Hall Ticket Number :										

R-17

Code: 7G513

I B.Tech. I Semester Supplementary Examinations December 2020

Basic Engineering Drawing

(Computer Science and Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Bisect a given arc of radius 50mm

   b) Bisect a given angle AOB = 75^0 and angle AOB = 135^0

OR

2. Construct an ellipse, when the distance of the focus from the directrix is equal to 65mm and Eccentricity is 2/3. Also draw tangent and normal to the curve at a point 40mm from the directrix

UNIT–II

3. A line PQ, 50mm long is perpendicular to H.P. and 15mm in front of V.P. The end P, nearer to H.P is 20mm above it. Draw the projections of a line

OR

4. A line PQ, 50mm long is perpendicular to V.P and 15mm above H.P. The end P, nearer to V.P. is 20mm infront of it. Draw the projections of a line

UNIT–III

5. A triangular plane of side 30mm is perpendicular to H.P. and parallel to V.P. The plane is 15mm infront of V.P. Draw its projections when a side is i) Perpendicular to the H.P. ii) Parallel to H.P. iii) Inclined to H.P. at angle of 30^0

OR

6. A hexagonal plate of side 30mm is placed with a side on VP and surface inclined at 45^0 to VP and perpendicular to HP. Draw the projections

UNIT–IV

7. A cube of 40mm side, is resting with a face on HP such that when one of its vertical faces is inclined at 30^0 at VP. Draw its projections

OR

8. A square prism of side 30mm and axis length 60mm long is resting on H.P. on its base. Draw its projections

UNIT–V

9. Draw the isometric projection of a pentagon plane of side length 25mm when the plane is Vertical

OR

10. Draw the isometric projection of a hexagonal plane of side length 30mm when the plane is Horizontal

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Hall Ticket Number :										

R-17

Code: 7GC12

I B.Tech. I Semester Supplementary Examinations December 2020

Engineering Chemistry

(Common to CE, ME & CSE)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Explain the process of a phosphate, carbonate and sodium aluminate conditioning of boiler feed water 7M

   b) Give detailed procedure for the determination of dissolved oxygen in water. 7M

OR

2. a) Write short notes on
   i) Scale and sludge
   ii) Caustic embrittlement 7M

   b) Discuss in brief the boiler corrosion. How is it controlled? 7M

UNIT–II

3. a) What is the principle underlying conductometric titration? Discuss the titration curve obtained for a titration between HCl and NaOH. 7M

   b) Explain the construction and working of H_2-O_2 fuel cell with neat sketch and chemical reactions 7M

OR

4. a) On what factors does the conductance of a solution depend? How would you proceed to determine the conductivity of a solution? 7M

   b) Explain passivity of metals. How it affects rate of corrosion 7M

UNIT–III

5. a) What is vulcanization of rubber? Explain why natural rubber needs vulcanization. How is it carried out? 7M

   b) Write a note on the classification of polymers with examples 7M

OR

6. Write a note on processing of raw rubber? Explain the draw backs of raw rubbers. 14M

UNIT–IV

7. a) Explain various steps involved in refining of petroleum 7M

   b) Describe how synthetic petrol is synthesized from Bergius process 7M

OR

8. a) Describe the Production and uses of water gas and Biogas. 7M

   b) What is knocking? Describe how we can minimize knocking? 7M

UNIT–V

9. a) What is cement? How do you classify the cement? 7M

   b) How are lubricants classified? Give examples 7M

OR

10. Explain the measurement and significance of the following properties of lubricant
    (i) Viscosity (ii) Aniline point (iii) Neutralization Number 14M

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Hall Ticket Number :										

R-17

Code: 7G111

I B.Tech. I Semester Supplementary Examinations December 2020

Problem Solving Techniques and C Programming

(Common to All Branches)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Give the block diagram of a computer. Explain functionality of each component.

   b) Write an algorithm to calculate the roots of a quadratic equation.

OR

2. Explain in detail about the software development method with suitable example.

UNIT–II

3. a) What is the need of explicit type conversion in C? How to cast the data?

   b) What is an integer constant, floating constant and character constant? Give valid examples.

OR

4. a) Describe the structure of a C program with example

   b) What are bitwise logical operators? Explain about bitwise logical operators with suitable programming example.

UNIT–III

5. a) How does a switch statement works? List the difference between switch and if else ladder statement.

   b) Write a program to demonstrate ‘goto’ statement.

OR

6. a) Write ‘C’ program to print the Fibonacci sequence.

   b) Explain the significance of ‘break’ and ‘continue’ statement with a sample program.

UNIT–IV

7. Write a C program to perform the operation of addition of two matrices.

OR

8. What are the different types of arrays in C? Explain with a suitable example, array declaration, initialization and accessing of the elements for these different types.

UNIT–V

9. What is the scope of variables of type extern, auto, register and static? Explain with example.

OR

10. What is a function? What are its advantages? Explain various parameter passing techniques.

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