B. Tech.(CSE+EEE)- 2nd SEMESTER
ELEMENTS OF MECHANICAL ENGINEERING -13020204/13160204
END TERM THEORY EXAMINATION

Time: 03:00 Hrs   **Max. Marks: 60**

Instructions:
1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Each part is compulsory. Marks are indicated against each question.
4. Draw diagram wherever required.

PART – A (OBJECTIVE TYPE QUESTIONS OMR SHEETS)

Q.1. A heat engine converts heat energy from fuel or any other source into which type of work: **(1)**
a) Electrical work   b) Mechanical work   c) Pressure work   d) None

Q.2. A steam engine comes under the category of : **(1)**
a) External combustion engine   b) internal combustion engine
c) Both a) & b)   d) None

Q.3. Thermal power plants operate on which of these cycle : **(1)**
a) Otto cycle   b) Rankine cycle   c) Carnot cycle   d) Stirling cycle

Q.4. One "Ton of Refrigeration" equals to how much Btu/hr : **(1)**
a) 14500 Btu/hr   b) 12000 Btu/hr   c) 13000 Btu/hr   d) 15000 Btu/hr

Q.5. The process in which no heat transfer takes place through boundaries is called as : **(1)**
a) Isothermal process   b) Adiabatic process
c) Isochoric process   d) None

Q.6. Heat transfer is : **(1)**
a) A point function   b) a path function   c) a transfer function   d) None

Q.7. The dew point temperature is less than the wet bulb temperature for : **(1)**
a) Saturated air   b) Unsaturated air   c) Both   d) None

Q.8. In which stroke , the fuel mixture is burnt in an engine : **(1)**
a) Suction stroke   b) Compression stroke
c) Power stroke   d) Exhaust stroke

Q.9. Pump transfer input mechanical energy of an engine, into.......... of a fluid. **(1)**
a) Pressure energy   b) Kinetic energy   c) Both   d) None

Q.10. Thermal efficiency of S.I. engine is low, due to.... **(1)**
a) Low compression ratio   b) High compression ratio
c) Both   d) None

Q.11. According to Joules law, the internal energy of a perfect gas is the function of absolute... (1)
 a) Density   b) Pressure   c) Temperature   d) Volume

Q.12. An isobaric process, has constant...... (1)
 a) Density   b) Pressure   c) Volume   d) Temperature

Q.13. Which of the following is an extensive property.... (1)
 a) Volume   b) Pressure   c) Viscosity   d) All of these

Q.14. In an isolated system,.......... Can be transferred between the system and its surrounding. (1)
 a) only energy   b) only mass   c) both a & b   d) None

Q.15. Which of the following is not a surface finishing process... (1)
 a) Honing   b) Buffing   c) Lapping   d) Turning

Q.16. Which of the following is a machine shaft...... (1)
 a) Line shaft   b) Counter shaft   c) Crankshaft   d) All of these

Q.17. Machine elements such as bearing are .... type of element. (1)
 a) Holding type   b) Supporting type
 c) Power transmitting type   d) All of these

Q.18. Which of the following is a power transmitting elements. (1)
 a) Nuts and bolts   b) Sprockets and chains
 c) Axles   d) None of these

Q.19. The moisture content line s in psychometric chart are also called as ... (1)
 a) Relative humidity lines   b) Specific humidity lines
 c) Both   d) None

Q.20. The vapour absorption refrigeration system is .... than the vapour compression refrigeration system. (1)
 a) More noisy   b) More silent   c) Equally noisy   d) None

Q.21. What is used for absorbing the moisture in vapour compression refrigeration cycle ... (1)
 a) Wet cloth   b) Dry cloth   c) Silica gel   d) None

Q.22. Which among the following engine is not the type of aircraft gas turbine which works on jet propulsion cycle.... (1)
 a) Turbojet   b) Turbofan   c) Turboprop   d) None

Q.23. The dryness (x) fraction of superheated steam is taken as.... (1)
 a) x=0   b) x=0.9   c) x=0.999   d) x=1

Q.24. Humidification is the process of addition moisture ion air at.. (1)
 a) Constant wet bulb temperature   b) Constant dry bulb temperature
 c) Constant latent heat   d) None

Q.25. In gas cycle refrigeration system, the throttle valve of a vapour compression refrigerant system is replaced by..... (1)
 a) Capillary tube   b) Expander   c) Reverse throttle valve   d) None

Q.26. What is the entropy of the system at equilibrium state.... (1)
 a) Zero   b) Minimum   c) Maximum   d) Constant

Q.27. What is the value of energy in general... (1)
    a) only negative   b) only positive   c) Both   d) None

Q.28. The total amount of energy in the universe is ..... (1)
    a) Increasing   b) Decreasing   c) Constant   d) None

Q.29. Who is the founder of diesel..... (1)
    a) Carl Benz   b) Ambani   c) James watt   d) Rudolph Diesel

Q.30. Who invented the first four stroke IC engine.... (1)
    a) James watt   b) Rudolph Diesel   c) Thomas A Otto   d) TATA

PART – B (DESCRIPTIVE TYPE)

ATTEMPT ANY FOUR QUESTIONS:

Q.1. Explain Work, Heat, temperature, Entropy and Enthalpy. (4)
Q.2. Explain 1st , 2nd and 3rd law of thermodynamics with neat sketch. (4)
Q.3. Define Steam and also explain properties of steam. (4)
Q.4. Draw and explain psychometric chart and its uses. (4)
Q.5. Write a short note on lubrication system . (4)
Q.6. Define clutch and also explain single plate clutch system. (4)

ATTEMPY ANY TWO QUESTIONS:

Q.7. Explain Simple vapour compression refrigeration cycle in detail with neat sketch (7)
Q.8. Explain Four stroke spark ignition engine in detail with neat sketch. (7)
Q.9. Explain working of Pelton, Francis turbine with their neat sketch. (7)

*********ETE MAY 2018*********

B. TECH. (CSE / ECE)- 2nd SEMESTER (RE)
INDUSTRIAL CHEMISTRY – 13020205 / 13040205
END TERM THEORY EXAMINATION

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

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

Q.1. Answer the following Questions.   **(5×2=10)**

     a) Write short notes on i) caustic embrittlement and ii) priming and foaming.

     b) A water sample contains 40.5 mg/L $Ca(HCO_3)_2$, 46.5 mg/L $Mg(HCO_3)_2$, 27.6 mg/L $MgSO_4$, 32.1 mg/L $CaSO_4$ and 22.45 mg/L $CaCl_2$. Calculate the total hardness of water.

     c) For the Daniel cell involving the cell reaction

         $Zn_{(s)} + Cu^{2+}_{(aq)} \leftrightarrow Zn^{2+}_{(aq)} + Cu_{(s)}$

         Standard free energy of formation of $Cu^{2+}_{(aq)}$ and $Zn^{2+}_{(aq)}$ are 15.66 kcal/mol and 35.14 kcal/mol respectively. Calculate $E°$ of the cell.

     d) Distinguish between dry and wet corrosion with examples.

     e) Write the structural unit and two important applications of Bakelite.

UNIT-I

Q.2. Write short notes on: **(10)**

     i) II Law of thermodynamics

     ii) State functions

     iii) Adiabatic process

     iv) Standard enthalpy of formation

     v) C_p and C_v

Q.3. State phase rule and draw a neat diagram of the ice-water-vapour system.   **(4)**
In the phase diagram for water, explain

     i)   Triple point

     ii)   Metastable equilibrium

     iii)   Invariant, univariant and bivariant systems   **(6)**

UNIT-II

Q.4.

     a) Alkalinity of water cannot be due to the simultaneous presence of OH^-, CO_3^{2-} and HCO_3^-. Explain.   **(4)**

     b) A water sample is alkaline to both phenolphthalein and methyl orange. 100 mL of water sample on titration with N/50 HCl required 4.7 mL of acid to phenolphthalein end point. When 4 drops of methyl orange are added to the same solution and titration further continued, the yellow colour of solution just turned red after addition of another 10.5 mL of acid solution. Describe the type and extent of alkalinity present in water sample.   **(6)**

OR

Q.5.
a) Explain the zeolite process for softening water including how zeolites are regenerated along with a neat diagram and chemical equations. **(4)**
b) Explain the ion exchange process for softening water including how ion exchange resins are regenerated. Give the chemical reactions involved and diagrams. **(4)**
c) Give the advantages and disadvantages of the Zeolite process and ion exchange process. **(2)**

UNIT-III

Q.6.
a) Explain 'Differential Oxygen Concentration Cell'. **(4)**
b) Discuss the various factors affecting corrosion. (at least SIX) **(6)**

OR

Q.7.
a) Explain Lindemann theory of unimolecular collisions. **(4)**
b) Derive the rate expression for second order reactions. **(2)**
c) The specific rate constant for the decomposition of formic acid is $5.5 \times 10^{-4}\,sec^{-1}$ at 413 K. Calculate the specific rate constant at 458 K if the energy of activation is 2.37×10^4 cal mol^{-1}. **(4)**

UNIT-IV

Q.8.
a) Distinguish between thermosets and thermoplastics. **(4)**
b) Give the preparation and uses of the following polymers:
   (i) Nylon 6,6   ii) PVC   iii) Urea-formaldehyde resin **(6)**

OR

Q.9.
a) Differentiate between **(4)**
   i) Galvanic cell and electrolytic cell
   ii) E.m.f. and potential of a cell
b) Write short notes on: **(6)**
   i) Electrochemical series
   ii) Reference electrode
   iii) Concentration cells

*************ETE MAY 2018***************

B. TECH (CSE/EEE) – 2ND SEM
INDUSTRIAL CHEMISTRY-13020205/13160205
END TERM THEORY EXAMINATION

Time: 03:00 Hrs   Max. Marks: 60

Instructions:
1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Marks are indicated against each question.
4. Draw diagram wherever required.

PART – A (OBJECTIVE TYPE QUESTIONS OMR SHEETS)

Q.1. Calgon is added to boiler water to prevent   (1)
    a) Foaming   b) Sludge and scale formation
    c) Priming   d) Corrosion

Q.2. Which one of the following is not an example of thermoplastic?   (1)
    a) Polyvinyl chloride   b) Nylon
    c) Polyesters   d) Epoxy

Q.3. Which of the following is not a unit of hardness?   (1)
    a) Parts per million   b) Degree Centigrade
    c) Degree Clarke   d) Degree French

Q.4. What is calgon?   (1)
    a) Potassium hexa meta sulphate   b) Magnesium hexa meta phosphate
    c) Sodium hexa meta phosphate   d) Calcium hexa meta sulphate

Q.5. The chemical formula of zeolite is   (1)
    a) $FeSO_4.7H_2O$ b) $Al_2(SO_4)_3.18\ H_2O$
    c) $Na_2O.Al_2O_3.xSiO_2.yH_2O$ d) Na_2Al_2O

Q.6. Which of the following does not cause hardness in water   (1)
    a) Calcium Chloride   b) Sodium Chloride
    c) Calcium Carbonate   d) Magnesium Carbonate

Q.7. The alkalinity due to bicarbonate ion is 2P when   (1)
    a) $P = M$ b) $P > M/2$ c) $P = M/2$ d) $P < M/2$

Q.8. Select the incorrect statement from the following option.   (1)
    a) Thermosets are formed by condensation polymerisation reactions
    b) Thermosets have 3-D, cross-linked network structure
    c) Thermosets soften on heating and stiffen on cooling
    d) Thermosets are generally insoluble in any solvent

Q.9. Select the incorrect statement from the following options.   (1)
    a) When in form ready for further working, polymers are called resins
    b) The number of monomeric units contained in polymer is called degree of polymerization
    c) The chemical process leading to the formation of polymer is known as polymerisation
    d) Due to their small size, polymers are also called micro-molecules

Q.10. The point at which all the three phases i.e. ice , water and vapors co-exist in equilibrium is known as

a) End Point   b) Triple Point   c) Critical Point   d) None of the Above   (1)

Q.11. Select the incorrect statement from the following option

a) Lubricant keep out dirt
b) Lubricant act as a seal
c) Lubricant transmit fluid power
d) Lubricant enhance corrosion   (1)

Q.12. A system, after passing through different states returns back to its original state, is called

a) Cyclic process
b) Isothermal process
c) Adiabatic process
d) Isobaric process   (1)

Q.13. Which of the following indicator is yellow in alkaline medium?

a) Starch
b) Phenolphthalein
c) Methyl orange
d) Litmus paper   (1)

Q.14. The reaction rate is defined as the rate at which the concentration of the reactants _____ with time or the concentration of products _____ with time.

a) Increase, increase
b) Decrease, decrease
c) Decrease, increase
d) Increase, decrease   (1)

Q.15. The condensation product of phenol and formaldehyde is known as

a) Phenolic resins
b) Urea formaldehyde resins
c) Polyvinyl chloride
d) Polystyrene   (1)

Q.16. Which of the following option is incorrect about the sludges?

a) Sludges are soft, loose and slimy precipitate
b) They are non-adherent deposits and can be easily removed
c) Formed generally at heated portions of the boiler
d) Can be removed by blow down operation   (1)

Q.17. If the characteristic groups (side gps) are arranged in an alternate fashion, it is called

a) Atactic   b) Syndiotactic   c) Isotactic   d) None of the above   (1)

Q.18. Which type of chemical reaction is observed at cathode, in electrochemical corrosion?

a) Reduction reaction
b) Peretectic reaction
c) Oxidation reaction
d) None of the these   (1)

Q.19. If the vapour and liquid of a pure component are in equilibrium, the equilibrium pressure is called

a) Partial pressure
b) Vapour pressure
c) Liquid pressure
d) None of the mentioned   (1)

Q.20. Calculate degree of freedom at triple point of phase diagram of H_2O

a) F=1   b) F=2   c) F=3   d) F=0   (1)

Q.21. Which of the following metal does not resists the corrosion process?

a) Fe   b) Cu   c) Pb   d) Ni   (1)

Q.22. According to Faraday's first law of electrolysis, the amount of any substance deposited at the electrode is directly proportional to the quantity of

a) Voltage drop   b) Resistance   c) Electricity passed   d) Tolerance   (1)

Q.23. 1 Faraday =

a) 1 coulomb   b) 1000 coulomb   c) 5000 coulomb   d) 96500 coulomb   (1)

Q.24. Reaction kinetics deals with the study of (1)
a) Rate of reaction   b) Mechanism of reaction
c) Factors which affects the rate of reaction   d) All of the mentioned

Q.25. Which one of the following is an example of non-electrolyte (1)
a) H_2CO_3 b) Glucose   c) CH_3COOH d) NaCl

Q.26. Which of the following is not a result of excess of impurity in boiler-feed?

(1)

a) Scale and sludge formation   b) Decomposition
c) Corrosion, priming and foaming   d) caustic embrittlement

Q.27. The phenomenon during which the boiler material becomes brittle due to accumulation of caustic substance is known as (1)
a) Foaming   b) Printing   c) Corrosion   d) Caustic embrittlement

Q.28. Small molecules which combine to form polymer are called (1)
a) Resins   b) Plastic   c) Monomers   d) Blocks

Q.29. Chamical equivalent of $CaCO_3$ is (1)
a) 100   b) 50   c) 60   d) 200

Q.30. Basis of reverse osmosis is (1)
a) Hydrostatic pressure is greater than osmotic pressure
b) Osmotic pressure is greater than hydrostatic pressure
c) Osmotic pressure is equal to hydrostatic pressure
d) Osmotic pressure does not exist

PART – B (DESCRIPTIVE TYPE)

Attempt Any Six the following:

Q.1. State and derive the mathematical representation of second law of thermodynamics. (3)
Q.2. Differentiate between storage cells and fuel cells. (3)
Q.3. Describe the mix-bed demineralization method of water treatment. (3)
Q.4. Calculate the total hardness of a water sample containing following salts
$MgSO_4$ = 12 mg, $Ca(HCO_3)_2$ = 11 mg, $MgCl_2$ = 15 mg , NaCl = 13 mg
Q.5. Explain the order and molecularity rate expression of 1nd and 3rd order reactions. (3)
Q.6. Give the synthesis and uses of Bakelite. (3)
Q.7. Explain the Faraday's law of electrolysis. (3)

Attempt any two of the following:

Q. 8. Give the mechanism of dry and wet corrosion by giving suitable examples. (6)
Q.9. Describe the phase diagram of Lead-Silver (Pb-Ag). Calculate degree of freedom at all the curves. (6)
Q.10. Explain the mechanism of addition polymerization by considering a suitable example. (6)

B. Tech (CSE/EEE/ECE) – 2ND SEMESTER
ENGINEERING DRAWING: 13020206/13160206 / 13040206
END TERM THEORY EXAMINATION

Time: 03:00 Hrs   **Max. Marks: 60**

Instructions:
1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Marks are indicated against each question.
4. Draw diagram wherever required.

PART – A (OBJECTIVE TYPE QUESTIONS OMR SHEETS)   (30x1=30)

Q1. A pentagonal prism have _____no. of faces.
   a. 5   b. 6   c. 7   d. 8

Q2. Parallel line development method used for development of _____.
   a. prism   b. cone   c. pyramid   d. sphere

Q3. Which of the following is drawing command_____.
   a . line   b. array   c. mirror   d. trim

Q4. The top view of an object should typically be drawn

   a. to the right of the front view   b. anywhere on the same page
   c. directly below the front view   d. on a separate piece of paper

Q5. An object having 2 dimensions is called as solid.
   a. True   b. False

Q6. The application of development is used in the sheet metal work.
   a. True   b. False.

Q7. Assertion (A): Front view projection of a tetrahedron resting on H.P. is triangle.
   Reason (R): A tetrahedron is a solid bounded by squares.

   (a) Both A and R are individually true and R is the correct explanation of A.
   (b) Both A and R are individually true and R is not the correct explanation of A.
   (c) A is true but R is false.
   (d) A is false but R is true.

Q8. Assertion (A): Chamfer command is a curve at the intersection of two lines.
   Reason (R): Chamfering is done to eliminate sharp edges.

   (a) Both A and R are individually true and R is the correct explanation of A.
   (b) Both A and R are individually true and R is not the correct explanation of A.
   (c) A is true but R is false
   (d) A is false but R is True

Q9. Assertion (A): Oblique projection in which the three axes appear equally foreshortened and the angle between any two of them is 1200.

Reason (R): Oblique projection is representing 3D objects in 2D.

(a) Both A and R are individually true and R is the correct explanation of A.

(b) Both A and R are individually true and R is not the correct explanation of A.

(c) A is true but R is false

(d) A is false but R is true

Q10. Different methods of projection are

i. First angle projection

ii. Second angle projection

iii. Third angle projection

iv. Forth angle projection

a) i, ii, iv   b) i, iii   c) i, iii,iv   d) none of these

Q11. Display commands used in AUTOCAD are

i. PAN

ii. Redraw

iii. Modeling

iv. Generate

a) i, ii, iv   b) i and ii   c) ii nd iii   d) i and iv

Q12. Consider the following view:

1. Front view
2. Top view
3. Side view
4. Sectional view

Which of the above are possible views in projection-

a. 1, 2 and 4   b. 1, 3 and 4   c. 1, 2 and 3   d. All of the above

Q13. Which of the following are the possible projections for plane:

(a) Perpendicular to both the planes

(b) Parallel to both the planes

(c) Perpendicular to one plane and parallel to other plane.

(d) Inclined to both the planes.

a) 1 and 3   b) 1, 2 and 3   c) 1, 3 and 4   d) All of the above.

Q14. Match the items in columns I and II

Column I	Column II
P. Trim	1. Enlarged or reduced dimension in proportion
Q. Chamfer	2. Round corner to avoid sharp edge
R. Fillet	3. Zoom out or zoom in
S. Scaling	4. Angled corner
	5. Fill the surface
	6. Shorten the length

a. P-2, Q-6, R-4, S-3   b. P-6, Q-2, R-4, S-1

c. P-6, Q-2, R-5, S-3   d. P-2, Q-6, R-5, S-1

Q15. Match List-I with List-II and select the correct answer using the codes given below the List:

List-I	List-II
A. 1st Quadrant	1. Front of V.P. above H.P.
B. 2nd Quadrant	2. Front of V.P. below H.P.
C. 3rd Quadrant	3. Behind V.P. below H.P
D. 4th Quadrant	4. Behind V.P. above H.P.

	A B C D		A B C D		A B C D		A B C D
a.	3 1 2 4	b.	1 3 2 4	c.	1 4 3 2	d.	3 1 4 2

Q16. Match List I with List II and select the correct answer using the codes given below the Lists:

List I

A. Parallel line development
B. Triangulation development
C. Approximate development
D. Radial line method

List II

1. Develop transition pieces
2. Prisms and cylinders
3. Sphere, parabola and hyperbola
4. Cones and pyramids

A B C D	A B C D	A B C D	A B C D
a. 3 1 2 4	b. 2 1 3 4	c. 3 4 2 1	d. 2 4 3 1

Q17. When different lines are overlap together , what will be the recommended sequence of priority.
i. Visible lines
ii. Hidden lines
iii. Projection line
iv Centre line
a. iv-ii-i-iii   b. ii-i-iii-iv   c. iii- ii- i- iv   d. i-ii-iv-iii

Q18. In 3 D modelling, What is the sequence for modelling process.
i. Solid modelling
ii. Wireframe modelling
iii. Surface modelling
a. ii-i-iii   b. i-iii-ii   c. iii-i-ii   d. ii-iii-i

Q19. In AutoCAD what is the sequence of processes used to draw the circle if radius is given.
i. Select a center point.
ii. Select the circle tool from the drawing tool bar.
iii. Give value then enter.
a. ii-iii-i   b. i-iii-ii   c. i-ii-iii   d. ii-i-iii

Q20. Arrange the position of observer, object and projection plane for first angle (A) and third angle projection (B).
i. observer-object-projection plane
ii. observer-projection plane-object
a. A-I B-i   b. A-ii B-I   c. A-ii B-ii   d. A-i B-ii

Q21. Arrange the following solids in decreasing order of no. of faces.
i. Hexahedron
ii. Octagonal prism
iii. Hexagonal pyramid
a. i-iii-ii   b. i-ii-iii   c. ii-iii-i   d. ii-i-iii

Q22. Minimum_____ views are required for complete description of the object in orthographic projection.
a. one   b. three   c. two   d. four

Q23. Section lines are generally drawn at _____ to the axis of the section.
a. 45°   b. 65°   c. 35°   d. 50°

Q24. A polygon is a plane figure having more than ___ sides.
a. five   b. three   c. two   d. four

Q25. Which type of line is part of dimension?
a. Break line   b. Cutting plane line
c. Extension line   d. Hidden line

Q26. A Tetrahedron has equal:
    a. Faces
    b. sides
    c. Triangles
    d. None of these

Q27. The position of a straight line may be described with respect to the
    a. One reference planes
    b. Two reference planes
    c. Three reference planes
    d. Four reference planes

Q28. Chamfer command is used to create
    a. parallel edge
    b. beveled edge
    c. Sharp edge
    d. None of these

Q29. Break command is used to erases a portion of
    a. line
    b. circle
    c. arc
    d. All of these

Q30. Array command is a form of
    a. Mirror command
    b. Erase Command
    c. Oops command
    d. Copy command

PART – B (DESCRIPTIVE TYPE)

(6*5=30)

Attempt any 6 questions.

Q.1. Write short notes on
    a) Principal Planes
    b) Reference line
    c) Projection
    d) Front View
    e) Top View
    f) Side View

Q.2. List out the contents of the title bloc. Also prepare title block for use in class room.

Q.3. A straight line AB 50 mm long makes an angle of 30^0 to the H.P. The end A is 12 mm above the H.P. and 15 mm in front of the V.P. Draw the top view and front view of the line AB.

Q.4. Discuss wire frame, Surface frame and Solid Modeling.

Q.5. Draw the projection of a cube of 30 mm edge, when a body diagonal of the solid is kept vertical.

Q.6. Describe any five types of draw commands with suitable diagrams?

Q.7. Differentiate the following:
    a) Move and Array command
    b) Chamfer and Fillet
    c) Absolute and Relative Co-ordinate System
    d) Isometric and Oblique Projection.

Q.8. A right regular pentagonal prism, edge of base 30 mm and height 50 mm, lies on ground plane on one of its slant edges and has its axis parallel to VP. Draw its projections in first angle.

Q.9. Differentiate between first angle projection and third angle projection.

***************ETE MAY 2018*****************

B. Tech (CSE/ECE) 2nd Semester (Reappear Batch 2016)
ENGINEERING DRAWING - 13020206/13040206
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

Max. Marks: 50

Instructions:

1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Parts of a question should be attempted in sequential order. Marks are indicated against each question.
4. Draw diagram wherever required.
5. Question No. 1 is compulsory & Attempt other FOUR Question from each Section

Q.1. Answer the following questions:
  a) Differentiate between copy and move command.
  b) Define orthographic projection.
  c) Explain different types of scales.
  d) Define chamfer.

(2.5X4=10)

SECTION – A

Q.2. Differentiate between 1st angle projection and 2nd angle projection.   (10)

Q.3. A line AB 65 mm in length inclined with horizontal plane, parallel with vertical plane. Draw the projections of line and also find its traces.   (10)

SECTION – B

Q.4. Define solids. Explain all types with proper illustration.   (10)

Q.5. A cube 65 mm long edges is resting on horizontal plane with its vertical faces equally inclined to the vertical plane. Draw the projections.   (10)

SECTION – C

Q.6. Explain development of surfaces with its significance and all types.   (10)

Q.7. A plane ABCD 25 mm side resting on horizontal plane and 45^0 inclined to the vertical plane. Draw the projection and traces.

(10)

SECTION – D

Q.8. Explain: (a) wire frame modeling (b) Surface modeling (c) Solid Modelling   (10)

Q.9. Define atleast five drawing commands, display command and editing commands.   (10)

*************ETE MAY JUNE 2018***************

B. Tech (CSE/ECE) 2nd Semester (Reappear Batch 2015)
ENGINEERING DRAWING - 13020206/13040206
END TERM THEORY EXAMINATION

Time: 03:00 Hrs   Max. Marks: 75

Instructions:
1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Parts of a question should be attempted in sequential order. Marks are indicated against each question.
4. Draw diagram wherever required.
5. Question No. 1 is compulsory & Attempt other FOUR Question from each Section

Q.1. Answer the following questions: (5X3=15)
   a) Differentiate between copy and move command.
   b) Define orthographic projection.
   c) Explain different types of scales.
   d) Define chamfer.
   e) List the main functions of a CAD system.

SECTION – A

Q.2. Differentiate between 1st angle projection and 2nd angle projection.   (15)
Q.3. A line AB 65 mm in length inclined with horizontal plane, parallel with vertical plane. Draw the projections of line and also find its traces.   (15)

SECTION – B

Q.4. Define solids. Explain all types with proper illustration.   (15)
Q.5. A cube 65 mm long edges is resting on horizontal plane with its vertical faces equally inclined to the vertical plane. Draw the projections.   (15)

SECTION – C

Q.6. Explain development of surfaces with its significance and all types.   (15)
Q.7. A plane ABCD 25 mm side resting on horizontal plane and 45^0 inclined to the vertical plane. Draw the projection and traces.

(15)

SECTION – D

Q.8. Explain: (a) wire frame modeling (b) Surface modeling (c) Solid Modelling   (15)
Q.9. Define atleast five drawing commands, display command and editing commands.   (15)

*************ETE MAY JUNE 2018***************

Roll No. _____

B. Tech (CSE+EEE) 2ND SEMESTER
SUB NAME & CODE: ELECTRIAL TECHNOLOGY- 13020215/13160214
END TERM THEORY EXAMINATION

Time: 03:00 Hrs   Max. Marks: 60

Instructions:

1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Parts of a question should be attempted in sequential order. Marks are indicated against each question.
4. Draw diagram wherever required.

PART – A (OBJECTIVE TYPE QUESTIONS OMR SHEETS)   (30 X 1= 30)

Q.1.   Which of the following is an active element of a circuit?
    a) Resistance   b) inductance   c) capacitance   d) ideal current source

Q.2.   The current in an RLC series circuit at resonance is-
    a) Maximum   b) minimum   c) zero   d) infinity

Q.3.   The EMF induced in the secondary winding depends upon-
    a) Number of turns   b) flux   c) supply frequency   d) All of these

Q.4.   Alternator generates-
    a) DC   b) AC   c) DC and AC both   d) pulsating DC

Q.5.   Power factor of a circuit is given by-
    a) cosΦ b) sinΦ c) tanΦ d) cotΦ

Q.6.   Which of the following is the condition for electrical resonance for an R-L-C circuit-
    a) $X_L > X_C$ b) $X_C = X_L$ c) $X_C > X_L$ d) $X_C . X_L = 1$

Q.7.   A 3-phase, 50 Hz, 8-pole squirrel cage induction motor will run at speed-
    a) < 750 rpm   b) =750 rpm   c) >750 rpm   d) 1500 rpm

Q.8.   Voltage equation for DC motor is-
    a) $V = E_b + I_a R_a$ b) $V = E_b - I_a R_a$ c) $V = I_a R_a$ d) $V = 0.5 I_a R_a$

Q.9.   Which of the following material has the lowest resistivity-
    a) copper   b) aluminum   c) iron   d) lead

Q.10.   The meter used for measuring electrical energy is called-
    a) wattmeter   b) kwh meter   c) multimeter   d) voltmeter

Q.11.   What is the maximum speed of a 50 Hz alternator?
    a) 1000 rpm   b) 2000 rpm   c) 4000 rpm   d) 3000 rpm

Q.12. Which of the following is the formula of Q-factor?

a) R/X_L b) X_L/R c) $X_L *R$ d) X_L/R^2

Q.13. The resonant frequency is given by-

a) $f_r=1/2\pi\sqrt{LC}$ b) $f_r=1/2\pi LC$ c) $f_r=1/2\pi L\sqrt{C}$ d) $f_r=1/2\pi C\sqrt{L}$

Q.14. In a three phase system voltages are separated by-

a) 45^0 b) 90^0 c) 120^0 d) 180^0

Q.15. If the value of C in a series RLC circuit is decreased, the resonant frequency-

a) is not affected   b) increases   c) is reduced to zero   d) decreases

Q.16. A transformer-

a) changes AC to DC   b) changes DC to AC

c) steps up or down DC voltage   d) steps up or down AC voltage

Q.17. The value of power factor for purely resistive circuit is-

a) unity   b) infinity   c) zero (lagging)   d) zero (leading)

Q.18. What will be the number of poles of a 50 Hz alternator if it runs at its greatest speed?

a) one   b) three   c) four   d) two

Q.19. Power dissipated in pure capacitor is-

a) Minimum   b) maximum   c) infinite   d) zero

Q.20. Which parameter is increased by step up transformer?

a) current   b) resistance   c) voltage   d) frequency

Q.21. A series motor at no load develops-

a) zero speed   b) average speed   c) rated speed   d) infinite speed

Q.22. In a three phase system when loads are perfectly balanced, the neutral current is:

a) zero   b) one-third of maximum

c) two-third of maximum   d) at maximum

Q.23. What is the normal efficiency of a transformer?

a) 90%   b) 97%   c) 92%   d) 100%

Q.24. Short circuit test on transformer is conducted to determine-

a) Hysteresis loss   b) Eddy current loss   c) iron loss   d) copper loss

Q.25. With the decrease in temperature, the resistance of copper-

a) Increases   b) decreases   c) becomes zero   d) remains constant

Q.26. In a purely inductive circuit, current lags behind the supply voltage by-

a) 120^0 b) 90^0 c) 45^0 d) 30^0

Q.27. Which of the following is true in case of Ohm's law?

a) $\frac{I}{R}=V$ b) $\frac{V}{I}=R$ c) $\frac{R}{I}=V$ d) $\frac{I}{V}=R$

Q.28. Which of the following formula is for power?

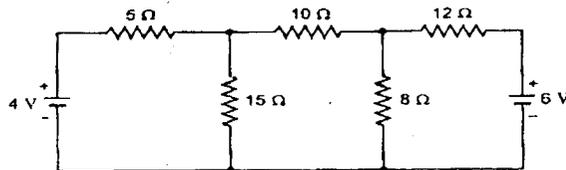a) $P=V/I$ b) $P=I^2/R$ c) $P=VR$ d) $P=I^2R$

Q.29. The power factor for purely capacitive circuit is-
    a) Zero (leading)   **b)** zero (lagging)   **c)** unity   **d)** none of these

Q.30. The value of $10\mu F$ is-\
    a) 10^{-6} F   **b)** 10^{-4} F   **c)** 10^{-7} F   **d)** 10^{-5} F

PART – B (DESCRIPTIVE TYPE)

Short answer type questions (Attempt any *five*)

(5x4=20)

Q.1. Determine the value of current in 8Ω resistor of the network shown below, using mesh current method-

Q.2. A 4 Ω resistor is connected to a 10mH inductor across a 100V, 50 Hz voltage source. Find input current, voltage drop across resistor, power factor of the circuit and real power consumed in the circuit.

Q.3. What is transformer? Explain its operating principle.

Q.4. Explain the different types of DC motors.

Q.5. A balanced 3-phase star-connected load of 18kW taking a leading current of 60 amperes when connected across a 3-phase 440V, 50 Hz supply. Find the values and nature of the load.

Q.6. State Thevenin's theorem with example.

Long answer type questions (attempt any *one*)

(1 x 10=10 marks)

Q.7. Explain Two Wattmeter Method of power measurement in star-connected and delta connected system.

Q.8. Explain wave diagram and phasor diagram to illustrate the relation between V and I in case of (i) R-L series circuit and (ii) R-C series circuit