



Hall Ticket No. -

Code: R1233112

Stanley College of Engineering & Technology for Women (A)

B.E (EEE,ECE,IT) I Semester (Main) Examinations-March-2023

Programming for Problem Solving

Time: 03 Hours

Max. Marks: 60

- Note:** i. First Question is Compulsory. Answer any Four out of remaining Six questions.
ii. Answer to each question must be written at one place only and in the same order as they occur in the Question paper.
iii. Missing data, if any, may be suitably assumed.

Part-A

6X2=12M

1. a. Define Type Casting. [2M CO1 BTL1]
- b. List Control Statements. [2M CO2 BTL1]
- c. Why an array index starts with zero? [2M CO3 BTL2]
- d. Define Pointer. [2M CO4 BTL1]
- e. Write File Open Modes. [2M CO5 BTL2]
- f. Write the difference between float and double data types. [2M CO1 BTL1]

Part-B

4X12=48M

2. a) Define flow chart. How it is useful in writing the programs? Explain about different symbols in flow chart. [6M CO1 BTL1]
- b) Explain the purpose of the scanf function. How is it used within a C program? Compare with the getchar function. [6M CO1 BTL2]
3. a) Describe the various control structures available in 'C'. [6M CO1 BTL3]
- b) Define an operator? Describe several different types of operators that are included in C. [6M CO1 BTL3]
4. a) Discuss the various string functions that can be performed on strings. [6M CO2 BTL2]
- b) Write a C program to explain the concept of call by value and call by reference with example. [6M CO2 BTL3]
5. a) Give a recursive C function to print the first n Fibonacci numbers. [6M CO3 BTL3]
- b) Write a C Program to find the length of a string without using built-in function. [6M CO3 BTL3]
6. a) Compare structure and union in 'C' with suitable examples. [6M CO4 BTL3]
- b) Elaborate the importance of dynamic memory allocation with example. [6M CO4 BTL3]
7. a) Explain about the functions for reading and writing data from a file. [6M CO5 BTL2]
- b) Define FILE. Explain the operation and mode of opening of a file. [6M CO5 BTL2]

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Stanley College of Engineering & Technology for Women (A)

B.E (CSE,CME,AI&DS) I Semester (Main) Examinations-March-2023

Programming for Problem Solving

Time: 03Hours

Max. Marks: 60

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Part-A

6X2=12M

- 1) a) Define Data type and Identifier. [2M CO1 BTL1]
- b) Is 'break' needed in every case of switch statement? Explain [2M CO2 BTL1]
- c) What is an Array? How to store elements in an array? [2M CO3 BTL1]
- d) List the differences between Structure and Union? [2M CO4 BTL1]
- e) Explain file opening modes? [2M CO5 BTL1]
- f) How is a generic pointer different from a pointer variable? [2M CO5 BTL1]

Part-B

4X12=48M

2. a) Explain the basic structure of C program and explain the significance of each section? [8M CO1 BTL2]
- b) Evaluate the following expressions: [4M CO1 BTL3]
 - i) $5/3*3-8\%5*2+6*3/9$
 - ii) $9/4*2+5\%8*3-5*4/2$
3. a) What are control statements? Compare while, do-while and for loop [8M CO2 BTL5]
- b) Write a c program to find number of primes between integers m and n ($m < n$). Also print the prime numbers. [4M CO2 BTL3]
4. a) Write a c program to access the elements of 2-D Array [3M CO3 BTL3]
- b) Describe the following with respect to functions: [9M CO3 BTL2]
 - i) Function prototype
 - ii) Function call
 - iii) Returning from Function
5. a) Define Structure? Explain how to initialize and access Structure members. [6M CO4 BTL2]
- b) Explain the concept of nested structures with an example program. [6M CO4 BTL2]
6. a) What do you mean by streams? What are the applications of it? [6M CO5 BTL2]
- b) Write a C program to copy the contents of one file to another file. [6M CO5 BTL3]
7. a) What is the difference between searching and sorting? Illustrate binary search with an example. [6M CO5 BTL4]
- b) Calculate the Time Complexity of Bubble sort with the example program. [6M CO5 BTL3]

Hall Ticket No. -

Code: R1233113

Stanley College of Engineering & Technology for Women (A)

B.E (CSE,CME,AI&DS) I Semester (Main) Examinations-March-2023

Applied Physics

Time: 03 Hours

Max. Marks-60

- Note:** i. First Question is Compulsory. Answer any Four out of remaining Six questions.
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Part-A

6X2=12M

1. (a) Differentiate between spontaneous and stimulated emissions. 2M CO1 BTL2
- (b) Summarize the properties of ferromagnetic materials. 2M CO2 BTL2
- (c) The critical temperature of lead (Pb) with isotopic mass 206 is 7.2K. Find the isotopic mass of lead if the critical temperature falls to 7.12K. 2M CO3 BTL3
- (d) Define thermistor and give two applications of it. 2M CO4 BTL1
- (e) Outline any four advantages of nanomaterials. 2M CO5 BTL2
- (f) Evaluate critical angle and acceptance angle of an optical fiber whose core refractive index is 1.485 and cladding refractive index is 1.48 2M CO1 BTL4

Part-B

4X12=48M

2. (a) Illustrate the working and construction of a He-Ne laser by illustrating its functional and energy level diagrams. 8M CO1 BTL3
- (b) Explain various types of optical fibers based on modes of propagation. 4M CO1 BTL3
3. (a) Explain capacitance bridge method to determine dielectric constant of a given material. 8M CO2 BTL4
- (b) Distinguish between soft and hard magnetic materials along with any two examples for each type. 4M CO2 BTL4
4. (a) Summarize experimentally observed properties of superconductors by giving necessary theory. 8M CO3 BTL2
- (b) Find the de Broglie wavelength associated with (a) a pin-pong ball of mass 2g moving with a velocity 100m/s (b) for a thermal electron having energy of 1ev. 4M CO3 BTL2
5. (a) Compute total carrier concentration (n_i) of an intrinsic semiconductor. 8M CO4 BTL3
- (b) Write the assumptions of classical free electron theory and state its limitations. 4M CO4 BTL3
6. (a) How properties of materials undergo changes at reduced dimensions? Explain in detail the preparation of nano materials by chemical vapour deposition (CVD) technique. 8M CO5 BTL3
- (b) State Photovoltaic effect? Discuss construction of a solar cell. 4M CO5 BTL3
7. (a) Define dielectric polarization? Evaluate expression for electronic polarizability of an atom. 6M CO2 BTL5
- (b) Define Hall effect. Derive an expression for Hall Coefficient. 6M CO4 BTL6

Stanley College of Engineering & Technology for Women (A)

B.E (CSE,CME,AI&DS) I Semester (Main) Examinations-March-2023

Mathematics - I

Time: 03 Hours

Max. Marks: 60

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Part-A

6X2=12M

1. a. Determine the nature of the series $\sum_{n=1}^{\infty} \frac{n}{n^3 + 5}$ (2M/BTL1/CO3)
- b. State Rolle 's Theorem. (2M/BTL2/CO1)
- c. If $u(x, y) = xy, v(x, y) = x^2 - y^2$, then find $\frac{\partial(u, v)}{\partial(x, y)}$. (2M/BTL3/CO3)
- d. Find the unit normal vector to the surface $x^4 - 3xyz + z^2 + 1 = 0$ at the point P(1,1,1). (2M/BTL4/CO3)
- e. If $f = (x + 3y) i + (y - 2z) j + (x + pz) k$ is solenoidal .Find P (2M/BTL5/CO6)
- f. Find the Lagrange interpolating polynomial which fits the following data. (2M/BTL5/CO4)

x	1	2	4
f(x)	11	21	59

Part-B

4X12=48M

2. a) Determine the nature of the series $\sum_{n=1}^{\infty} \left(1 - \frac{1}{3n}\right)^n$. (6M/BTL1/CO4)
- b) Determine the nature of the series $\sum_{n=1}^{\infty} (-1)^n \frac{n}{n+1}$. (6M/BTL1/CO4)
3. a) State and prove Cauchy's mean value theorem. (6M/BTL2/CO4)
- b) Find the centre of curvature of the curve $x^3 + y^3 = 2$ at P(1,1) (6M/BTL2/CO3)

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4. a) If $u = f(x - y, y - z, z - x)$, then evaluate $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z}$. (6M/BTL2/CO5)

b) Find the extreme value of $x^2 + y^2$ when $x^4 + y^4 = 1$. (6M/BTL2/CO4)

5. a) Verify Green's theorem for $\int_c (xy + y^2) dx + x^2 dy$ where c is the boundary by $y = x$ and $y = x^2$ (12M/BTL3/CO5)

6. a) Using Gauss elimination method, solve the system of equations $x_1 + x_2 + x_3 = 9; 2x_1 - x_2 + x_3 = 8; x_1 + 4x_2 + x_3 = 18$. (6M/BTL4/CO3)

b) Using Newton's forward interpolation formula, find the polynomial $f(x)$ which fits the following data. (6M/BTL4/CO5)

x	0	1	2	3	4
f(x)	7	10	13	22	43

7. a) Obtain the Taylor's series expansion of $f(x, y) = x^2 + 3xy^2 - 6x + 9y - 6$ about the point $P(2, 2)$ (6M/BTL2/CO5)

b) Using bisection method, find an approximate root of $x^3 + 5x - 11 = 0$. (perform four iterations) (6M/BTL4/CO5)

Hall Ticket No. -

Code: R123312

Stanley College of Engineering & Technology for Women (A)

B.E (EEE, ECE, IT) I Semester (Main) Examinations-March-2023

Environmental Science

Time: 03 Hours

Max. Marks: 60

- Note:** i. First Question is Compulsory. Answer any Four out of remaining Six questions.
ii. Answer to each question must be written at one place only and in the same order as they occur in the Question paper.
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Part-A

6X2=12M

1. a. Bioaccumulation means. [2M CO1 BTL1]
- b. Explain energy flow in ecosystem. [2M CO2 BTL2]
- c. What is genetic level biodiversity? [2M CO3 BTL2]
- d. Give two effects of noise pollution of Human beings. [2M CO4 BTL2]
- e. What is ozone layer depletion? [2M CO5 BTL1]
- f. What is In-Situ conservation? [2M CO3 BTL1]

Part-B

4X12=48M

2. a) Write a note on how forests influence the quality of our air, soil and water resources. [6M CO1 BTL3]
- b) Explain the Growing energy needs. [6M CO1 BTL4]
3. a) What are ecological pyramids? Explain about energy pyramid. [6M CO2 BTL2]
- b) Explain the structure of ecosystem. [6M CO2 BTL2]
4. a) Describe the threats and conservation to biodiversity. [6M CO3 BTL3]
- b) Define Biodiversity and explain the levels of biodiversity. [6M CO3 BTL2]
5. a) Discuss about degradation of soil and its conservation [6M CO4 BTL2]
- b) Write about Water Act. [6M CO4 BTL1]
6. a) Explain about watershed management. [6M CO5 BTL2]
- b) Discuss about Disaster management in India. [6M CO5 BTL2]
7. a) Explain role of IT in Environment. [6M CO1 BTL2]
- b) How can we Reduce, Reuse and Recycle water. [6M CO4 BTL3]



Hall Ticket No. -

Code: R123316

Stanley College of Engineering & Technology for Women (A)

B.E (CSE, CME, AI&DS) I Semester (Main) Examinations-March-2023

English

Time: 03 Hours

Max. Marks: 60

- Note:** i. First Question is Compulsory. Answer any Four out of remaining Six questions.
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Part-A

6X2=12M

1. a. **What are the inclusive words for the following?** [2M CO3 BTL3]
1. She is the _____ of a reputed firm. (Chairman)
 2. Mihira is a wonderful _____. (Actor)
- b. **Complete the following statements using the appropriate word form from the words provided in the bracket:** [2M CO1 BTL3]
1. Artists must be -----, otherwise they just repeat what they see or hear (Create)
 2. Why are you so ---- of his work? He's just doing his best. (Critic)
- c. **Fill in the blanks with appropriate Article.** [2M CO1 BTL3]
1. India is one of ___ most industrial countries in Asia.
 2. He is ___ honour to this profession.
- d. **Choose the right word that fits the blank.** [2M CO1 BTL3]
1. I am going to ___ (lie/lay) down for an hour.
 2. The disappearing penny was simply an optical ___ (allusion/illusion).
 3. The book is on the table over ___ (their/there/they're).
 4. (Whose/Who's) ___ responsible for the advertising of the event?
- e. **Choose the one-word substitute for the following statement.** [2M CO1 BTL3]
1. Handwriting which is difficult or impossible to read
(A) Illegible
(B) Illogical
(C) Unintelligible
(D) Eligible
 2. Enclosed in a small closed space.
(A) Claustrophobia
(B) Liftophobia
(C) Closophobia
(D) Clusterophobia
- f. **Write the appropriate preposition the blanks.** [2M CO1 BTL3]
1. The box is ___ the table ___ the basement.
 2. The Police ran _____ the Mall ___ the catch the thief.

Part-B

4X12=48M

2. a) Analyze and discuss the following lines from “ the conduct of life from William Hazlitt” - How shall we part and wander down into a lower world, to this obscure And wild? How shall we breathe in other air Less pure, accustom'd to immortal fruits?" [6M CO2 BTL4]
- b) Write 3 effective measurers to make blogs interesting to read and create a sample blog on the topic of your interest. [6 M CO4 BTL6]
3. a) Develop the paragraph by following the hints given: (Youth as asset to nation-role in progress-modern Technology-unemployment – cultural values – link to bind the nation together). [6M CO3 BTL6]
- b) In Poem ‘If’ by Rudyard Kipling, the poet compares ‘triumph’ and ‘disaster’ with two impostors and advises to treat them as same. Why? [6M CO2 BTL2]
4. a) **Fill in the blanks with appropriate form of the verbs given in the brackets.** [6M CO1 BTL3]
1. When the burglars broke into the house, everybody.....in sound sleep. (is)
 2. The milk..... over as she went to see the crowd passing by with loud slogans. (spill)
 3. If Shubham..... any mistake, he will be rewarded. (not + make)
 4. They were watching TV when they..... a loud bang at the door. (hear)
 5. The bus..... the stop before we could catch it. (leave)
 6. Rounak..... the same song for last three days. It has become boring now. (play)
- b) Describe a significant experience that changed your life. Write a descriptive essay following the rules. [6M CO3 BTL2]
5. a) In the Speech, “I have a dream”-Why does Martin Luther King mention many different places, religions, and types of people? Explain. [6M CO3 BTL2]
- b) **Identify the errors in the following sentences and correct them.** [6M CO1 BTL3]
1. The shepherd took the cattles to the field.
 2. Do you know the importance for clean water?
 3. Laugh is the best medicines.
 4. The children decided to surprise Miss Revathi on teacher’s day.
 5. Man have depended on nature for a long time.
 6. Ramu is a honest man.
6. a) In the Poem “ The Road not Taken” the poem ends: "And that has made all of the difference." This quote describes how the speaker will relate to his decision later on in life. [6M CO3 BTL4]
- b) Write a persuasive essay on “Should Junk food be allowed in college canteens?” [6M CO3 BTL3]
7. a) **Change the following statements into direct/indirect speech:** [6M CO4 BTL6]
1. Alex said that he hadn’t gone to the party.
 2. Dance with me!
 3. I can help you tomorrow with notes.
- b) Write a blog on Instagram on the choice of your topic by following the rules of writing blogs. [6M CO1 BT2]

Stanley College of Engineering & Technology for Women (A)

B.E I Semester (Main) Examinations-March-2023

Mathematics-I

Time: 03Hours

Max. Marks: 60

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Part-A

6X2=12M

1. a. Write the statement of D'Alembert's Ratio test. [2M CO1 BTL1]
- b. Verify Lagrange's Mean value theorem for the function $f(x) = \cos x$ in the interval $[0, \frac{\pi}{2}]$ [2M CO2 BTL2]
- c. If $u = \tan^{-1}(\frac{x^3+y^3}{x+y})$ then prove that $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} = \sin 2u$ [2M CO3 BTL2]
- d. If $f = x^2y i + 2x^2yz j - 3yz^2 k$ then find $\text{Div} f$ at $(1, -1, 1)$ [2M CO4 BTL1]
- e. Find the second approximation to find the real root of the equation $x^3 - 3x + 1 = 0$, lying between 1 & 2 correct to 3 decimal places using Bisection method. [2M CO5 BTL1]
- f. Find the radius of curvature at any point on the curve $xy = c^2$ [2M CO2 BTL2]

Part-B

4X12=48M

2. a) Test the Convergence of the series $\sum [\sqrt{n^2+1} - \sqrt{n^2-1}]$ [6M CO1BTL2]
- b) Show that the exponential series $1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots$ converges absolutely for all values of x [6M CO1 BTL2]
3. If $a < b$, the Prove that $\frac{b-a}{1+b^2} < \tan^{-1}b - \tan^{-1}a < \frac{b-a}{1+a^2}$ Using Lagrange's Mean value theorem. Deduce the following:
 - (i) $\frac{\pi}{4} + \frac{3}{25} < \tan^{-1}\frac{4}{3} < \frac{\pi}{4} + \frac{1}{6}$ [6M, CO2 BTL4]
 - (ii) $\frac{5\pi+4}{20} < \tan^{-1}2 < \frac{\pi+2}{4}$ [(6, 6)M CO2 BTL4]
4. a) Find the minimum value of $x^2 + y^2 + z^2$ given that $x.y.z = a^3$ [6M CO3 BTL3]
- b) Discuss the maxima and minima of $x^2y + xy^2 - axy$ [6M CO3 BTL3]
5. a) If $F = (5xy - 6x^2) i + (2y - 4x) j$ then evaluate $\int_C F \cdot dr$ along the curve C in xy plane $y = x^2$ from $(1,1)$ to $(2,8)$ [6M CO4 BTL3]

b) Use Green's theorem to evaluate

$\int_C (2xy - x^2)dx + (x^2 + y^2)dy$, Where C is the closed curve of the region bounded by $y = x^2$ and $x = y^2$ [6M CO4 BTL3]

6. a) Solve the following system of equations by Gauss – Siedel iteration Method

$10x + 2y + z = 9, x + 10y - z = -22, -2x + 3y + 10z = 22$ [6M CO5 BTL5]

b) Find the real root of $x e^x - 2 = 0$ correct to three decimal places using Newton Raphson method. [6M CO5 BTL4]

7. a) Find the directional derivative of $f = xyz^2 + xz$ at $(1,1,1)$ in the direction of normal to surface $3xy^2 + y = z$ at $(0,1,1)$ [6M CO4 BTL3]

b) Use Divergence theorem to evaluate $\iint_S [x dydz + ydzdx + z dxdy]$ where $S : x^2 + y^2 + z^2 = a^2$ [6M CO4 BTL3]

Stanley College of Engineering & Technology for Women (A)

B.E (IT) I Semester (Main) Examinations-March-2023

Basic Electrical & Electronics Circuits

Time: 03Hours

Max. Marks-60

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Part-A

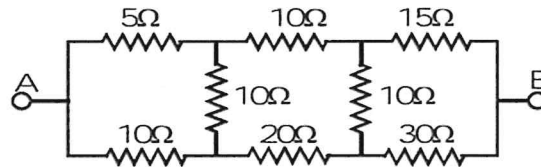
6X2=12M

1. a. List the different types of voltage and current sources. [2M CO1 BTL1]
- b. Define Peak and rms values. [2M CO2 BTL1]
- c. Draw the Bridge Full wave Rectifier circuit. [2M CO3 BTL4]
- d. Define pinch off voltage in FET. [2M CO3 BTL1]
- e. List out the ideal characteristics of OPAMP. [2M CO5 BTL1]
- f. How temperature effects the diode characteristics. [2M CO1 BTL2]

Part-B

4X12=48M

2. a) State and prove Norton's theorem. [7M CO1 BTL2]
- b) Find the effective resistance between points A and B [5M CO1 BTL3]



3. a) Show that $V_L = \sqrt{3} V_{ph}$ in 3-phase balanced Star connected system with the help of phasor diagram. [6M CO2 BTL2]
- b) Derive the Average and RMS value of current for sinusoidal waveform. [6M CO2 BTL3]
4. a) Draw and Explain Full wave rectifier circuit with wave forms. [8M CO3 BTL2]
- b) Advantages and Disadvantages of Full wave rectifier circuit. [4M CO3 BTL1]
5. a) Draw and explain the working of N-channel JFET. [8M CO4 BTL3]
- b) Compare the performance of CE, CB and CC configurations. [4M CO4BTL3]
6. a) Explain working of RC Phase Shift Oscillator. [6M CO5 BTL2]
- b) State early effect and draw the input and output characteristics of BJT indicating regions of operation. [6M CO5 BTL1]
7. a) Discuss the different types of Negative Feedback. [6M CO5 BTL2]
- b) Explain the Crystal Oscillator with a neat diagram. [6M CO5 BTL2]

Stanley College of Engineering & Technology for Women (A)

B.E (ECE & EEE) I Semester (Main) Examinations-March-2023

Engineering Chemistry

Time: 03 Hours

Max. Marks: 60

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Part-A

6X2=12M

1. a. Define Hardness of water and write it's Units. [2M CO1 BTL 1, 2]
- b. Differentiate Galvanic and Electrolytic Cells. [2M CO2 BTL 1, 3]
- c. Write any two postulates of LCAO theory. [2M CO3 BTL 4]
- d. Define HCV and LCV. [2M CO4 BTL 1, 4]
- e. Write any Two Examples for Clean technology. [2M CO5 BTL 1, 4]
- f. Write any four Applications of Conducting Polymers. [2M CO3 BTL 1, 3]

Part-B

4X12=48M

2. a) Explain the process of determination of Hardness of water by using EDTA method. [6M CO1 BTL1,5]
- b) 60 ml of standard hardness containing 1 mg of pure CaCO_3 per ml consumed 22 ml of EDTA. 40 ml of water sample consumed 20 ml of EDTA solution using EBT indicator. 40 ml of water sample after boiling, filtering consumed 15 ml of EDTA. Calculate the temporary and permanent hardness of water sample. [6M CO1 BTL1,5]
3. a) Derive the Efficiency of Carnot Cycle. [6M CO2 BTL2; 4]
- b) Write the cell reaction and calculate the emf of the following cell at 25°C :
 $\text{Zn}_{(s)} \mid \text{Zn}^{2+}(0.001\text{M}) \parallel \text{Ag}^+(0.0001\text{M}) \mid \text{Ag}_{(s)}$ Given $E_{\text{Zn}^{2+}/\text{Zn}}^0 = -0.76\text{ V}$ and $E_{\text{Ag}^+/\text{Ag}}^0 = 0.80\text{ V}$. [6M CO2 BTL2, 4]
4. a) Write the preparation and any four properties of Bakelite. [6M CO3 BTL1, 5]
- b) Explain the mechanism in conduction in Polyacetylene. [6M CO3 BTL1, 5]
5. a) Describe about Proximate analysis of Coal with significances. [6M CO4 BTL 2, 4]
- b) Write the preparation and Applications of Bio diesel. [6M CO4 BTL2, 4]
6. a) Explain the Charging and Discharging processes of Lead Acid battery. [6M CO5 BTL1, 5]
- b) Describe any Six Principles of Green Chemistry. [6M CO5 BTL1, 4]
7. a) What is Hot dipping? Explain the process of Galvanisation. [6M CO1 BTL3, 5]
- b) Derive Nernst Equation and write any Two Applications. [6M CO2 BTL1, 2]

Hall Ticket No. -

Code: R123318

Stanley College of Engineering & Technology for Women (A)

B.E (IT) I Semester (Main) Examinations-March-2023

Chemistry

Time: 03 Hours

Max. Marks: 60

- Note:** i. First Question is Compulsory. Answer any Four out of remaining Six questions.
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iii. Missing data, if any, may be suitably assumed.

Part-A

6X2=12M

1. a. List any two differences between anodic and cathodic coatings. [2M CO1 BTL1]
- b. Calculate EMF of the cell, Zn / ZnSO₄ (0.1 M) // CuSO₄(0.1M) / Cu(s), at 25⁰C. (Given E₀ Zn²⁺/Zn = - 0.76 V & E₀ Cu²⁺/Cu = + 0.34V) [2M CO2 BTL3]
- c. What is linear combination of atomic orbital (LCAO)? [2M CO3 BTL1]
- d. Define (i) Octane Number (ii) Cetane Number. [2M CO4 BTL1]
- e. What are conducting polymers? Give an example. [2M CO5 BTL1]
- f. Write a brief note on quantum dots. [2M CO4 BTL1]

Part-B

4X12=48M

2. a) Describe softening of water by Ion-exchange method. [7M CO1 BTL 2]
- b) Explain any five factors that affect rate of corrosion. [5M CO1 BTL 2]
3. a) Illustrate determination of pH of a solution using Quinhydrone electrode. [6M CO 2 BTL3]
- b) Explain the working of lead -acid battery during discharge. [6M CO 2 BTL2]
4. a) Discuss the preparation, applications of (i) Buna-S (ii) Kevlar. [6M CO3 BTL2]
- b) Describe energy level diagram of N₂ with labelling. [6M CO3 BTL2]
5. a) Describe the fractional distillation petroleum with a neat diagram. [6M CO4 BTL3]
- b) Explain ultimate analysis of coal. [6M CO4 BTL3]
6. a) Explain any 4 principles of Green Chemistry with examples. [8M CO5 BTL2]
- b) Write the constituents of composite material. [4M CO5 BTL2]
7. a) How do you make use of sacrificial anodic protection to control corrosion of buried pipeline (Metallic)? Explain. [7M CO2 BTL3]
- b) Calculate the Gross and Net Calorific Value of Coal sample having compositions C=80%, H=7%, O=3%, S=3.5%, N=2.1%, Ash=4.4%. [5M CO4 BTL3]

Hall Ticket No-

Code: R12282C

Stanley College of Engineering and Technology for Women(A)

**B.E II Semester (Main) Semester End Examinations July-August-2022
Essence of Indian Traditional Knowledge**

(ECE,EEE&IT)

Time: 3 hours

Max.Marks:60

PART-A

Note: Answer all questions (Compulsory)

5X2=10M

- 1 Define Heritage. 2 M
- 2 What is Civilization? 2 M
- 3 Four philosophies of Buddhism. 2 M
- 4 List few famous Indian Handicrafts. 2 M
- 5 What are the aims of education in ancient India? 2 M

PART-B

Note: Answer all questions

5X10=50M

- 6 a. Discuss the general characteristics of Culture. 5 M
- b. Explain the relationship between Culture and Heritage. 5 M

OR

- c. Discuss the Aryan period. 5 M
- d. Describe about the influence of The English in Modern India. 5 M

- 7 a. Summarize the developments of South Indian Languages and Literature. 5 M
- b. Demonstrate the significance of early Sanskrit Literature and its relevance to present society. 5 M

OR

- c. Discuss the Development of Literature during the Mughal Period. 5 M
- d. Discuss the literature of Tamil (Sangam) Language. 5 M

- 8 a. Examine the salient features of Indian Philosophy with the help of orthodox and heterodox schools?(Aasthika and Naasthika) 5 M
- b. Illustrate the significant role played by Bakthi Movement in shaping Religion in Medieval and Modern India 5 M

OR

- c. Explain the Brahma Samaj Movement's goal. 5 M
- d. Explain Arya Samaj movements in Modern India. 5 M

- 9 a. Write a Paragraph about Kalighat painting.. 5 M
- b. Explain about the Ancient Indian Architecture based on Harappan Civilization. 5 M

OR

- c. Discuss Indian music in detail. 5 M
- d. Mention the contribution of Medicine in Ancient India. 5 M

- 10 a. Write about the education system in ancient India. 5 M
- b. List any six contributions made by Ancient Indians Scientists to the world of Science. 5 M

OR

- c. Explain the value-based system of Education. 5 M
- d. What are the aims of education in Modern India? 5 M
