions of the rectangular box open at the top of maximum capacity whose surface area is 432 sq cm.

L5 CO4 [5M]

10. a) Evaluate $\int_0^\infty \int_x^\infty \frac{e^{-y}}{y} dy dx$ by change of order of integration.

L5 CO5 [5M]

b) By using double integration to find the area between the parabolas $x^2 = 4ay$ and $y^2 = 4ax$.

L3 CO5 [5M]

or

11 a) Show that $\int_0^1 \int_0^{1-x} \int_0^{1-x-y} e^x dz dy dx = \frac{1}{2}[2e - 5]$.

L5 CO5 [5M]

b) Evaluate $\int_0^{2a} \int_0^{\sqrt{2a-x^2}} dy dx$ by changing into polar co-ordinates.

L5 CO5 [5M]

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SET - 2

SVIET23

SRI VASAVI INSTITUTE OF ENGINEERING AND TECHNOLOGY (A)

I B. Tech I Semester Regular Examinations, January-2024

INTRODUCTION TO PROGRAMMING (B23CS11)

[Common to All Branches]

Time: 3 Hours

Max. Marks: 70

-
1. a) What are the characteristics of an algorithm? [Understand] [2M]
- b) What is type casting in C [Understand] [2M]
- c) Write the syntax of switch-case statement in C [Remember] [2M]
- d) Write the syntax of do-while loop in C [Remember] [2M]
- e) How to declare a two dimensional array in C programming? [Remember] [2M]
- f) Define string in 'C' language [Remember] [2M]
- g) Define pointer [Remember] [2M]
- h) What are the advantages of pointers? [Understand] [2M]
- i) Define function in C [Remember] [2M]
- j) List out any four file opening modes in 'C' [Remember] [2M]
2. a) What is the basic programming structure of "C" program? [Understand] [5M]
- b) What are the basic symbols of a flowchart? [Remember] [5M]
- or**
3. a) Write an Algorithm and Flowchart to add three numbers? [Apply] [5M]
- b) What is Top-down approach and explain with neat diagram? [Understand] [5M]

4. Write a C program to check whether the given number is prime number or not [Apply] [10M]

or

5. Write a C program to find the factorial of a given number [Apply] [10M]

6. Write a C program for addition of two matrices. [Apply] [10M]

or

7. Write a C program to concatenate the given two strings [Apply] [10M].

8.a) How to initialize and access pointer variable? [Understand] [5M]

b) Write the differences between structure and union [Understand] [5M]

or

9. Write a C program to display the details of marks obtained by a student using structures. [Apply] [10M]

10. Explain four types of user defined functions in C [Understand] [10M]

or

11. Write a C program to read and write the content in a file [Apply] [10M]

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SET - 1

SVIET23

SRI VASAVI INSTITUTE OF ENGINEERING AND TECHNOLOGY (A)

I B.Tech I Semester Regular Examinations, January-2024

ENGINEERING GRAPHICS (B23ME12)

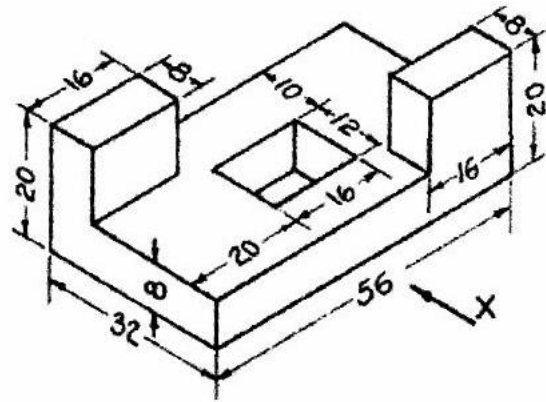
[ECE]

Time: 3 Hours

Max. Marks: 70

-
1. Construct a parabola when the distance between focus and the directrix is 40 mm. Draw tangent and normal at any point P on the curve. [BL2]
[14M]
(OR)
 2. Construct a scale of 1:50 to read meters and decimeters and long enough to measure 6 m. Mark on it a distance of 5.5 m. [BL2]
[14M]
 3. A line AB 80 mm long has its end A 20 mm above H.P and 25 mm in front of V.P. The line is inclined at 45° to H.P and 35° to VP. Draw its projections. [BL3]
[14M]
(OR)
 4. A regular pentagon of 25 mm side is resting on H.P on one of its sides with its surface 45° inclined to H.P. Draw its projections when the side in H.P makes 30° angle with V.P. [BL3]
[14M]
 5. A pentagonal prism with side of base 30mm and axis 60mm long is resting on its base on H.P such that one of its rectangular faces is parallel to V.P and 15mm away from it. Draw the projections of the prism. [BL3]
[14M]
(OR)
 6. A hexagonal prism with side of base 25mm and axis 60mm long is lying on one of its rectangular faces on H.P. Draw the projections of the prism when its axis is parallel to both H.P and V.P. [BL3]
[14M]
 7. A square prism of base side on 30 mm and axis length 60 mm is resting on H.P on one of its bases, with a base side inclined at 30° to V.P. It is cut by a plane inclined at 40° to H.P and perpendicular to V.P and is bisecting the axis of the prism. Draw its front view, sectional top view and true shape of section. [BL3]
[14M]
(OR)
 8. A hexagonal prism, edge of base 20mm and axis 50mm long, rests with its base on HP such that one of its rectangular faces is parallel to VP. It is cut by a plane perpendicular to VP, inclined at 45° to HP and passing through a point on the axis, 15 mm above the base. Draw the development of surface. [BL4]
[14M]

9. Draw the front view, top view and right side view of the object given in figure [BL3]
below. All dimensions are in mm. [14M]



(OR)

10. Draw an isometric view of a cylinder of base diameter 40mm and axis 60mm [BL3]
long, in the following position. (i) Vertical (ii) horizontal. [14M]

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SET - 2

SVIET23

SRI VASAVI INSTITUTE OF ENGINEERING AND TECHNOLOGY (A)

I B.Tech I Semester Regular Examinations, January-2024

ENGINEERING GRAPHICS (B23ME12)

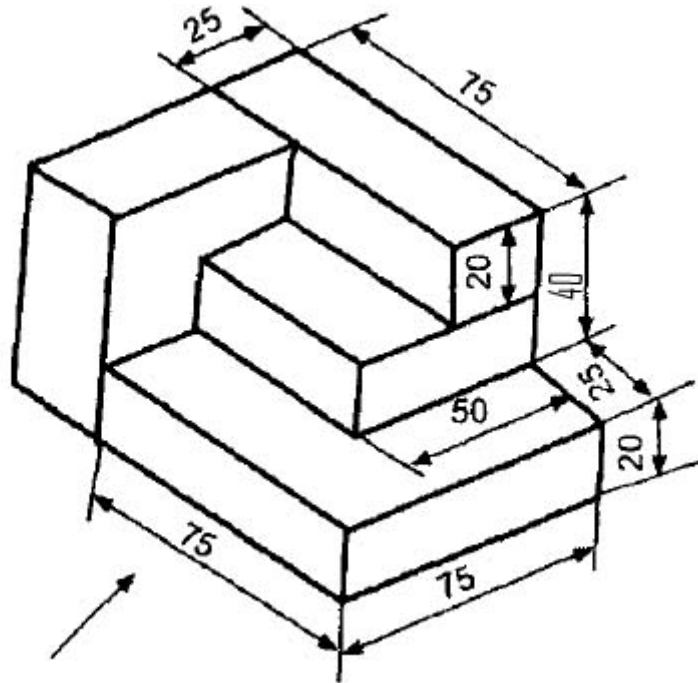
[CE, ME & CSE-AIML]

Time: 3 Hours

Max. Marks: 70

-
1. Construct a hyperbola when the distance between the focus and the directrix is 40mm and eccentricity is $4/3$. Also draw the tangent and normal at any point P on the curve. [BL3]
[14M]
- (OR)**
2. The distance between two towns is 250 km and is represented by a line of length 50mm on a map. Construct a scale to read 600 km and indicate a distance of 530 km on it. [BL3]
[14M]
3. A line CD 40 mm long is in V.P. and inclined to H.P. The top view measures 30mm. The end C is 10 mm above H.P. Draw the projections of the line. Determine its inclination with H.P. [BL3]
[14M]
- (OR)**
4. A rectangular plane of size 60mm \times 30mm, has its shorter side on H.P. and inclined at 30° to V.P. Draw the projections of the plane, if its surface is inclined at 45° to H.P. [BL3]
[14M]
5. A hexagonal prism with side of base 30mm and axis 60mm long lies with one of its longer edges on H.P such that its axis is perpendicular to V.P. Draw the projections of the prism when the base nearer to V.P is at a distance of 20mm from it. [BL3]
[14M]
- (OR)**
6. A pentagonal prism with side of base 30mm and axis 60mm long is resting with an edge of its base on H.P, such that the rectangular face containing that edge is inclined at 60° to H.P. Draw the projections of the prism when its axis is parallel to V.P. [BL3]
[14M]
7. A pentagonal pyramid of base side 40 mm and axis length 80mm is resting on H.P on its base with one of its base side parallel to V.P. It is cut by a plane inclined at 30° to H.P and perpendicular to V.P and is bisecting the axis. Draw its front view, sectional top view, and the true shape of section. [BL3]
[14M]
- (OR)**
8. A cone of base diameter is 50mm and axis 60mm long is resting with its base on H.P. It is cut by a section plane perpendicular to the V.P and inclined at 60° to the H.P and bisecting axis. Draw the development. [BL3]
[14M]

9. Draw the front view, top view and right side view of the object given in figure below. All dimensions are in mm. [BL3]
[14M]



(OR)

10. Draw the isometric view of square prism with a side of base 30mm and axis 50mm long when its axis is vertical. [BL3]
[14M]

Hall Ticket Number:

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SET - 1

SVIET23

SRI VASAVI INSTITUTE OF ENGINEERING AND TECHNOLOGY (A)

I B.Tech I Semester Regular Examinations, January-2024

Basic Civil & Mechanical Engineering (B23CC11)

[CSE]

Time: 3 Hours

Max. Marks: 70

[PART-A] (Civil Engineering)

PART-1

1. a) What is Hydraulics? [Remember][1]
- b) Write the classification of Aggregates. [Understand][1]
- c) What is a Contour? [Remember][1]
- d) Write about equipment used for measuring horizontal angles. [Understand][1]
- e) What is Rain water Harvesting [Remember][1]

PART-2

2. a) Explain the Role of Civil Engineers in Society. [Analyze] [5]
- b) Differentiate between Analysis and Design of a structure. Name few methods of analysis of structures. [Analyze] [5]
- or**
3. a) Write about the scope of Water Resources Engineering. [Remember][5]
- b) What are the properties of good quality cement? [Remember][5]
4. a) Discuss about the objectives of Surveying. [Analyze] [5]
- b) How to make horizontal measurements in surveying, explain. [Analyze] [5]
- or**
5. a) What is bearing ? Explain about different types of bearings. [Analyze] [5]
- b) What is a Contour? Explain how to prepare a contour. [Analyze] [5]
6. a) Write a note on the Importance of Transportation in Nation's economic Development [Understand] [5]
- b) What is a Dam? Explain about multiple uses of a dam. [Analyze] [5]
- or**
7. a) Explain about hydrological cycle with a neat sketch. [Analyze] [5]
- b) Write about various drinking water quality parameters [Remember][5]

[PART-B] (Mechanical Engineering)

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|---|---|-----------|
| 1 | a. Define composites? | [K2] [1M] |
| | b. What is CNC machine? | [K2] [1M] |
| | c. What are differences between 2-stroke and 4-stroke engine? | [K2] [1M] |
| | d. What are the different applications of gear drives? | [K2] [1M] |
| | e. List the components of steam power plant | [K1] [1M] |
| 2 | Explain Role of Mechanical Engineering in Industries. | [K2][10M] |
| | (OR) | |
| 3 | Explain ferrous and non-ferrous metals in detail. | [K2][10M] |
| 4 | a Explain the Terminology and working of casting with neat diagram. | [K2][5M] |
| | b. What is 3-Dprinting? Write about any two applications of it. | [K2][5M] |
| | (OR) | |
| 5 | a. Explain the working of four stroke engine with a neat sketch | [K2][6M] |
| | b. What are the different types of boilers? | [K2][4M] |
| 6 | a. Describe the working of hydro power plant with a neat sketch | [K2][7M] |
| | b. What are the industrial applications of robots? | [K2][3M] |
| | (OR) | |
| 7 | a. Write about belt drives and rope drives. | [K1][6M] |
| | b. Explain the polar configuration of robots. | [K2][4M] |