B.TECH. (ME & CIVIL) – 1ˢᵗ SEMESTER EXAMINATION; DECEMBER.-2017
(SUBJECT- INDUSTRIAL CHMISTRY ; PAPER CODE- 13030105/13010105)

Time : 03:00 Hours   Maximum Marks – 75

Instruction :
1. Write your Roll No. on the question paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaints in this regard. if any. should be reported to the invigilator on duty in the examination hall within 15 minutes of the commencement of the exams. No complaints shall be entertained thereafter.
3. Attempt five (05) questions in all Q.No.1. is compulsory. Students are required to attempt four questions selecting one from each unit in addition to Q.No.1. Marks are indicated against each
4. Draw diagram whenever required.

Q1 . Write Short Notes on   (3x5=15)
    a) What is a adiabatic procees?
    b) What are synthetic rubbers?
    c) What is alkaline hardness?
    d) What is Pilling-Bedworth rule?
    e) What is the law of mass action?

UNIT- I

Q2 . a) Derive the intedrated form of Claissius –Clayperson equation.   (11)
    b) What are limitation of thermodynamics.   (4)

OR

Q3 . a) Draw & explain the Zn-Mg Phase diagramme with the help of a well labeled Diagramme.   (12)
    b) Explain the Characteristics of eutectic point.   (3)

UNIT- II

Q4 . a) Explain the method of determination of alkalinity of water in detail.   (11)
    b) With the help of reactions show how scale & sludge is formed.   (4)

OR

Q5 . a) Explain The cationic & anionic ion-exchange process in detail.   (8)
    b) Explain Break point chlorination with the help of diagramme.   (7)

UNIT- III

Q6 . a) What is wet corrosion or electrochemical theory of corrosion?   (7)
    b) Write short note on followings   (2x4=8)
       i. Microbial corrosion
      ii. Electroplating
     iii. Liquid metal corrosion
     iv. Proper designing

OR

Q7 . a) Derive a relation for rate constant of IIIrd. Order reaction.   (10)
    b) Explain collision theory of reaction rates.   (5)

UNIT- IV

Q8 . a) What is the effect of structure on the properties of polymer. (8)

b) Write method of preparation of silicones and their applications. (7)

OR

Q9 . a) What is transport number and how the mobilities of ion is determined? (9)

b) What are fuel cells, explain. (6)

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B.TECH.(CE/CSE/ME) – 1ˢᵗ SEMESTER EXAMINATION; DECEMBER.-2017
(SUBJECT- INDRODUCTION COMPUTER HARDWARE AND SOFTWARE)
(PAPER CODE- 13010104/13020104/1303104/1304104)

Time : 03:00 Hours   Maximum Marks – 75

Instruction :
1. Write your Roll No. on the question paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaints in this regard, if any, should be reported to the invigilator on duty in the examination hall within 15 minutes of the commencement of the exams. No complaints shall be entertained thereafter.
3. Attempt five (05) questions in all Q.No.1. is compulsory. Students are required to attempt four questions selecting one question from each unit in addition to Q.No.1. Marks are indicated against each.
4. Draw diagram whenever required.

Q1 . Write a short note on: (2x5=10)
   a) Difference between RAM & ROM
   b) Computer networks
   c) What is local variable and global variable?
   d) What are keywords?
   e) How structure differ from an array?
   f) What is Data Type?
   g) Explain storage classes
   h) What is header file?
   i) How pointer variable declared and initialized?
   j) Explain storage classes.

UNIT- I

Q2 . a) Explain in detail Input/Output devices used in computer system.   (10)
   b) i) Convert the binary number 11011 to hexadecimal.   (5)
   ii) Convert the binary number 11001 to decimal.

OR

Q3 . What is computer system? Explain all the functional components of computer system in detail.   (15)

UNIT- II

Q4 . a) What is computer network? Explain various types of networks with diagrams in detail.   (10)
   b) Write a program in 'C' to find the factorial of a given number using do-while loop.   (5)

OR

Q5 . a) What do you mean by network topology? Explain various network topologies in detail. (8)
   b) Explain while and do-while loop with syntax and example.   (7)

P.T.O

UNIT- III

Q6. a) Write a program in 'C' to find the nature & roots of a quadratic equation using function calling method.

b) Differentiate between structure and union. Explain with example how members of structure and union are accessed and processed. (7)

(8)

OR

Q7. a) Write a short note on the following (8)
  i. Array of structure
  ii. Structure within structure

b) Write a program that generated the first n terms of Fibonacci sequence by recursion. (7)

UNIT- IV

Q8. a) Write a program to count the number of characters, words and lines in the text entered by the uses.

b) Write a program to swap two numbers using call by reference method.

OR

Q9. a) Explain the following by giving suitable example. (8)
  i. Array of pointers
  ii. Functions returning pointers

b) Write a program to string using pre-defined string library function.

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B. TECH. (ECE, CSE) – 1ST SEMESTER EXAMINATION; DECEMBER - 2017
|SUB: - ELECTRICAL TECHNOLOGHY; PAPER CODE: 13020105, 13040105|

Time: 3 Hrs.   Max. Marks: 50

Instructions:-
1. Write your Roll No. on the Question paper.
2. Candidates should ensure that they have been provided correct question paper. Complaints in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. Attempt Five (5) Questions in all, Question No. 1 is compulsory. Students are required to attempt four (4) questions selecting one question from each unit in addition to Q. No. 1. Marks are indicated against each question.
4. Draw diagram wherever required.

Q1. Explain the following: (10)

(a) Explain nodal analysis.

(b) Define power factor. What are the causes of low power factor?

(c) Define slip in 3-phase induction motor.

(d) Write a short note on commutator in Dc machine.

(e) Differentiate between electric magnetic circuits.

UNIT-I

Q2. Calculate the current through the galvanometer in the following bridge.   (10)
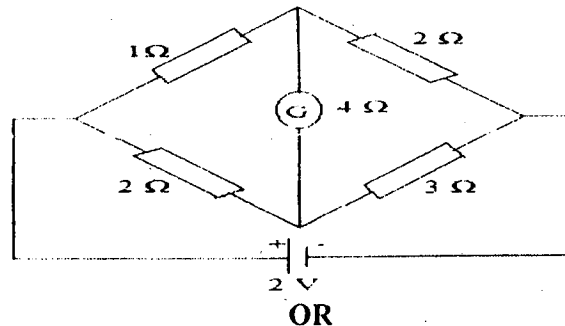
OR

State and explain superposition theorem. Explain application to electric circuit.

UNIT-II

Q3. How 3-phase power can be measured by two wattmeter method, Explain?   (10)

OR

Drive the response of R-L-C parallel circuit to sinusoidal input. Also drive the condition of resonance.

UNIT-III

Q4. Describe & explain following term in detail.   (10)
   (a) Wattmeter
   (b) Ammeter
   (c) Voltmeter and Energy meter.

OR

An 8-pole wave connected dc generator has 900 armature conductors and flux per pole of 0.04Wb. At what speed it must be driven to generate 500 V?

UNIT-IV

Q5. Explain the working principle, construction and application of dc machines.   (10)

OR

Describe the operation of a 3-phase induction motor. Explain with a suitable circuit diagram.

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B.TECH.(CSE/ECE) – 3rd SEMESTER EXAMINATIONS; DECEMBER - 2017
(SUB:- DISCRETE MATHEMATICS; PAPER CODE:-13020308/03040309)

TIME: 03:00 Hrs.   **Max Marks:50**

Instructions:-
1. Write your Roll No. on the Question Paper.
2. Candidates should ensure that they have been provided with correct question paper. Complaints in this regard, if any should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. Attempt **five (05)** questions in all, **Q1.** is compulsory. Students are required to attempt **(04)** questions, selecting **(01)** question from each unit in addition to Q.1. Marks are indicated against each question.
4. Draw the diagram wherever required.

Q.1. Solve the following:-   (4x2.5=10)
  a) Show that for any two sets A and B, A – (A∩B) = A – B.
  b) What is Reflective, Symmetric and Transitive Relation? Explain with example.
  c) Construct Truth table for ⌐Q ∧ (P→Q) => ⌐P.
  d) Let the functions f and g be defined by f(x)= 2x+1 and g(x)=x^2+1. Find (gof)(x) and (fog)(x).

UNIT-I

Q.2. a) If there are 7 men and 5 woman. How many circular arrangements are possible in which women do not sit adjacent to each other?   (5)
  b) Determine whether the Sequence {a$_n$} us a solution of the recurrence relation.
  a$_n$ = a$_{n-1}$ + 2a$_{n-2}$ + 2n-9 if an = -n+2.   (5)

OR

Q.3. A class has 175 Students. Numbers of students studying in one or more subjects are Mathematics 100, Physics 70, Chemistry 46, Mathematics and Physics 30, Mathematics and Chemistry 28. Find   (10)
  a) How many students are enrolled in Mathematics alone?
  b) How many students are enrolled in Physics alone?
  c) How many students are enrolled in Chemistry alone?
  d) How many students who have not offered any of these courses?

UNIT-II

Q.4. a) Define elementary properties of Ring with example.   (5)
  b) Solve the Boolean function using K-Map and draw its digital circuit after solution.
  F = a'b'c'd' + a'b'cd' + a'bc'd + a'bcd.   (5)

OR

Q.5. a) If for each a and b in a Group G, (ab)^2 = a^{2}b^2, show that G is abelian.   (5)
  b) What is Bipartite Graph? Show that C6 is a Bipartite Graph.   (5)

UNIT-III

Q.6. a) Prove that √5 is Irrational by the method of Contradiction.   (5)
  b) Using K-Map Solve the Boolean Function. F = a'b'c' + abc' + a'b'c +ab'c   (5)

OR

Q.7. a) Reduce to Equivalent DNF Form. [(P ∧ Q) V R] ∧ (P→R)   (5)
  b) Explain with example 1) Isomorphic graph 2) Spanning Tree.   (5)

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B.TECH. (CSE/ECE)– 1ˢᵗ SEMESTER EXAMINATION; DECEMBER.-2017
(SUBJECT- WORKSHOP TECHNOLOGY; PAPER CODE- 13020106/13040106)

Time : 03:00 Hours   Maximum Marks – 50

Instruction :
1. Write your Roll No. on the question paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaints in this regard. if any. should be reported to the invigilator on duty in the examination hall within 15 minutes of the commencement of the exams. No complaints shall be entertained thereafter.
3. Attempt five (05) questions in all Q.No.1. is compulsory. Students are required to attempt four questions selecting one question from each unit in addition to Q.No.1. Marks are indicated against each.
4. Draw diagram whenever required.

Q1. Answer all the following: (2x5=10)
    a) Fixed Position Layout
    b) Brazing Process
    c) Hot working vs Cold working
    d) Shaper vs Planer
    e) List five casting defects

UNIT- I

Q2. What is manufacturing? Classify manufacturing processes. Also explain
automation in manufacturing?   (10)

OR

What do you mean by industrial safety? Discuss common sources of accidents and their
remedy?   (10)

UNIT- II

Q3. What is welding? With neat sketch discuss the spot welding process and its
applications?   (10)

OR

What do you mean by TIG and MIG? With neat sketch discuss the TIG welding
process and its limitations?   (10)

UNIT- III

Q4. With neat sketch explain the working principle and application of extrusion process?
Also mention its limitations   (10)

OR

Define the tool signature of a single point cutting tool? Also discuss the mechanism of
chip formation during machining process.   (10)

UNIT- IV

Q5. Define pattern and pattern allowance? With neat sketch discuss various types of patterns used in mould making. **(10)**

OR

With neat sketch discuss working principle, application and limitations of cupola furnace?

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