E-NOTICE

Date - 16/05/2022

Subject : B.TECH ASSIGNMENT QUESTIONS FOR EVEN SEM 2022

ASSIGNMENT QUESTION

B.TECH-2ND SEM (CSE)-THEORY

PAPER NAME : CHEMISTRY-I

PAPER CODE : BS-CH-201(For CSE)

1. Derive the Schrodinger wave equation.
2. Derive Beer's Law.
3. Derive moment of inertia of two rotating body.
4. Write down all vibrational motion of Carbondioxiode molecule.
5. Write a short note on optical isomerism.

PAPER NAME : PHYSICS-I

PAPER CODE : BS-PH-201(For AEIE)

1. What is Fresnel's Diffraction? What is the basic difference between Fresnel's diffraction and Fraunhofer diffraction?
2. What is Polarisation of light? What are the different conditions for getting linearly, circularly and elliptically polarised light?
3. What is damped harmonic oscillator? Derive the expression for the amplitude, frequency and phase of a damped harmonic oscillator.
4. What are the four Maxwell's Equations? Give the physical significance of each of them.
5. What is a magnetic material? What are the basic differences ferromagnetic, paramagnetic and diamagnetic materials?

PAPER NAME : MATHEMATICS

PAPER CODE: BS-M201–IIA (For CSE)

1. Find the probability distribution (or probability function or p.m.f.) of the number of heads when a fair coin is tossed repeatedly until the first tail appears.
2. A random sample of size 20 from a normal population gives a sample mean of 42 and sample standard deviation of 6. Test the hypothesis that the population mean is 44. State clearly the alternate hypothesis you allow for and the level of significance adopted.
3. State and prove Total Probability Theorem.
4. The probability function of a random variable X is f(x) = k (x-1) (2-x) for $1 \le x \le 2$. Determine i) the value of k ii) the distribution function F(x). iii) P $(5/4 \le X \le 3/2)$
5. A random variable X has the density function

$$f(x) = \frac{a}{x^2+1}, \quad -\infty < x < \infty.$$

Find (i) a , (ii) the probability that X^2 lies between 1/3 and 1, (iii) the distribution function of X.

6. The probability that a pen manufactured by a company will be defective is 1/10. If 12 such pens are manufactured, find the probability that
(i) exactly two will be defective (ii) none will be defective (iii) at least two will be defective

7. In a large city A, 20% of random sample of 900 school children had defective eye-sight. In another large city B, 5% of a random sample of 1600 children had the same defect. Is this difference between the two proportions significant? Obtain 95% confidence limits for the difference in the population proportions.

NAME : MATHEMATICS

PAPER CODE: BS-M202-IIB (For AEIE)

1. a) Solve $\frac{dy}{dx} + \frac{y \log y}{x} = \frac{y(\log y)^2}{x^2}$.

b) Solve : y = (p + p^2)x + p^{-1}.

c) Solve : $\frac{d^2y}{dx^2} - 5\frac{dy}{dx} + 6y = x^2e^{3x}$. 5 + 5 +5

2. a) Using the transformation x + y = u , y = uv, show that $\int_0^1 dx \int_0^{1-x} e^{\frac{y}{x+y}} dy$ becomes $\iint_E e^{\frac{y}{x+y}} dxdy$ where E is the triangle bounded by x = 0, y = 0, x + y = 1 .

b)) Solve: $x^2\frac{d^2y}{dx^2} + x\frac{dy}{dx} + y = logx\, sin(logx)$.

3. a) For the function defined by f(z) = $\sqrt{|xy|}$, show that the Cauchy-Riemann Equation are satisfied at (0, 0) but the function is not differentiable and analytic at that point.

:b)Expand f(z) = $sin\, z$ in a Taylor's series about z = $\pi/4$.

4. a)Find the residues of the function $\frac{\cot \pi z}{(z-a)^2}$.

b) Evaluate $\int_0^{2\pi} \frac{d\theta}{1+a^2-2a\cos\theta}$, $0 < a < 1$, take a complex number z of modulus 1 and amp θ.

PAPER NAME: PROGRAMMING FOR PROBLEM SOLVING
PAPER CODE: ES-CS-201

1. How linear search is different from binart search.
2. Write the advantages and disadvantages of using pointers.
3. What is a flowchart? Give syntax to create a pointer to function.
4. Explain typical steps for entering, compiling and executing 'C'programs.
5. Give a detailed note on pointer expressions.

PAPER NAME: ENGLISH
PAPER CODE: HM-HU-201

1. Write an essay on anyone :
   a) Media in the lives of students
   b) Books are our best friends
2. Write a job application attaching your c.v in an MNC for the post of "JUNIOR ENGINEER". The candidate should have good academic record, good communication skills and should have 1 year experience.
3. Suppose you have recently opened a personality development institute for children in your locality. Now write a sales letter to promote your institute and it's se
4. Spot errors of the following and rewrite them
   i) Music soothes me.
   ii) Let you and I do it.
   iii) He is comparatively better today.
   iv Everyone likes to be rewarded.
   v) I shall abide to your decision.
5. Do as directed
   i) Open the window. (End with 'open')
   ii) I felt tired and took a nap. (Begin with 'feeling')
   iii) He was too tired to stand. (Omit 'too' and 'to')
   iv)How beautiful is the moonlit night! (Make it Assertive)
   v) We must eat to live. (Turn into compound sentence)
6. Use proper prefix and suffix where necessary
   i) Sufficient ii) Discipline iii) Help iv)Friend
   v) Enforce vi) Satisfied
7. Write one sentence each to show the difference in meaning
   i) Birth : Berth ii) Write : right
   iii) Beside : Beside iv) Alter : Altar
   v) To : Too
8. Give antonym of the following and write sentence.
   i) Arrogant ii) Knowledge iii) Concise
   iv)Boundless v) Boring

E-NOTICE

Date - 16/05/2022

B.TECH-2ND SEM (CSE)-PRACTICAL

PAPER NAME : CHEMISTRY-I LAB

PAPER CODE : BS-CH-291(For CSE)

1. Define alkalinity. How alkalinity of water sample is measured?
2. Define pH .How pH is measured for the titration of Strong acid against strong base?
3. What is conductance? How conductance is measured for the titration of strong acid against strong base?

PAPER NAME : PHYSICS-I LAB

PAPER CODE : BS-PH-291(For AEIE)

1. Determine the dispersive power of a prism by minimum deviation method.
2. Determine the wavelength of a monochromatic light by Newton's ring method.
3. Determine the thermo electric power of a given thermocouple.
4. Determine the Stefan-Boltzmann constant.
5. Determine the Young's modulus of elasticity of the material of a bar by the method of flexure

PAPER NAME : PROGRAMMING FOR PROBLEM SOLVING (LAB)

PAPER CODE : ES-CS-291(For AEIE & CSE)

1. Write a'C'program to read a binary file and print it on console.
2. Give syntax to create a pointer to function.
3. Write a 'C'Program for Towers of Hanoi. Also specify in diagram for it.
4. How to pass the structure to functions as an argument? Explain with a suitable example.
5. Write a 'C'program to find the biggest number and smallest number of given 'n' numbers using arrays.

PAPER NAME : ENGINEERING GRAPHICS & DESIGN

PAPER CODE : ES-ME-291 (For CSE)

1. A room of building of 1000 m^3 volume is represented by a similar block of 125 cm^3 volume. Find the R.F. and construct a plain scale to measure up to 30m. Measure a distance of 24 m on the scale.
2. Draw the projections of regular hexagon of 30 mm side, having one of its sides in the H.P. and inclined at 60^0 to V.P. and its surface making angle of 45^0 with H.P. .
3. Construct an ellipse by four centre method having major axis 100 mm and minor axis 70 mm.
4. . Construct a regular Heptagon about a circle of 100 mm diameter.

PAPER NAME : WORKSHOP/MANUFACTURING PRACTICES

PAPER CODE : ES-ME-292 (For AEIE)

1. What are the common material used for pattern making.
   Discuss advantages & disadvantages of wood.
2. Classify drills. Sketch a twist drill and named its various parts.
3. While shutting the flame, which cylinder is to be switched off first & why?

4. Define the core prints & Core Box (with Sketch)
5. What are the various types of pattern used in pattern shop. Explain any two.
6. What are the procedures commonly done in bench working and filling shop. Describe briefly.
7. Give the definition and state the principals of oxy-acetylene gas welding.
8. Define the surface plate and pipe vice (with sketch).

PAPER NAME : LANGUAGE LABORATORY
PAPER CODE : HM-HU-291(For AEIE & CSE)

1. Write sentences to show the difference in meaning.
i. Alter, Altar
ii. See, Sea
iii. To, Too
iv. Weight, wait
v. Bear, Beer

2. Write few sentences on anyone :
a) Media in the lives of students
b) Books are our best friends

3. Write a job application attaching your C.V in an MNC for the post of "JUNIOR ENGINEER". The candidate should have good academic record, good communication skills and should have 1 year experience.

4. Suppose you have recently opened a personality development institute for children in your locality. Now write a sales letter to promote your institute .

B.TECH-4TH SEM-CSE & IT - THEORY
PAPER NAME: DISCRETE MATHEMATICS
PAPER CODE: PCC (CS) 401

1.a) Show that (p→ q)Λ$(q \to r) \to (p \to r)$ is a tautology.

b) Show that all roots of the equation $x^4 = 1$ forms a commutative group under the operation multiplication.

c) Using principle of inclusion and exclusion, show that for any three sets A, B, and C, n(A U B U C) = n(A) + n(B) + n(C), if they are pairwise mutually disjoint

2. a) Draw the graph G corresponding to each adjacency matrix

$$A = \begin{bmatrix} 0 & 1 & 0 & 1 & 0 \\ 1 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 1 & 1 & 1 & 0 & 1 \\ 0 & 1 & 1 & 1 & 0 \end{bmatrix}$$

b) Prove that the number of internal vertices in a binary tree is one less than the number of pendant vertices.

c) If f:R→Rdefined by $f(x) = x^3 - 1$,then find the values of $f^{-1}(7)$ and $f^{-1}(63)$.

3. a). Show that the set of rational numbers other than 1, Q' forms a group under the binary operation * defined by a*b = a + b –ab : a,b ∈ Q.

b) Suppose R is any relation on A. Show that R ∪ R^{-1} is symmetric.

c) prove that a tree with n vertices has $n - 1$ number of edges.

4. a) Write down the definition : multi-graph, Isomorphism of two graphs, Euler path ,Binary Tree, self-loop, trivial path and closed path.

b) Suppose G is a non-directed graph with 12 edges. If G has 6 vertices each of degree 3 and rest have degree less than 3, find the minimum number of vertices in G

c) Prove that $3^{2n} - 8n - 1$ is divisible by 64.

5. a) Prove that a simple graph with n number of vertices and k number of components can have maximum $\frac{(n-k)(n-k+1)}{2}$ number of edges.

b) Prove that the Chromatic Polynomial is a polynomial.

c)If d|a and d|b and d > 0, then gcd ($\frac{a}{d}, \frac{b}{d}$) = $\frac{1}{d}$ gcd (a, b). $5+5+5$?

PAPER NAME: COMPUTER ARCHITECTURE
PAPER CODE: PCC-CS-402

1. Justify your statement "Instruction execution throughput increases in proportion with the number of pipeline stages".
2. Explain the Amdahl's law of parallel processing.
3. Briefly discuss two methods to handle branch hazards
4. Explain different types of addressing modes.
5. Differentiate between Vectored and Non-vectored interrupts.

PAPER NAME: FORMAL LANGUAGE & AUTOMATA THEORY
PAPER CODE: PCC-CS-403

1. Find a reduced equivalent to the grammar.
2. Find the regular expression for following transition graph.
3. Prove that context free languages are not closed under intersection.
4. Design a TM which can multiply two positive integers.
5. Explain the concept of 2-way finite automata.

PAPER NAME: DESIGN AND ANALYSIS OF ALGORITHMS
PAPER CODE: PCC-CS 404

1. Write down DFS algorithm and analyse the time complexity.
2. State Master's Theorem. Find the solution to the following recurrence equation using Master's theorem.
   a. T (n) = 2T (n/2)+ n log n
   b. T (n) = 2nT (n/2) + nn
3. Explain the important properties of B-Tree.
4. List and explain the characteristic properties associated with a problem that can be solved using dynamic programming.
5. Write down and explain Bellman Ford algorithm.

PAPER NAME: BIOLOGY
PAPER CODE: BSC 401

(1) Explain the concept of taxonomic hierarchy.
(2) Write a short note on gene mapping
(3) Explain the process of glycolysis
4) Write a short note on first and second law of thermodynamics.
(5) Discuss two mechanism of enzyme action.
(6) Write down the difference between prokaryotes and eukaryotes.

PAPER NAME: ENVIRONMENTAL SCIENCES
PAPER CODE: MC 401

(1) Explain the causes of water pollution..
(2) Write a short note on eutrofication.
(3) write a short note on material balance.
(4) Write a short note on biodiversity hotspot.
(5) Discuss exponential growth.
(6) Write briefly about ozone layer destruction.
(7) Write a short note on London smog.
(8) Write a short note on photochemical smog .
(9) Write a note on smog.

(10) write about affects of air pollution

B.TECH-4TH SEM-CSE – PRACTICAL

PAPER NAME: COMPUTER ARCHITECTURE LAB
PAPER CODE: PCC-CS-492

1.You have a program that has 10% code portion which must be executed sequentally Now further suppose that we are to employ parallel programming to achieve a speedup. How many parallel processors must be there to achieve an overall speedup of 5 in the program execution time?
2. Describe one method to remove this problem and its limitations,
3. Discuss about Flynn's classification of parallel computers.
4. The significance of interconnection network in multiprocessor architecture.
5. Discuss advantages of Relative addressing mode over Direct addressing ode.

PAPER NAME: DESIGN AND ANALYSIS OF ALGORITHMS LAB
PAPER CODE: PCC-CS-494

1. Write and explain an algorithm to find the optimal parenthesization of matrix chain product whose sequence of dimension is given.
2. Write and explain merge sort algorithm using divide and conquer strategy. Also analyse the complexity.
3. Is 2n+1 = O(2n) ? Is 22n = O(2n)? Justify your answer.
4. Using Recursion Tree method, solve.Assume constant time for small values of n.T(n)= 2T(n/10)+ T(9n/10)+n
5. Construct a B-tree of minimum degree 3 by inserting the elements in the order given F, Q,P,K,A,L,R,M,N,X,Y,D,Z,E,H,T,V,W,C. from the constructed tree delete A,P,Q,R,T.

B.TECH-4TH SEM - EE & EEE - THEORY

PAPER NAME: ELECTRICAL MACHINE-I
PAPER CODE: PC-EE/EEE-401

1. What Are Power Transformer?
2. What Is The Basic Difference Between Synchronous Motor And An Induction Motor?
3. Explain the Scott connection or T-T connection of the transformer.
4. Explain the parallel operation of single phase transformer.
5. Why Stator Windings Are Arranged Around The Rotor?
6. What is the general working principle of induction motor?

PAPER NAME : DIGITAL ELECTRONICS
PAPER CODE: PC-EE / EEE-402

1. Briefly explain the difference between the octal and Hexa-decimal number system.
2. What do you mean by –Digital Signal? Briefly Explain it.
3. What is the difference between Analog signal and Digital signal?
4. Draw the circuit diagram of Flash type AD converter.
5. What do you mean by DAC?
6. Briefly explain the Boolean-Algebra in Digital.

PAPER NAME: ELECTRICAL AND ELECTRONIC MEASURMENT
PAPER CODE: PC-EE/EEE-403

1) Classify the resistances from the point of view of measurements
2) Describes the errors in electrodynamometer type wattmeter.
3) Explain type of errors in Electrical measurement.
4) Describe the method for measurements of reactive power in single phase circuit.
5) Explain the difference between Dynamometer type wattmeter and induction type wattmeter.

6) Principle of operation Crompton DC potentiometer.

PAPER NAME: THERMAL POWER ENGINEERING
PAPER CODE: ES-EE-401

1. What is difference between SI engine and CI engine?
2. Derive the efficiency of Otto cycle with P-V and T-S diagram.
3. Derive the efficiency of Diesel cycle with P-V and T-S diagram.
4. Write down the fuel characteristic of SI and CI engine.
5. What is the difference between water tube and fire tube boiler?
6. Derive the boiler mounting and accessories in details.
7. What is the significance of drought in boiler practice?
8. A chimney is 28 m high and the temperature of the hot gas in the chimney is 320^0C. the temperature of outside air is 23^0C and the furnace is supplied with 15 kg of air per kg of coal burnt. Calculate draught in mm of water.
9. What is the difference between gas turbine and IC engine.
10. What is the difference between closed gas turbine and open gas turbine.

PAPER NAME : VALUES AND ETHICS IN PROFESSION
PAPER CODE: HM-EE/EEE 401

1. What is the relationship between ethics and the law?
2. Can an action be unethical but not illegal? If so, explain how and give an example
3. Is there a difference between what is legally required, and what is ethically required?
4. What are five unethical behaviours found in the workplace and how do they affect the development of a company?
5. Give an account of the nature, definition and scope of Ethics.
6. Difference between good and bad.

PAPER NAME: ENVIROMENTAL SCIENCE
PAPER CODE: MC –EE/EEE 401

(1) Explain the causes of water pollution..
(2) Write a short note on eutrofication.
(3) write a short note on material balance.
4) Write a short note on biodiversity hotspot.
(5) Discuss exponential growth.
(6) Write briefly about ozone layer destruction.
(7) Write a short note on London smog.
(8) Write a short note on photochemical smog .
(9) Write a note on smog.
(10) write about affects of air pollution.

B.TECH-4TH SEM - EE & EEE – PRACTICAL

PAPER NAME: DIGITAL ELECTRONICS LAB
PAPER CODE: PC-EE/EEE-492

1. What do you mean by Binary Number system in Digital Electronics?
2. Differentiate Encoder over De-coder.
3. What do you mean by – Logic Gates in Digital?
4. What is the difference between Logic symbol and truth table of the different logic gates?
5. Draw the circuit diagram of D/A converter.
6. Briefly explain the De-Morgan's theorem in Digital.

E-NOTICE

Date - 16/05/2022

PAPER NAME : THERMAL POWER ENGINEERING LAB
PAPER CODE: ES-ME-491

1. Study of cut model of Babcock boiler.
2. Study of cut model of IC Engines (petrol engine and diesel engine).
3. Study of valve timing diagram on four stroke diesel engine.
4. Study of valve timing diagram on four stroke petrol engine.
5. To find the Calorific Value of Diesel Fuel & Coal by Bomb Calorimeter

PAPER NAME : ELECTRIC MACHINE-I LAB
PAPER CODE: PC-EE/EEE-491

1) Study the characteristic of a compound DC generator (short shunt).
2) Measurement of speed of DC series motor as a function of load torque.
3) Study of methods of speed control of DC motor.
4) Determine Open circuit and Short circuit test of transformer.
5) To study separately excited dc generator.

PAPER NAME : ELECTRICAL & ELECRTONIC MEASUREMENT LAB
PAPER CODE: PC-EE/EEE-493

1) Calibration of PMMC Ammeter & Voltmeter Using DC Crompton Potentiometer.
2) Calibration & Testing of AC Energy Meter.
3) Measurement of Inductance by Anderson bridge
4) Measurement of capacitance by De Sauty Bridge.
5) Measurement of capacitance by Schering Bridge.

B.TECH-4TH SEM-AEIE - THEORY

PAPER NAME : ELECTRICAL AND ELECTRONICS MEASURMENT
PAPER CODE: PC-EI-401

1) Classify the resistances from the point of view of measurements
2) Describes the errors in electrodynamometer type wattmeter.
3) Explain type of errors in Electrical measurement.
4) Describe the method for measurements of reactive power in single phase circuit.
5) Explain the difference between Dynamometer type wattmeter and induction type wattmeter.
6) Principle of operation Crompton DC potentiometer.

PAPER NAME : INDUSTRIAL INSTRUMENTATION
PAPER CODE: PC-EI-402

1. List the types of electrodes used for pH measurement. Why is reference electrode required for pH measurement?
2. Describe the working of an analyzer that can be used to estimate the content of nitrogen oxide in a gas.
3. Explain the principle of operation of a paramagnetic oxygen analyzer with a neat sketch.
4. Describe a method of measuring dissolved oxygen content in the boiler feed water?
5. Explain the use of thermal conductivity gauge for the analysis of flue gas.
6. Describe the construction details and working of a dust monitor.

PAPER NAME : MICROPROCESSOR& MICROCONTROLLER
PAPER CODE: PC-EI-403

1. What do you mean by addressing mode? What are the different addressing modes supported by 8086? Explain each of them with suitable examples.
2. Explain the various Functions of 8085 microprocessor.
3. Describe the Bus Architecture of 8086 microprocessor.
4. Draw and explain the details architecture of 8085 microprocessor.
5. What are the functions of the various components in Operational-Amplifier?
6. What is the significance of CPU unit?

E-NOTICE

Date - 16/05/2022

PAPER NAME :DATA STRUCTURE AND ALGORITHM
PAPER CODE: ES-CS 401

1. Differentiate between top down and bottom up approach of problem solving.
2. Compare a Singly linked list and Doubly Linked List.
3. Explain modular programming with suitable example.
4. Represent header node in a Linked List.
5. Define hashing, hash function and collision.

PAPER NAME : BIOLOGY
PAPER CODE: BS-BIO-401

(1) Explain the concept of taxonomic hierarchy.
(2) Write a short note on gene mapping
(3) Explain the process of glycolysis
4) Write a short note on first and second law of thermodynamics.
(5) Discuss two mechanism of enzyme action.
(6) Write down the difference between prokaryotes and eukaryotes.

PAPER NAME : VALUES AND ETHCS IN PROFESSION
PAPER CODE: HM-HU-401

1. What is the relationship between ethics and the law?
2. Can an action be unethical but not illegal? If so, explain how and give an example
3. Is there a difference between what is legally required, and what is ethically required?
4. What are five unethical behaviors found in the workplace and how do they affect the development of a company?
5. Give an account of the nature, definition and scope of Ethics.
6. Difference between good and bad.

B.TECH-4TH SEM-AEIE - PRACTICAL

PAPER NAME : ELECTRICAL & ELECRTONIC MEASUREMENT LAB
PAPER CODE: PC-EI-491

1) Calibration of PMMC Ammeter & Voltmeter Using DC Crompton Potentiometer.
2) Calibration & Testing of AC Energy Meter.
3) Measurement of Inductance by Anderson bridge
4) Measurement of capacitance by De Sauty Bridge.
5) Measurement of capacitance by Schering Bridge.

PAPER NAME : MICROPROCESSOR AND MICROCONTROLLER LAB
PAPER CODE: PC-EI-492

1. What are, control lines, data bus & address bus
2. Write the difference between:-
Registers and memory
RAM & ROM
SRAM & DRAM
3. Explain with neat sketch operations of the ALU unit? Explain the operations of a Microcontroller with necessary diagrams.
4. Describe the Schematic Architecture & operations of 8085 Microprocessor.
5. Explain briefly:-
Interrupt of 8085
Addressing modes of 8085
SID,SOD,EI &DI.

6. Explain the flag register of 8085 & control word register of 8255.

PAPER NAME : DATA STRUCTURE & ALGORITHM LAB
PAPER CODE: ES-CS491

1. Explain modular programming with suitable example.
2. Compare a Singly linked list and Doubly Linked List.
3. Differentiate between top down and bottom up approach of problem solving.
4. Write an algorithm/pseudocode to convert a given infix expression to postfix expression? Trace the steps involved in converting the given infix expression((A +B)^C)-((D*C)/F) to postfix expression.
5. Define hashing, hash function and collision.

PAPER NAME : ADVANCED LANGUAGE LAB
PAPER CODE: HM-HU481

1. Write sentences to show the difference in meaning.

i. Alter, Altar
ii. See, Sea
iii. To, Too
iv. Weight, wait
v. Bear, Beer

2. Write few sentences on anyone :
   a) Media in the lives of students
   b) Books are our best friends

3. Write a job application attaching your C.V in an MNC for the post of "JUNIOR ENGINEER". The candidate should have good academic record, good communication skills and should have 1 year experience.

4. Suppose you have recently opened a personality development institute for children in your locality. Now write a sales letter to promote your institute .

B.TECH-4TH SEM-ME-THEORY
PAPER NAME: MATERIALS ENGINEERING
PAPER CODE: ES-ME-401

1. Explain the various purpose of heat treatment. What are various method of heat treatment of steel
2. What is re-crystallization? Define re-crystalline temperature. Differentiate between hot and cold working.
3. Describe the method of improving the machinability. Explain the term creep and fatigue.
4. Draw the iron carbon diagram and explain.
5. What is powder metallurgy ? Why it is necessary to use lubricants in the press compacting of powders ? State the advantages and disadvantages of powder metallurgy.
6. Write short notes on the following: (i) ultrasonic test (ii) Nitriding (iii) Cyaniding (iv) Induction Hardening (v) radiography test
7. What is corrosion? Explain the different mechanism of corrosion. Discuss the method of preventing corrosion
8. Describe with neat sketch of one common method used for forming plastic sheets.
9. State the thermoplastic & thermosetting plastic.
10. Characteristic and application of ferrous materials and nonferrous material.
11. Classify carbon steel and their uses.
12. What is stainless steel? Classify the difference types of stainless steel with their properties and application.
13. Write the short notes on (a) Free cutting steels and (b) Spring steels.
14. Describe the process of steel making by open hearth process.

PAPER NAME: APPIED THERMODYNAMICS
PAPER CODE : PC-ME-401

1. Explain briefly Otto cycle with the help of p-v and T-S diagram, and derive an expression for ideal efficiency of Otto cycle.
2. Explain briefly Diesel cycle with the help of p-v and T-S diagram, and derive an expression for ideal efficiency of Diesel cycle.
3. What do you understand by the term ‘ psychrometry’.
4. Define the following: specific humidity, DPT,WBT and absolute humidity.
5. Show Rankine cycle on p-v and T-S diagram and explain the processes involved.
6. Drive the expression for the work done when compression is isothermal and isentropic for reciprocating compressor.
7. In an Otto cycle, the temperature at the beginning and end of the isentropic compression is 316 K and 596 K respectively. Determine the air standard efficiency and the compression ratio.

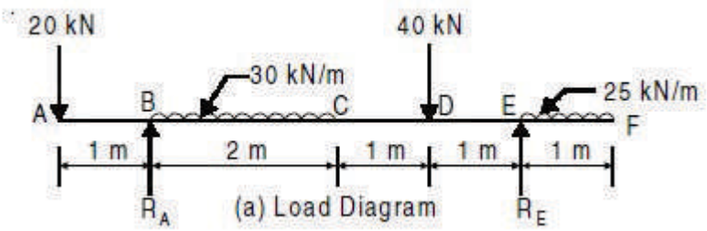
PAPER NAME : FLUID MECHANICS & FLUID MACHINES
PAPER CODE : PC-ME-402

1. The rate of flow of water through a horizontal pipe is 0.25 m^3/s. The diameter of the pipe which is 200 mm is suddenly enlarged to 400mm. The pressure intensity of the smaller pipe is 11.79 N/cm^2,
   Determine: (i) loss of head due to sudden enlargement
   (ii) Pressure intensity of larger pipe
   (iii) Power lost due to enlargement
2. Deduce the Haigen-Poiseuille equation for steady, laminar , fully-developed incompressible flow through a circular pipe in the form $Q= \Pi D^4 X\Delta P/128\mu L$.
3. (a) What do you mean by similitude & what are the different types of similarities that must exist between a model & prototype.
   (b) State Buckingham’s π theorem.
   (c) The efficiency η of a fan depends on density ρ, dynamic viscosity μ of the fluid, angular velocity □, diameter D of the rotor & the discharge Q.
   Express η in terms of dimensionless parameter.
4. (a)State the working principle of a Pelton wheel.
   (b)Derive the expression of discharge through a rectangular weir.
   (c)Write a short note on Francis turbine.
5. A Kaplan turbine is developes a shaft power of 24650 KW at an average head of 39m. Assuming a speed ratio of 2, Flow ratio0.6, diameter of the boss equal to 0.35times the diameter of the runner & an overall efficiency of 90%.calculate the diameter, speed & specific speed of the runner.
6. A centrifugal pump having an overall efficiency of 70% delivers water 1500 l/m through a pipe 12 cm diameter& 100m long. Calculate the power required to drive the pump if its lift water to height of 22m.The co-efficient of friction for the pipe may be taken as 0.01 .
7. a)Define displacement thickness & momentum thickness in boundary layer flow.
   b) Deduce the continuity equation in three dimensional fluid flow.

PAPER NAME : STRENGTH OF MATERIALS
PAPER CODE : PC-ME-403

1. What is modulus of section? A rectangular beam, simply supported over a span of 4m, is carrying a uniformly distributed load of 60 kN/m. Find the dimension of the beam, if depth of the beam section is 3.5 times its width. Take maximum bending stress in the beam section as 75 Mpa .
2. Prove that a hollow shaft can withstand higher torque than a solid shaft of same length and weight if the two shafts are the same material

3. Determine the diameter of solid shaft which transmit 740 kW at 350 rpm. The angle of twist must not exceed one degree per meter length and the maximum torsional shear stress is to be limit to 55 N/mm^2 . Assume G=84 kN/mm^2.
4. Derive the equation strain energy store in a body due to shear stress.
5. a weight of 2600N is dropped on a closely helical spring consisting of 60 turns. find the height by which the weight is dropped before by striking the spring so that the spring may be compressed by 220mm and diameter of spring wire is 30mm
6. A closed helical spring has stiffness of 10N/mm. it's when fully compressed, with adjacent coils touching each other is 400mm.The modulus of rigidity of the materials of the spring is $8x10^4$ N/mm^2
7. What is the corresponding maximum shear stress in the spring?
8. Derive an expression for the critical load in a long column when one end is fixed and other end free.
9. Draw BM and SF diagrams for the beam shown in Fig. indicating the values at all salient points and maximum bending moment also show the point of contra flexure



PAPER NAME: METROLOGY AND INSTRUMENTATION
PAPER CODE: PC-ME-404

1. Describe with sketch the construction and use of gear tooth vernier caliper. How is the gear tooth thickness at PCD measured? Explain piezo-electric crystal type microphone with suitable diagram.
2. What is an effective diameter of threads? State its significance. Explain with sketch Measurement of effective diameter by two wire method stating limitation
3. In the measurement of surface roughness, height of 20 successive peaks and valleys measured from a datum are as follows 45, 25, 40, 25, 35, 16, 40, 22, 25, 34, 25, 40, 20, 36, 28, 18, 20, 25, 30, 38. If these measurements were made over a length of 20mm, determine C.L.A and R.M.S value of these.
4. Show that the gauge factor F of a resistance strain gauge is given by

$$F= 1+ 2\mu +\{(\delta\rho/\rho)/(\delta L/L)\}$$

Where μ is Poisson's ratio, ρ is the resistivity of the material of wire of strain gauge, and L is the length of the wire.

5. What is comparator? Explain its used and essential parts.
6. A strain gauge is bonded to a beam which is 12cm long and has a cross sectional area of $3.8cm^2$. The unstrained resistance and gauge factor are 220Ω and 2.2 respectively. On the application of load the resistance of the gauge change by 0.015Ω .If the modulus of elasticity for steel is $207GN/m^2$. Calculate

i. The change in length of the steel beam.
ii. The amount of applied force to the beam.

7. What do you mean by MML and LML?
8. A 200mm sine bar is to set to an angle of 32°5'6''. Find the length of gauge block required using any appropriate set of gauge block.
9. List and explain with neat sketch types of expansion thermometer stating application.
10. The following 10 observations in degree Celsius were recorded when measuring a temperature 41.7 ,42.0, 41.8 , 42.00 42.1, 41.9 , 42.0 , 41.9 , 42.5 ,and 41.8 . Calculate (a) arithmetic mean ,(b) standard deviations , (c) probable error of one reading ,(d) probable error of mean ,(e) range

i. Differentiate between the "Threshold " and "Resolution" giving suitable examples.
ii. What is drift? Explain different types of drifts with sketches of input-output relationships in case.

PAPER NAME: ENVIROMENTAL SCIENCE
PAPER CODE: MC – 401

(1) Explain the causes of water pollution..

(2) Write a short note on eutrofication.
(3) write a short note on material balance.
4) Write a short note on biodiversity hotspot.
(5) Discuss exponential growth.
(6) Write briefly about ozone layer destruction.
(7) Write a short note on London smog.
(8) Write a short note on photochemical smog .
(9) Write a note on smog.
(10) write about affects of air pollution.

B.TECH-4TH SEM-ME-PRACTICAL

PAPER NAME : PRACTICE OF MANUFACTURING PROCESSES

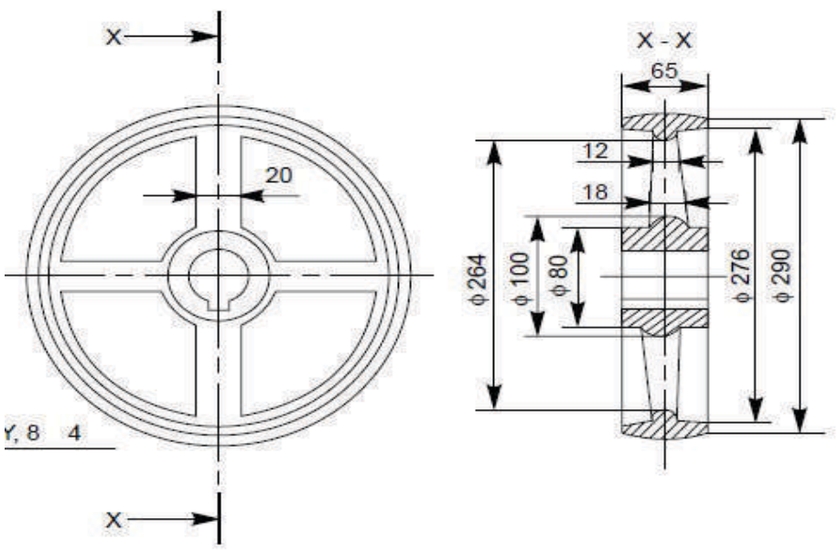
PAPER CODE : PC-ME-491

1. Study the working of logic gates.
2. State the principle of vernier instrument. Explain briefly the construction and use of vernier caliper with a neat sketch.
3. What is an effective diameter of threads? State its significance. Explain with sketch Measurement of effective diameter by two wire method stating limitation
4. The instrument used for measuring surface texture are (i) Tomlinson surface metet (ii)Taylor Hobson Talsurf.
5. How to measure angle by universal bevel protector.
6. What is comparator? Explain its used and essential parts. What do you mean by MML and LML?
7. Draw block diagram of a closed loop system. Give an example of closed loop system. What are the advantages and disadvantages of closed loop system?
8. Explain with a neat sketch the working principle of an electromagnetic flow meter.

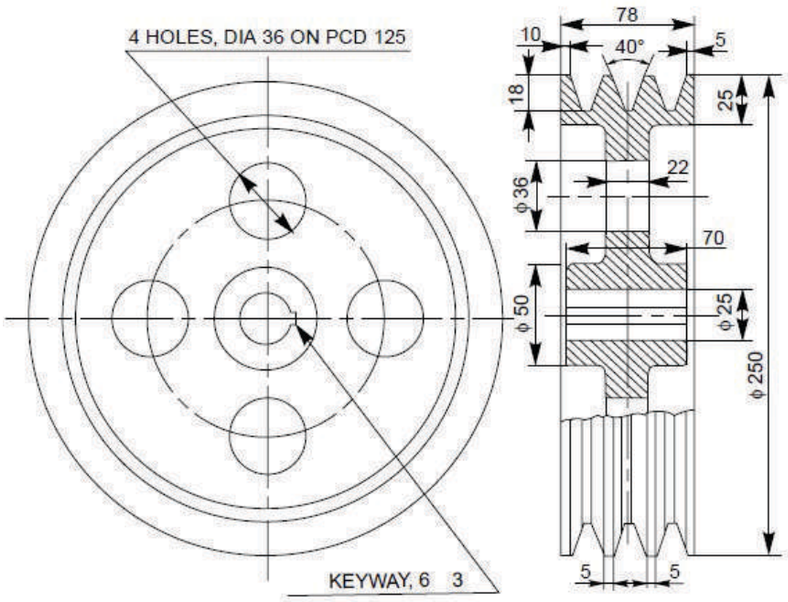
PAPER NAME : MACHINE DRAWING-I

PAPER CODE : PC-ME-492

1. Draw the following figure in first angle projection method.



2. Draw the following figure in first angle projection method.



B.TECH-4TH SEM-CE-THEORY

PAPER NAME: INTRODUCTION TO FLUID MECHANICS

PAPER CODE : CE(ES) 401

1.What are the basic principle of fluid mechanics?
2. What do you mean by fluid pressure at a point? Explain Pascal's law.
3. When is the fluid called laminar?
4. What is continuous distribution of mass.
5. What is Knudsen number and what is the Knudsen number value for continuum.
6. What is microscopic and macroscopic approach of fluid mechanics.
7. Write down the surface tension equation on different cases.

PAPER NAME: INDTRODUCTION TO SOLID MECHANICS

PAPER CODE : CE(ES) 402

1. Derive the relationship between BM and SF.

2. What is point of contra flexure? What is overhanging?

3. A cantilever beam 7 m long with constant *EI* is subjected to two 45 KN loads, one at 2 m from end & another at free end respectively. Compute deflection at the free .

4. Define the Poisson's ratio. Derive a relationship between modulus of elasticity, modulus of rigidity and bulk modulus

5. Determine the rotation and deflection at the free end of the cantilever beam subjected to u.d.l over an entire span.

6. A steel specimen of 13 mm diameter was found to elongated 0.2mm in 200 mm gauge length when it was subjected to a tensile force of 26,8 kn.if the specimen was tested within the elastic range, what is the value of young Modulus for the steel specimen?

7. Plane element in a boiler is subjected to tensile stresses of 400 Mpa an one plane and 150 Mpa on the other at right angles to the former .Each of the above stresses is accompanied by a shear stress of 100 Mpa such that when associated with the minor tensile stress tends to rotate the element in anticlockwise direction. Find a)Principal stresses and their directions b) Maximum shearing stresses and the directions of the plane on which they act.

PAPER NAME : SOIL MECHANICS-I

PAPER CODE : CE(PC) 401

E-NOTICE

Date - 16/05/2022

1. What do you mean by dry density, saturated density and porosity?

2.In a Proctors compaction test the maximum dry density was found to be 1.8gm/c.c. and O.M.C. is 15.2%.if the specific gravity of the soil grains is 2.65,calculate degree of saturation ,and void ratio and the max dry density?

3. The mass specific gravity of a soil equals1.64.the specific gravity of solids is 2.70.determine the void ratio under the assumption that the soil is perfectly dry. What would be the void ratio, if the sample is assumed to have a water content of 8%?

4. Define the following- total unit weight ,water content, dry unit weight, saturated unit weight ,unit weight of solids, submerged unit weight, mass specific gravity, total unit weight, saturated unit weight.

5. Explain the various types of soil classification. What is group index classification? State its formula. Where it is used?

6. A sample of clay soil has a water content of 40% at full saturation. Its shrinkage limit is 15%, Assuming G=2.70, Determine the degree of shrinkage S_r, Comment on the nature of soil?

7. Define and explain Darcy's law and constant head permeability test?

PAPER NAME: ENVIRONMENTAL ENGINEERING-I
PAPER CODE: CE(PC) 402

1. Discuss about different type of ground water source?
2. State the factor that affects the rate of water demand.
3. What is screening and sludge digestion?
4. Name the different type of pipes used in water supply scheme. Briefly describe their characteristics
5. Why is disinfection necessary?
6. What is pipe corrosion? What are the effects of corrosion? What do you mean by per capita demand?
   Hints-cross sectional area reduced, disintegration of pipe, damage joint
7. Describe with sketches, the different type of pipe joint? What do you mean by sedimentation?
   Hints- bell and spigot, collar, expansion, flanged, flexible, threaded
8. Give the flow diagram of a treatment plant? State the function of each unit. Describe the different type of sewer with a neat sketch

9. Write notes on the theory and purpose of theory of coagulation and flocculation. What are the common coagulants used in treatment plant? Describe the function of the coagulants.

PAPER NAME: SURVEYING & GEOMATICS
PAPER CODE: CE(PC) 403

1. What are WCB & RB?
2. The length of the offset is 15m and the scale of the plan 10m to 1cm.If the offset is laid out 3^0 from it's true direction, find the perpendicular displacement of the plotted point on the paper.
3. What is the principle of chain surveying?
4. What is well & ill conditioned triangle?
5. What are the sources of error in chaining.
6. The sides of a triangle are 12.0,16.5 and 23.0 m. Respectively. Examine whether the triangle is well-conditioned.
7. Write short notes on any four of the following:
   a) Levelling staff
   b) Compensating and cumulative error in chaining
   c) Optical square
   d) Fly levelling
   e) Isogonic and agonic lines

PAPER NAME: CONCRETE TECHNOLOGY
PAPER CODE: CE(PC) 404

1. Discuss about specific gravity and apparent specific gravity.
2. Discuss about compaction factor test.
3. Discuss about different steps of preparation of concrete?

4. What are the factors affecting workability of concrete? Explain briefly.
5. Write short notes on Low heat Portland cement.
6. Describe the steps of production of concrete. What are the different tests conducted on hardened concrete? Explain
7. a) What are the factors that influence the strength of cement concrete ? Briefly discuss the effects of water cement ratio and workability on the strength of concrete.
b) What is shrinkage? What factors promote shrinkage? What precautions will you take to reduce it?
8. a) What are design stipulations for design of concrete mix ? What test data for materials are required for the design?
b) What is sulphur attack? What type of cement is used to minimize sulphur attack?
9. Discuss plasticizers and super plasticizers, indicating their purpose. Name some products and their dosages used as plasticizers and super plasticizers.

PAPER NAME: CIVIL ENGINEERING- SOCIETAL & GLOBAL IMPACT
PAPER CODE: CE(HS) 401

1. What is Global warming and discuss its effects.
2. What do you mean by GDP? Discuss its effects in Economy of the country?
3. Mention the basic methods of treatment for waste water?
4. State the factor that affects the rate of water demand.
5. Distinguish between the following:
a) Pre-chlorination and post-chlorination (b) Super-chlorination and dechlorination
6. Explain in detail the basic concept of EIA. Also give a note on probable environmental impact of a thermal power plant & a mining industry. What is environmental risk assessment?
7. Describe with sketches the construction, working, cleaning, rate of filtration, and efficiency of a rapid sand filter.
8. Discuss conservation, Repair and Rehabilitations of structures.

PAPER NAME: MANAGEMENT-I (ORGANIZATIONAL BEHAVIOR)
PAPER CODE: CE (MC) 401

1) Define the Term Organizational Behavior?
2) What is Extraversion and introversion of OB?
3) What are the Characteristics and components of Attitudes?
4) Define the Relationship of Personality with OB?
5) Define Personality in OB

B.TECH-4TH SEM-CE-PRACTICAL

PAPER NAME: FLUID MECHANICS LABORTORY
PAPER CODE: CE(ES)-491

1.Discuss how to calibrate the notch & orifice meter.
2.How to evaluate the performance of pump & turbine?
3.How to measure the water surface profile for hydraulic jump?

PAPER NAME: SOLD MECHANICS LABORTORY
PAPER CODE: CE(ES)-492

1. Write down the Bending test on Mild steel.
2. Write down the torsion test on Mild steel
3.Write down the compression test on concrete cubes

PAPER NAME: ENGINEERING GEOLOGY LABORTORY
PAPER CODE: CE(ES)-493

1. Describe the satellite image preprocessing.
2. Describe the visual image interpretation.
3. Write down the collimation and Rise and Fall Method.

PAPER NAME: SURVEYING & GEOMATICS LABORTORY
PAPER CODE: CE(PC)-493

1. State the interdependency and advancement of different surveying methods.
2.Discuss the procedure of preparing field book.

3.Discuss the procedure of traverse survey by prismatic compass.

PAPER NAME: CONCRETE TECHNOLOGY LABORTORY
PAPER CODE: CE(PC)-494

1.Discuss the procedure of Slump test of Workability.
2.Discuss the procedure of Consistency test of cement.
3.Discuss the procedure of compaction factor test

B.TECH-4TH SEM-ECE-THEORY

PAPER NAME: ANALOG COMMUNICATION
PAPER CODE: EC 401

1. What is Time- division multiplexing? Explain in brief.
2. Define sampling theorem with necessary diagrams.
3. What is noise temperature?
4. What is white noise?
5. Define AM and draw its frequency spectrum.
6. What are the differences between the TDMA & FDMA?

PAPER NAME: ANALOG ELECTRONIC CIRCUITS
PAPER CODE: EC 402

1. What is Semiconductor? Explain its characteristics.
2. Briefly explain the operation of P-N Junction diode.
3. What do you mean by – Doping of the Semiconductor?
4. What is the difference between Zener Breakdown & Avalanche Breakdown?
5. What do you mean by Efficiency of Rectification?
6. What is the difference between Intrinsic & Extrinsic semiconductor?

PAPER NAME: MICROPROCESOR & MICROCONTOLLER
PAPER CODE: EC 403

1. What are the functions of the various components in 8085 Microprocessor?
2. Explain the various Registers of 8085 Microprocessor.
3. What is the significance of MMU unit?
4. What are the different addressing modes supported by 8086? Explain each of them with suitable examples.
5. Explain the various Interrupts of 8085 microprocessor. What do you mean by addressing mode of a Microprocessor?
6. Describe the Various Interfacing in 8086 Microprocessor.

PAPER NAME: DESIGN AND ANALYSIS OF ALGORITHM
PAPER CODE: ES-CS 401

1. Differentiate between top down and bottom up approach of problem solving.
2. Compare a Singly linked list and Doubly Linked List.
3. Explain modular programming with suitable example.
4. Represent header node in a Linked List.
5. Define hashing, hash function and collision.

PAPER NAME: NUMERICAL METHOD
PAPER CODE: BS-M401

1) Find the Lagrange's formula the interpolating polynomial which corresponds to the following data

X	-1	0	2	5

f(x)	9	5	3	15

3+6+6 = 15

2) Derived the Newton-Raphson Method. Using this formula to find the roots of the equation $x^2 - 5x + 2 = 0$ correct up to three places of decimals.

3) Establish the iterative formula for for Gauss-Seidel iterative method.

4) Solve the system of linear equations by Gauss-Jordan's Matrix inversion method:

$x + 3y + 2z = 17$

$x + 2y + 3z = 16$

$2x - y + 4z = 13$

5) Construct the formula for Confluent Divided Differences.

6) Use Runge-Kutta Method of forth order to compute the numerical values of the differential equation $\frac{dy}{dx} = x^2 + y^2$; y(1)=0, find y at x = 1.3.

7) Obtain an approximate value of $\int_0^1 \frac{dx}{1+x^2}$ by Simpson's One-third rule taking four equal intervals.

PAPER NAME: BIOLOGY FOR ENGINEERS
PAPER CODE: BS-B401

(1) Explain the concept of taxonomic hierarchy.
(2) Write a short note on gene mapping
(3) Explain the process of glycolysis
4) Write a short note on first and second law of thermodynamics.
(5) Discuss two mechanism of enzyme action.
(6) Write down the difference between prokaryotes and eukaryotes.

B.TECH-4TH SEM-ECE-PRACTICAL

PAPER NAME: ANALOG COMMUNICATION LAB
PAPER CODE: EC491

1. What is Frequency division multiplexing? Explain in brief.
2. Define Frequency Demodulation with suitable Diagram.
3. What are the differences between the AM & PM?
4. What is Shot noise? Explain briefly.
5. Define SSB Modulation and draw its frequency spectrum.
6. What is Flicker noise? Explain briefly.

PAPER NAME: ANALOG ELECTRONIC CIRCUITS LAB
PAPER CODE: EC492

1. What is the importance of OP-AMP? Explain briefly
2. Briefly describe about FET and CMOS.
3. What do you mean by Efficiency of rectification?
4. Draw the V-I characteristic of a Zener-Diode & explain.
5. What is Diode? Explain its characteristics.
6. Briefly explain the operation of Full wave rectifier.

E-NOTICE

Date - 16/05/2022

PAPER NAME: MICROPROCESSOR & MICROCONTROLLER LAB
PAPER CODE: EC 493

1. Explain the difference between the 8085 microprocessor over 8086 microprocessor.
2. Explain the various flags of 8085 microprocessor.
3. Describe the Bus Interfacing in 8086 microprocessor.
4. Explain Microcontroller. Draw and explain the architecture of 8085 microprocessor.
5. What do you mean by addressing mode? What are the different addressing modes supported by 8086? Explain each of them with suitable examples.
6. What is the significance of ALU unit?

PAPER NAME: NUMERICAL METHODS LAB
PAPER CODE: BS-M(CS)491

1. Write a C program to implement Newton forward interpolation.
2. Write a C program to implement Trapezoidal rule where f(x) = (1 / (1 + x * x)).
3. Write a C program to implement Gauss Elimination.
4. Write a C program to implement Gauss Seidel method.

PAPER NAME: SOFT SKILL DEVELOPMENT LAB
PAPER CODE: HS-HU481

1. What is Communication? Write down the model and purpose of communication.
2. What are the 7c's and 4s' of Communication.
3. What are the 4 basic roles of Business Communication?
4. What are the barriers of Business Communication?
5. Is the title of R. K. Narayan's story An Astrologer's Day significant?
6. What are the modes of communication?
7. Write an enquiry letter asking about a bunch of laptops you want to buy for you cyber cafe.
8. Write an email to your Principle requesting 7days leave from your college.
9. What did you understand after reading Palanquin Bearers?
10. Write down 3 types of Business Communication.

B.TECH-6TH SEM-CSE-THEORY

PAPER NAME: DATABASE MANAGEMENT SYSTEMS
PAPER CODE : PCC-CS601

1. Compare DBMS and early file systems bringing out the major advantages of the database approach.
2. Explain different types of user friendly interfaces and types of user who typically use each.
3. Summarize the steps involved in converting the ER constructs to corresponding relational tables.
4. Write SQL syntax for the following with example: (i) SELECT (ii) ALTER (iii) UPDATE
5. What is Dynamic SQL? Explain how it is different from Embedded SQL .

PAPER NAME: COMPUTER NETWORKS
PAPER CODE: PCC-CS 602

1. What are the OSI service primitives for connection oriented service?
2. Differentiate between normal and asynchronous balanced modes of operations in HDLC.
3. What are the reasons for using Layered Architecture in Computer Networks? Define the terms protocol and interface.
4. Write notes on IEEE 802.5 standard.
5. Write short note on RIP.

E-NOTICE

Date - 16/05/2022

PAPER NAME: DISTRIBUTED SYSTEM
PAPER CODE: PEC-IT 601B

1. Describe any two external data representation methods.
2. Explain the working of RPC with neat diagram.
3. Explain two independent aspects of creating a new process.
4. State the importance of safety and liveness in global state predicates.
5. Compare logical clocks and vector clocks.

PAPER NAME: PARALLEL AND DISTRIBUTED ALGORITHMS
PAPER CODE: PEC-IT602A

1. Explain Data Flow computers with example.
2. What is the basic task of scheduler? Define i) Latency, ii) Initiation Rate, iii) Stage Utilization and iv) Forbidden Latency.
3. What are the different models ofe middleware?
4. What are the issues in designing a distributed system?
5. Explain the following three different classes of hazards:
   i)Control Hazards ii)Resource Hazards iii)Operand Hazards

PAPER NAME: NUMERICAL METHODS
PAPER CODE: OEC-IT601A

1) Compute f(2.8) from the following table

X	0	1	2	3
f (x)	1	2	11	34

2) Calculate by Trapezoidal's 1/3 rule the value of $\int_{1.2}^{1.6}\left(x+\frac{1}{x}\right)dx$ correct up to two significant figures, taking four intervals.

3) Construct the diagonal difference table of given data.

X	0	1	2	3	4	5
f (x)	12	15	20	27	39	52

Hence write down the values of $\Delta f(1), \Delta^2 f(3), \Delta^3 f(2), \Delta^4 f(0)$

4) Solve the system of equations, by Gauss – elimination method

$$2x_1 + 3x_2 + x_3 = 9$$
$$x_1 + 2x_2 + 3x_3 = 6$$
$$3x_1 + x_2 + 2x_3 = 8$$

5) Solve the system of linear equations by Gauss-Seidel method:

$$x + y + 4z = 9$$
$$8x - 3y + 2z = -4$$
$$4x + 11y - z = 33$$

6) Write down the Newton's backward Interpolation Formula.

7) Discuss the Bisection method for finding a root.

B.TECH-6TH SEM-CSE-PRACTICAL
PAPER NAME: DATA MANAGEMENT SYSTEM LAB
PAPER CODE: PCC-CS691

1. With a neat diagram, explain the Three Schema Architecture.
2. Draw an ER Diagram for University Database by considering.
3. UPDATE Statement in SQL with an explain.

4. Check whether given schedule is serializable or not using precedence graph. Explain with algorithm. S1:R1(X) R2(Z) R1(Z) R3(X) R3(Y) W1(X) W3(Y) R2(Y) W2(Z) W2(Y)
5. Explain Basic time stamping algorithm.

PAPER NAME: COMPUTER NETWORKS LAB
PAPER CODE: PCC-CS 692

1. Draw and explain the frame format for Ethernet.
2. Describe the ISO/OSI layered architecture with the help of a neat diagram.
3. Describe the format of IPv4 datagram with the help of a diagram, highlighting the significance of each field.
4. Explain the three different phases in a TCP transmission with the help of diagrams.
5. Draw and explain the datagram format for IPv6.

B.TECH-6TH SEM - EE & EEE- THEORY

PAPER NAME: POWER SYSTEM-II
PAPER CODE: PC-EE/EEE601

1. How do you select the pickup value of a relay?
2. Discus about SF6 circuit breaker.
3. What is Per Unit System describe with example.
4. Explain with a neat diagram the application of Merz-price circulating current principle for the protection of alternator.
5. What is Transmission line protection ?
6. What is relay? Discus about fundamental requirements of protective relay.

PAPER NAME: MICROPROCESSOR & MICROCONTROLLER
PAPER CODE: PC-EE/EEE 602

1. What are the fundamental difference between the Microprocessor and Microcontroller?
2. Explain the various Register of 8085 Microprocessor.
3. Briefly Explain about Microcontroller.
4. Draw and explain the architecture of 8085 Microprocessor.
5. What do you mean by addressing mode of Microprocessor? Explain each of them with suitable examples.
6. What is the significance of ALU unit?

PAPER NAME: ELECTRICAL MACHINE DESIGN
PAPER CODE: PE-EE 601C (FOR EE)

1. Why single phase induction motor does not have the starting torque?
2. Derive the emf equation for an alternator.
3. Explain clearly the meaning of a) distribution factor and b) coil span factor. Give expression for them.
4. Write short notes on shaded-pole motor.
5. Describe the speed torque characteristics of IM.
6. Explain the double revolving field theory for IM.
7. What is synchronous condenser? Explain its operation and utility with phasor diagram.

PAPER NAME: ELECTRICAL MACHINE DESIGN
PAPER CODE: PE-EEE 601B (FOR EEE)

1. Why single phase induction motor does not have the starting torque?
2. Derive the emf equation for an alternator.
3. Explain clearly the meaning of a) distribution factor and b) coil span factor. Give expression for them.
4. Write short notes on shaded-pole motor.
5. Describe the speed torque characteristics of IM.
6. Explain the double revolving field theory for IM.

7. What is synchronous condenser? Explain its operation and utility with phasor diagram.

PAPER NAME: INDUSTRIAL ELECTRICAL SYSTEMS
PAPER CODE: PE-EE/EEE 602C

1. Write down something about types of residential and commercial wiring systems.
2. Discuss on PCC, MCC panels.
3. Write short notes on MCB, MCCB, ELCB.
4. Describe the distribution board and protection devices of electrical system.
5. Briefly discuss on Role of PLC based in automation.
6. Write advantages of process automation.

PAPER NAME: DIGITAL SIGNAL PROCESSING
PAPER CODE: OE-EE601A (FOR EE)

1. Derive a PLA programmed table for the combinational circuit that a square a 3 bit number
2. Why VLSI design flow is often called as cycle? Explain.
3. Explain the differences between current DFT and FFT.
4. What is ASIC? Give its classification. Draw the VTC curve of a simple CMOS inverter circuit and clearly define the different operating regions of NMOS and PMOS?
5. What is FFT? Explain briefly.
6. What is DFT? Explain briefly.

PAPER NAME: DATABASE MANAGEMENT SYSTEM
PAPER CODE: OE-EEE601B (FOR EEE)

1. Draw and explain 3-tier Architecture and technology relevant to each tier. Write the advantages of 3- tier architecture.
2. Explain 1NF,2NF,3NF with example.
3. Explain insertion, deletion and modification anomalies. Why are they considered bad? Illustrate with example.
4. Write the algorithm to find the minimal cover for a sets of FD's Consider R={A,B,C,D,E,F} .FD's {A->C,AC->D,E->AD,E->H} Find the irreducible cover for this set of FD's(minimal cover)
5. Check whether given schedule is serializable or not using precedence graph. Explain with algorithm. S1:R1(X) R2(Z) R1(Z) R3(X) R3(Y) W1(X) W3(Y) R2(Y) W2(Z) W2(Y)

PAPER NAME: ECONOMICS FOR ENGINEER
PAPER CODE: HM 601(EE/EEE)

1. Describe the various concepts of engineering economics and analyze its efficiency.
2. Explain the concept and scope of engineering economics.
3. Differentiate law of supply and demand
4. Explain in detail about flow in an economy. ?
5. Discuss the concept of factors in fluency demand.

B.TECH-6TH SEM - EE & EEE- PRACTICAL

PAPER NAME: MICROPROCESSOR & MICROCONTROLLER LAB
PAPER CODE: PC-EE/EEE 692

1. Explain the various flags of 8085 Microprocessor.
2. What are the different addressing modes supported by 8086?
3. Describe the Different Interfacing in 8086 Microprocessor.
4. What is the significance of MMU unit? Briefly Explain it.
5. What are the Fundamentals features of a Microprocessor?
6. Explain different Practical applications of Microprocessor.

E-NOTICE

Date - 16/05/2022

PAPER NAME: POWER SYSTEM-II LAB

PAPER CODE: PC-EE/EEE 691

1. Study of the characteristics of on load time delay relay and off load time delay relay.
2. Test to find out polarity, ratio and magnetization characteristics of CT and PT.
3. Test to find out characteristics of under voltage relay and earth fault relay.
4. Study on DC load flow.
5. Study on AC load flow using Gauss-seidel method.
6. Study on AC load flow using Newton Raphson method.

PAPER NAME: ELECTRICAL & ELECTRONICS SYSTEM DESIGN LAB

PAPER CODE: PC-EE/EEE-681

1. Design and validation of an electronic choke for a fluorescent tube.
2. Designing an iron core (with air gap) inductor with specified operating dc current and minimum inductance.
3. Design and validation of the electronic commutation system for a permanent magnet fractional hp motor.
4. Designing the power distribution system for a small township.

B.TECH-6TH SEM-AEIE -THEORY

PAPER NAME: PROCESS CONTROL

PAPER CODE : PC-EI 601

1. What are the differences between retentive and non-retentive timer PLC?
2. How can we calibrate a positioner?
3. Discuss analytically the problem for the proportional controller in a first order process.
4. Why is derivative control not used alone?
5. Draw the block diagram of a basic process control loop and describe the function of each block in brief.

PAPER NAME: BIO MEDICAL INSTRUMENTATION

PAPER CODE : PC-EI 602

1. Explain the principle of operation of a paramagnetic oxygen analyzer with a neat sketch.
2. Explain the construction details of one of them.
3. List the types of electrodes used for pH measurement.
4. Describe a method of measuring dissolved oxygen content in the boiler feed water?
5. Explain the use of thermal conductivity gauge for the analysis of flue gas.
6. Describe the construction details and working of a dust monitor.

PAPER NAME: ARTIFICIAL INTELLIGENCE

PAPER CODE : OE-EI 602

1. Define Decision Tree. Describe common decision pruning algorithm.
2. Convert the following English statements to statements in first order logic:

a) Every boy or girl is a child

b) Every child gets a doll or a train or a lump of coal

c) No boy gets any doll
d) No child who is good gets any lump of coal
e) Jack is a boy.

PAPER NAME: DIGITIAL SIGNAL PROCESSING
PAPER CODE : OE-EI 603

1. Explain the differences between current DFT and FFT.
2. Why VLSI design flow is often called as cycle? Explain.
3. a) What do you mean by CMOS Transmission Gates:
   i) 2 input AND gate
   ii) 2 input OR gate
4. What is ASIC? Give its classification. Draw the VTC curve of a simple CMOS inverter circuit and clearly define the different operating regions of NMOS and PMOS?
5. What is FFT? Explain briefly.

6. What is DFT? Derive a PLA programmed table for the combinational circuit that a square a 3 bit number

PAPER NAME: ECONOMICS FOR ENGINEER
PAPER CODE : HM-HU 601

1. Describe the various concepts of engineering economics and analyze its efficiency.
2. Explain the concept and scope of engineering economics.
3. Differentiate law of supply and demand
4. Explain in detail about flow in an economy. ?
5. Discuss the concept of factors in fluency demand.

PAPER NAME: INDIAN CONSTITUTION AND CULTURE
PAPER CODE : MC-ES601

1.Describe the Fundamental rights of Indian Citizen mention in our Constitution.

2. Write down the role and power of Governor of any state.

3. Describe the organization of Supreme court.

4. What is Habeas Corpus? What is the importance of Directive Principle Of State Policy?

5. Describe about the Jurisdiction and power of the High Court.

B.TECH-6TH SEM-AEIE -PRACTICAL
PAPER NAME: INSTRUMENTATION SYSTEM DESIGN LAB
PAPER CODE : PC-EI692

1. Describe the construction details and working principle of UV-Analyzer.
2. Explain various Instrumentation techniques in details.
3. Explain the construction details & working principle of solar-cell & LED.
4. Briefly explain the operations of reference Electrode for pH measurement?
5. Explain the working principle of measurement Sensors.
6. Describe the working of an analyzer that can be used to estimate the content of nitrogen oxide in a gas.

PAPER NAME: PROCESS CONTROL LAB
PAPER CODE : PC-EI691

1. Study of step response for first and second order system with unity feedback with display on CRT screen and calculation of parameters for different system designs.
2. Simulation of impulse response for types 0, 1 and 2 with unity feedback using MATLAB and PSPICE.
3. Determination of root-locus, Bode plot, Nyquist plot using MATLAB toolbox for a given second order transfer function and listing of the specifications.

PAPER NAME: ARTIFICIAL INTELLIGENCE LAB

PAPER CODE : OE-EI692

1. Prove of Admissibility and Completeness of A*.
2. What are the Rules of Inference? Define resolution refutation.
3. Compare the depth-first search and breadth-first search algorithms by writing out their advantage and disadvantages.

B.TECH-6TH SEM-CE-THEORY

PAPER NAME: CONSTRUCTION ENGINEERING & MANAGEMENT
PAPER CODE: CE(PC)-601

1. Write down the definition of aspect, prospect, roominess, grouping, circulation, privacy.
2. Write down the regulation & by laws in respect of side spaces,back & front spaces,height of building.
3. Write a short note on CPM & PERT.
4. What are the basic construction methods for steel structure.
5. Write down the types of contract.
6. What are the rights & responsibilities of an engineer.

PAPER NAME: ENGINEERING ECONOMICS, ESTIMATING & COSTING
PAPER CODE: CE(PC)-602

1. Write down the theory of firm & market structure.
2. Write down the basic microeconomic concept .
3. Write a short note on NVP,ROI & IRR.
4. What are the basic construction methods for steel structure.
5. Write a short note on bar bending schedule.
6. Write down how to prepare a tender document.

PAPER NAME: WATER RESOURCES ENGINEERING
PAPER CODE : CE(PC)603

1. Discuss about necessiety of irrigation.
2. Discuss about hydroscopic water and saturation capacity .
3. Define about terms Aquifer, confined Aquifer, Aquicludes, Aquifuges.
4. Define terms berm, canal bank,hydraulic gradient, free board.
5. Describe with a neat sketch the working of a float type rain gauge.
6. What are the open wells? Explain with a sketch constant level pumping test
7. explain mass curve analysis, explain with sketches.
8. Enumerate the systems of flood forecasting.
9. Write a short note on decry's law of measuring velocity of ground water.
10. What is the necessity of temperature control is gravity dam?
11. Discuss about field capacity and permanent wilting point.

PAPER NAME: DESIGN OF STEEL STRUCTURE
PAPER CODE : CE(PC)604

1. Design a built up column 15m long to carry factored axial load of 1180KN.the column is restrained in position but not in direction at both the ends. Provide single lacing system with bolted connections. Assume steel of grade fe410 and bolts of grade4.6.design the column with two channels placed back to back.

2. Design a single angle discontinuous strut to carry a factored axial compressive load of 65KN.the length of strut is 3m between intersections. It is connected to 12mm thick gusset plate by 20mm diameter 4.6 grade bolts. Use steel of grade Fe410.

3. How shear value, bearing value and tearing value related to riveted connection is calculated?

4. Define slenderness ratio. State its values as per is 800.

5. What is batten and lacing? Draw a figure for each.

6. Define ductility factor and shear lag factor of tension members.

PAPER NAME: FOUNDATION ENGINEERING
PAPER CODE : CE(PE) 601B

1. What is foundation? Name the different type of shallow and deep foundation.

2.Discuss about the different type of shallow foundation with neat sketch.

3. Discuss about alluvial soil,aeolin soil and colluvial soil.

4. Define the following- total unit weight ,water content, dry unit weight, saturated unit weight ,unit weight of solids, submerged unit weight, mass specific gravity, total unit weight, saturated unit weight.

5. Explain the various types of soil classification. What is group index classification? State its formula. Where it is used?

6. A sample of clay soil has a water content of 40% at full saturation. Its shrinkage limit is 15%, Assuming G=2.70, Determine the degree of shrinkage S_r, Comment on the nature of soil?

7. Define and explain Darcy's law and constant head permeability test?

PAPER NAME: STRUCTURAL ANALYSIS-II
PAPER CODE : CE(PE) 602B

1. Differentiate determinate and indeterminate of structure.

2. A beam ABC, 10m long, fixed at ends A and B is continuous over joint B and is loaded as shown in Fig. Using the slope deflection method, compute the end moments and plot the bending moment diagram. Also, sketch the deflected shape of the beam. The beam has constant EI for both the spans.

3. Analysis the two span continuous beam shown in figure by slope deflection method and draw bending moment , shear force diagram and elastic curve.

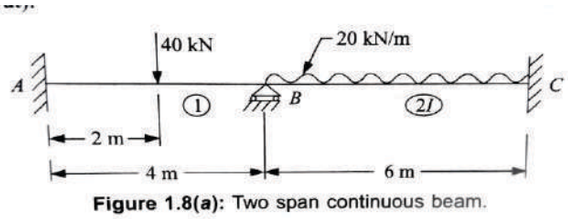


Figure 1.8(a): Two span continuous beam.

4. Write down the difference between stiffness and flexibility matrix approaches.

5. What is carryover moment, carryover factor?

6. What is stiffness and distribution factor

PAPER NAME: SOFT SKILL AND INTERPERSONAL COMMUNICATION
PAPER CODE : CE(OE)601A

11. What is Communication? Write down the model and purpose of communication.
12. What are the 7c's and 4s' of Communication.
13. What are the 4 basic roles of Business Communication?

14. What are the barriers of Business Communication?
15. Is the title of R. K. Narayan's story An Astrologer's Day significant?
16. What are the modes of communication?
17. Write an enquiry letter asking about a bunch of laptops you want to buy for you cyber cafe.
18. Write an email to your Principle requesting 7days leave from your college.
19. What did you understand after reading Palanquin Bearers?
20. Write down 3 types of Business Communication.

B.TECH-6TH SEM-CE-PRACTICAL

PAPER NAME: WATER RESOURCES ENGINEERING LAB
PAPER CODE: CE(PC)-693

1. Discuss about Run off and Catchment area.
2. Discuss about thiessen polygon method and isohyetal method.
3. Discuss about different type of raingauges

PAPER NAME: STEEL STRUCTURAL DESIGN LAB
PAPER CODE : CE(PC)694

1. Design different components of an industrial building.
2. How to calculate shear force and bending moment on rolled and build up girder.
3. What is the difference between plate girder and gantry girder?

PAPER NAME: QUANTITY SURVEY ESTIATION & VALUATION LAB
PAPER CODE : CE(PC)695

1. Write down the details of measurement and calculation of cost.
2. Prepare a quantity estimate of a single storied building .
3. Write a short note on types of estimate.

B.TECH-6TH SEM-ME-THEORY

PAPER NAME:-MANUFACTURING TECHNOLOGY
PAPER CODE : PC-ME601

1. What are the difference between jig and fixture.
2. Write the name various types of jig and explane any one of them.
3. What is interpolation in NC system? Explain different types of interpolation..
4. Mention the purpose of miscellaneous functions in part programming. Write any 2 M codes with their application.
5. Write the name different types of locator. Explane any two of them.
6. With neat sketches explain the prinicipal methods used to produce metallic powders in powder metallurgy.
7. What is rapid prototyping . What types of model used in rapid prototyping.
8. What is FMS . Describe about FMS.
9. Describe about GT.

PAPER NAME: DESIGN OF MACHINE ELEMENT
PAPER CODE : PC-ME602

1. Define Stress Concentration. State the Method By which we reduce the effect of Stress concentration. What are the General Considerations in Machine Design. State the Classification of machine Design in Brief.
2. A cotter joint is required to resist an axial load of 60 KN. Design the joint completely. Assume σ_t = 80MPa, τ= 50MPa, σ_{cr}= 150MPa. Distinguish between cotter joint and knuckle joint.
3. What is a lever? Explain the principle on which it works? State the applications of hand and foot levers. Discuss the procedure for designing the hand and foot levers.

4. Design and make a neat dimensioned sketch of a muff coupling which is used to connect two steel shafts transmitting 40KW at 350 rpm. The material for the shafts and key is plain carbon steel for which allowable shear crushing stresses may be taken as 40 MPa and 80 MPa respectively. The material for muff is cast iron for which the allowable shear stress may be assumed as 15 MPa. State the Purpose of Shaft Coupling.
5. A 15 KW , 960 rpm motor has a mild steel shaft of 40 mm diameter and the extension being 75 mm . The permissible shear and crushing stresses for the mild steel key are 56 MPa and 112 MPa. Design the keyway in the motor shaft extension. Check the shear strength of the key against the normal strength of the shaft. Explain the term 'Effect of keyways'
6. Define Ergonomics, also state its advantage. State the functions Estimating Department.
7. Explain the process of general costing method any components

PAPER NAME: INTERNAL COMBUSTION ENGINE AND GAS TURBINE
PAPER CODE: PE-ME601A

i. Explain briefly Otto cycle with the help of p-v and T-S diagram, and derive an expression for ideal efficiency of Otto cycle.
ii. Explain briefly Diesel cycle with the help of p-v and T-S diagram, and derive an expression for ideal efficiency of Diesel cycle.
iii. In an Otto cycle, the temperature at the beginning and end of the isentropic compression is 316 K and 596 K respectively. Determine the air standard efficiency and the compression ratio.
iv. What is the difference between gas turbine and IC engine.
v. What is the difference between closed gas turbine and open gas turbine.
vi. Write down the fuel characteristic of SI and CI engine.
vii. What is difference between SI engine and CI engine?

PAPER NAME: TURBO MACHINERY
PAPER CODE: PE-ME 602C

1. The velocity of water at the outlet of a conical draft tube attached to a Francis turbine is 1.6 m/s. The velocity of water at the inlet of the draft tube, which is 5m above the tail race level, is 5.5m/s. If the loss of head due to friction in the draft tube is 40% of the velocity head at outlet of the tube, find the the pressure head at inlet to the draft tube.

2. A hydro Turbine is required to give 25 MW at 45m head and 90 rpm runner speed. The laboratory facilities available, permit testing of 20 KW model at 5m head. What should be the model runner speed & model to prototype scale ratio.

3. A Pelton wheel has a mean bucket speed of 10m/s with a jet of water flowing at the rate of 800 l/s under a head of 35m. The bucket deflects the jet through an angle of 160^0.Calculate the power given by water to the runner & hydraulic efficiency. Assume co-efficient of velocity as 0.98

4. For isentropic flow through the nozzle derives the relation
$$dA/A = [M^2 - 1] dV/V$$
5. A radial flow hydraulic turbine is required to be designed to produce 25 MW under a head of 16m at a speed of 90 rpm. A geometrically similar model with an output of 30KW & a head of 5m is to be tested under dynamically similar conditions. At what speed must the model run? What is the required runner diameter ratio between the model & prototype & what is the discharge through the model,if its efficiency is 90%

6. What is an air vessel? Describe the function of the air vessel for reciprocating pump.What is cavitation? How it can be minimized?

7. A centrifugal pump is to discharge 0.215 m^3/s at a speed of 1500 rpm against a head of 30m. The impeller diameter is 300mm,its width at outlet is 50mm, & manometric efficiency is 75 %. Determine the vane angle at the outer periphery of the impeller.

8. Define & explain hydraulic efficiency, mechanical efficiency & overall efficiency of a turbine.

9. Explain the specific speed of turbine. Draw the performance characteristic curve of Pelton turbine, Francis turbine, Kaplan turbine

PAPER NAME : HUMANITIES-II (OPERATION RESEARCH)
PAPER CODE : HM-HU 601

1 .a) Use two-phase simplex method to solve the following LPP problem

Minimize $z = x_1 + x_2$

Subject to $2x_1 + x_2 \geq 4$

$x_1 + 7x_2 \geq 7$

$x_1, x_2 \geq 0.$

b Difference between PART AND CPM

c) Use BIG-M method to solve the following L.P.P

Mimize $Z=5x_1+3x_2$

Subject to $2x_1+4x_2\leq 12$

$2x_1+2x_2=10$

$5x_1+2x_2\geq 10$

$x_1, x_2 \geq 0$

d) A super market has two single girls at the sales counter. If the service time for each customer is exponential with a mean of 4 mins. and if the people arrive in a Poisson fashion at the rate of 10 an hours, then calculate the (i) probability that a customer has to wait for beginning served?(ii) expected percentage of idle time for each sales girl?

e) A businessman has two independent portfolios A, B available to him, but the lacks the capital undertake both of them simultaneously. He can either choose A first and then stop, or if A is not successful, then take B or vice-versa. The probability of success of A is 0.6, while for B it is 0.4. Both investment schemes

required an initial capital outlay of Rs 10,000 and both returned nothing if the venture proves to be unsuccessful. Successful completion of A will return Rs 20,000 (over cost) and successful completion of B will return Rs 24,000 (over cost). Draw a decision tree in order to determine the best strategy.

f) Write down the queuing model for {(M/M/1) : (∞/FCFS)}.

PAPER NAME : CONSTITUTION OF INDIA
PAPER CODE : MC 601

1) What are the Objectives of Indian Constitution
2) What are the fundamental rights according to Indian Constitution?
3) Explain in brief about the salient features of Indian Constitutions?
4) Write down the Gandhian and liberal intellectual rights and duties of Indian Constitution?
5) Write down the eligibility criteria for becoming a Prime Minister?

B.TECH-6TH SEM-ME-PRACTICAL

PAPER NAME: MECHANICAL ENGINEERING LABORATORY II (DESIGN)
PAPER CODE: PC-ME691

1. To study the impact testing machine and perform the izod impact tests.

2. Why impact test is required for material testing? What is notch sensivity?
3 .To study the fatigue testing machine and perform rotating beam fatigue test.
4. What is fatigue life? Write short note endurance limit.
5. To study the impact testing machine and perform the charpy impact tests.
6. . What is impact energy? Write use of impact properties?

B.TECH-6TH SEM-ECE-THEORY

PAPER NAME: CONTROL SYSTEM & INSTRUMENTATION
PAPER CODE: EC 601

(1) Draw the block diagram of MIMO systems.
(2) What Is Time Invariant System?
(3) Write short on phase pole analysis of non-linear system.
(4) Define Lyapunov function.
(5) State the properties of state transition matrix?
(6) Write short notes Dead zone type non–linearity and its effect on stability of a system.

PAPER NAME: COMPUTER NETWORK
PAPER CODE: EC 602

1. Write down the differences between OSI and TCP/IP model.
2. Write the functions of the followings:
   i)Router
   ii)Repeater
3. Briefly explain CSMA/CD
4. Write down the difference between TCP and UDP.
5. Name the flow control mechanism of transport layer protocol. Explain leaky –bucket protocol

PAPER NAME: INFORMATION THEORY & CODING
PAPER CODE: PE-EC603D

1) What are Hamming Codes? Describe the concepts of Hamming Codes.
2) Define Coset and Coset Leaders.
3) Describe shortly the concepts of error correcting capability and error detecting capability of a code, with examples.
4) Discuss algebraic properties of cyclic code.
5) Describe Generator Polynomial of Cyclic Code.
6) Explain Block coding & convolutional coding.

PAPER NAME: OBJECTED ORIENTED PROGRAMMING
PAPER CODE: OE-EC604C

1. What is the difference between an Inner class and a Sub class?
2. What are the various access specifies for java classes?
3. What are literals in java? What is the difference between java and c++ in respect of language functions?
4. What is parametric and non –parametric constructor? Explain both with a suitable program.
5. What is string buffer class? Explain with a suitable program

PAPER NAME: ECONOMICS FOR ENGINEERS
PAPER CODE: HS-HU601

1. Describe the various concepts of engineering economics and analyze its efficiency.

2. Explain the concept and scope of engineering economics.
3. Differentiate law of supply and demand
4. Explain in detail about flow in an economy. ?
5. Discuss the concept of factors in fluency demand.

B.TECH-6TH SEM-ECE-PRACTICAL

PAPER NAME: COMPUTER NETWORK LAB
PAPER CODE: EC 692

1. What are the OSI service primitives for connection oriented service?
2. Differentiate between normal and asynchronous balanced modes of operations in HDLC.
3. What are the reasons for using Layered Architecture in Computer Networks? Define the terms protocol and interface.
4. Write notes on IEEE 802.5 standard.
5. Write short note on RIP.

PAPER NAME: CONTROL SYSTEM AND INSTRUMENTATION LAB
PAPER CODE: EC 691

1. Study of a typical Pressure Control Loop having Pressure source, Pressure Transmitter, Motorized/Pneumatic control valve, and conventional PID controller/Control System.

2. Study of a typical Flow Control Loop having suitable Flow meter, Motorized/ Pneumatic control valve, and conventional PID controller/Control System.

3. Study of a typical Level Control Loop having Level Transmitter, Motorized/ Pneumatic control valve, and conventional PID controller/Control System.

4. Study of a typical Air Duct Flow Monitoring and Control.

5. PLC Programming through PC

.

PAPER NAME: UNIVERSAL HUMAN VALUES
PAPER CODE: MC-681

1. What is the relationship between ethics and the law?
2. Can an action be unethical but not illegal? If so, explain how and give an example
3. Is there a difference between what is legally required, and what is ethically required?
4. What are five unethical behaviors found in the workplace and how do they affect the development of a company?
5. Give an account of the nature, definition and scope of Ethics.
6. Difference between good and bad.

B.TECH-8TH SEM-CSE-THEORY

PAPER NAME: INTERNET OF THINGS
PAPER CODE: PEC-CS 801E

1. Discuss area of development and standardization in Internet of Things.
2. Explain in detail IoT Architecture with neat diagram.
3. Explain in detail HLSA IoT framework.
4. Discuss various components of RFID system.
5. Explain in detail clustering principal in Internet of Things.

PAPER NAME: BIG DATA ANALYTICS
PAPER CODE: OEC-CS801A

1. List the different NoSQL data stores. Explain any two with diagram.
2. Write steps of Girvan-Newman Algorithm. Explain clustering of Social-Network Graphs using GN algorithm with example.
3. Explain Flajolet Martin Algorithm with example.
4. Distinguish the following:
   i) DBMS and DSMS ii) PCY, Multistage and Multihash
5. Define Hub and Authority, Compuse Hubs and Authority scores for web.

PAPER NAME: E-COMMERCE & ERP
PAPER CODE: OEC-CS 802A

1. Describe briefly the basic components of EDI .
2. What role does it play in e-commerce? Explain.
3. Explain EDIFACT.
4. Define ERP. How can information be integrated using ERP.
5. What are the reasons for the growth of ERP market? Advantages of BRC system.

B.TECH-8TH SEM-CE-THEORY
PAPER NAME: PROFESSIONAL PRACTICE, LAW & ETHICS
PAPER CODE: CE-(HS) 801

1. What is the relationship between ethics and the law?
2. Can an action be unethical but not illegal? If so, explain how and give an example.
3. Is there a difference between what is legally required, and what is ethically required?
4. Discuss the relationship between professional responsibility and loyalty to company?
5. Explain the meaning of accountability.
6. What are values? Explain how values have degenerated.
7. Explain the meaning of moral leader ship.
8. Discuss the aim of engineering ethics.
9. Discuss the need to focus on professional ethics.
10. Write a short note on industrial standards.
11. Write about ‘employee rights’.

PAPER NAME: DEEP FOUDATION
PAPER CODE: CE-OE 801C

1. Write a short note on Dynamic and static formula on pile.
2. How to determine penetration test on pile foundation?
3. Write a short note on negative skin friction on pile.
4. Describe types of drilled pier?
5. Write down the various types of Well foundation.

PAPER NAME: EARTHQUAKE ENGINEERING
PAPER CODE: CE-OE 802B

1. What is an earthquake?

2. What is damping?
3. Explain the various types of damping.
4. Explain how the intensity and magnitude of an earthquake are measured.
5. Briefly explain the plate tectonic theory of an earthquake occurrence.

PAPER NAME: PAVEMENT MATERIALS AND DESIGN
PAPER CODE: CE-PE 801D

1. What are the stresses acting in concrete pavements?
2. Draw a typical cross section of highway in embankment.
3. How to determine Plate Load test.
4. What is the difference between rigid pavement and flexible pavement?
5. Describes properties of Bitumen Binders.

B.TECH-8TH SEM-EE/EEE-THEORY

PAPER NAME: UTILIZATION OF ELECTRIC POWER
PAPER CODE: PC-EE-801 (FOR EE)

(1) Explain the different methods of Induction Heating. Give some application of Induction Heating.
(2) Discus the suitability of Three Phase Induction Motor for Traction.
(3) What do you mean by electric heating? Classify the different types of electric heating methods and discus them with proper diagram.
(4) What do you mean by resistance welding? Discuss the principle of resistance welding. State the advantages of resistance welding.
(5) Discuss about various types of Tariffs.

PAPER NAME: ADVANCE ELECTRIC DRIVES
PAPER CODE: PE-EE 801C (FOR EE)

1. Discuss 1-phase fully controlled rectifier control of D.C. separately excited motor drive.
2. Write short notes : - a) Load equalization b) Tractive effort for train movement
3. What are the different advantages of an electrical drive? Also discuss how to write the drive specifications.
4. Discuss in details the multi quadrant operation of an electrical drive.
5. Explain the Voltage Source Inverter fed Synchronous motor drive.
6. Explain the Stepper motor drive and Switched Reluctance motor drive.

PAPER NAME: SENSORS & TRANSDUCERS
PAPER CODE: OE-EE/EEE 801D (EE & EEE)

1. Write a short note on: Industrial Relay system.
2. State the difference between measurement and instrumentation?
3. Describe different components of sensor system?
4. What are the fundamental features of various wireless sensor Networks?
5. Explain working principle with neat diagram of a Transducer.
6. What are the characteristics of smart-cities? What is the importance of sensor nodes?

E-NOTICE

Date - 16/05/2022

PAPER NAME: UTILIZATION OF ELECTRIC POWER
PAPER CODE: OE-EEE 801A (FOR EEE)

(1) Explain the different methods of Induction Heating. Give some application of Induction Heating.
(2) Discus the suitability of Three Phase Induction Motor for Traction.
(3) What do you mean by electric heating? Classify the different types of electric heating methods and discus them with proper diagram.
(4) What do you mean by resistance welding? Discuss the principle of resistance welding. State the advantages of resistance welding.
(5) Discuss about various types of Tariffs.

PAPER NAME: DIGITIAL SIGNAL PROCESSING
PAPER CODE: PC-EEE 801

1. Explain the differences between current FT and LT.

2. Derive a PLA programmed table for the combinational circuit that a square a 3 bit number & Explain.

3. What do you mean by CMOS Transmission Gates:

   i) 2 input AND gate
   ii) 2 input OR gate

4. Draw the VTC curve of a simple CMOS inverter circuit and clearly define the different operating regions of NMOS and PMOS?

5. Briefly Explain about Fast-Fourier-Transformation with suitable diagram?

6. Why VLSI design flow is often called as cycle? Briefly narrate this.

B.TECH-8TH SEM-EEE-PRACTICAL
PAPER NAME: DIGITIAL SIGNAL PROCESSING LAB
PAPER CODE: PC-EEE-891

1. Explain basic element of a digital signal processing system.
2. Compare the advantages of digital signal processing over analog signal Processing.
3. State and explain discrete time signals.
4. Discuss discrete time system.
5. Discuss Z-transform & its application to LTI system.
6. Determine frequency domain sampling and reconstruction of discrete Time signals.

B.TECH-8TH SEM-ME-THOERY
PAPER NAME: POWER PLANT ENGINEERING
PAPER CODE: PC-ME 801B

1. A) Explain the different types of draught applied in power plant. Why artificial draught is preffered in power plant.
   B) How the fan or blower in forced draught differently installed as compared to induced draught system & why? State three advantages of mechanical draught.
2. A) Define boiler efficiency. When is boiler efficiency termed as overall efficiency of the boiler plant?
   B) A boiler generates 9 kg of steam per kg of coal burnt at a pressure of 12 bar, from feed Having temperature of 80^0c. The efficiency of boiler is 85%, factor of evaporation is 1.25,& Specific heat of steam at constant pressure is 3.3KJ/KgK.Calculate:
   i) Degree of superheat & temperature of steam generated
   ii) Calorific value of coal in kj/kgk

iii) Equivalent evaporation in kg of steam per kg of coal

3. A) What is circulation ratio? Mention the range of circulation ratio. Derive relationship ratio between CR & TDF.
   B)A chimney of height42m.is used for producing a draught of 25mm.of water. The temperatures of ambient air & flue gases are 290^0c respectively.The coal burnt in combustion chamber contains 85% carbon, 3% moisture & remaining ash.Neglecting losses & assuming the values of burnt products euquivalent to the volume of air supplied & complete combustionof fuel. Find the percentage of excess air supplied.
4. A) Derive an expression for the maximum blade efficiency in a single stage impulse turbine.
   B) In a single stage impulse turbine,the mean dia of the blade ring is 1m & the rotational speed Is 3500r.p.m. The steam is ejected from the nozzle at 250m/s & the nozzle angle is30^0.The Blades are equiangular. If the friction loss in the blade is 19%of the kinetic energy corresponding To the relative velocity at the inlet to the blades,what is the power developed when the axial Thrust is on the blade is 90N.
   A)Define speed ratio, blade velocity coefficient, blade efficiency & stage efficiency in connection With steam.
   B) The following data refer to a particular stage of a parson's reaction turbine:
   Speed of the turbine =2500r.p.m.;Mean dia of the rotor is 1.5m;
   Stage efficiency = 85%; Blade outlet angle =25^0; Speed ratio=0.8.
   Determine the available isentropic enthalpy drop in the stage.

PAPER NAME: PROCESS PLANNING AND COST ESTIMATION
PAPER CODE: PE-ME 802H

1. What are roles of suppliers and customer in JIT system
2. What are steps for ISO 9000 registration .
3. Describe the five step road map for implementing six-sigma.
4. What are requirement for planning preventive maintenance?
5. Write short note on (a) Total Productive maintenance (b) breakdown maintenance.
6. How the standard time of maintenance is calculated. Define motion study .state the different charts which are used for motion study.
7. 7How work measurement is done?.
8. Write a short note on Gantt chart and Line balancing. What do you mean by dispatching ? Describe the importance of follow up section .

PAPER NAME: ENERGY CONSERVATION AND MANAGEMENT
PAPER CODE : OE-ME 801E

1. Write a short Note on primary and Secondary sources of energy with essential example.
2. Draw typical model of Energy Action Play in India
3. What is life Cycle Costing? What is the formula and why we require life cycle costing?
4. What is the significance of an energy policy?
5. What are the base line data that an audit team should collect while conducting detailed energy audit?
6. Write down the steps involved in 'Energy management Strategy and also state the Procedure for creating the energy audit report
7. Write a short notes on (1) Methods of Improving the of Power factor (2) Heat Wheels
8. Write a Short Notes (a) Waste heat Exchanger (b) Heat Pipe (C) Industrials Insulation

PAPER NAME: INDUSTRIAL POLLUTION AND CONTROL
PAPER CODE: OE-ME 802D

i. What is Water Pollution? Drive the Sources Of Water Pollution.
ii. Write down the Effects of Water Pollution.
iii. What is air pollution? Where does air pollution come from?
iv. What effect does air pollution have on food, crops, forests and biodiversity?
v. What is the role of air quality monitoring in air quality management?
vi. What is noise pollution? Write down types of noise pollution in details.
vii. Write down Effects of Noise Pollution on Human Health.
viii. Write down Prevention of Noise Pollution

B.TECH-8TH SEM-AEIE –THOERY
PAPER NAME: POWER PLANT INSTRUMENTATION
PAPER CODE: PE-EI 801

1. Explain the working of a gas turbine power plant with a schematic diagram.
2. What are the different types of solar plate collector? Discuss in details.
3. Explain the principal of operation of wind power plant. Also discuss its advantages and disadvantages .
4. What are the different working fluids in binary cycle geothermal power plants?
5. Layout and working principle of a Gas turbine power plant.
6. Describe the Nuclear power plant with layout diagram.

PAPER NAME: BIG DATA ANALYSIS
PAPER CODE: OE-EI 802

1. List the different NoSQL data stores. Explain any two with diagram.
2. Write steps of Girvan-Newman Algorithm. Explain clustering of Social-Network Graphs using GN algorithm with example.
3. Explain Flajolet Martin Algorithm with example.
4. Distinguish the following:
   i) DBMS and DSMS ii) PCY, Multistage and Multihash
5. Define Hub and Authority, Compuse Hubs and Authority scores for web.

PAPER NAME: PROJECT MANAGEMENT & ENTREPRENEURSHIP
PAPER CODE: HM-HU 801

1. Define the term Entrepreneur , explain the attributes of a successful entrepreneur?
2. Illustrate the role of entrepreneurship in the Indian Economy.
3. Write an essay on the role played by DIC & SISI for the development of entrepreneurship?
4. What do you mean by term business idea, explain the Government procedure involved in it?
5. Explain the role of Central Government & State Government in promoting Entrepreneurship in India?
6. Explain the prospects of women entrepreneurship in India?
7. Why do entrepreneurs fail in their venture, according to Peter Drucker?

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