Code No: 2506/CBCS/BL

FACULTY OF ENGINEERING

BE I-Semester (CBCS) (Backlog) Examination, Oct/Nov 2020

Subject: Engineering Chemistry-I

Time: 2 Hours **Max.Marks:70**

PART –A

Note : Answer any Five Questions **(5x2 = 10 Marks)**

1. Define thermodynamic term 'work' with its importance.
2. Give differences between extensive and intensive properties with examples.
3. Define number of components of a system with examples.
4. What are safety fuses? Give examples.
5. How will you show that mg/L is also a ppm.
6. Give the significance of break point chlorination.
7. Differentiate addition polymer from condensation polymer.
8. Give the structures of monomers of Butyl rubber.
9. What is the signifincance of saponification value?
10. Give requirements of a good refractory material?

PART-B

Note : Answer any Four Questions **(4 x 15 = 60 Marks)**

11. a) Give limitations of first law of thermodynamics.
    b) Derive the expression for the efficiency of a Carnot engine.

12. a) Discuss the phase diagram of one component system.
    b) Define degree of freedom and calculate degree of freedom for one component three phase system.

13. a) Give the principle for the determination of alkalinity and expressions for individual alkalinities in water.
    b) 100 ml of sample of water consumed 20ml of 0.01M HCl upto phenolphthalein end point The same 100ml sample water consumed 60 ml of 0.01M HCl upto methyl orange end point. Calculate the type of alkalinity and extent of alkalinity in ppm as $CaCO_3$ equivalents.

14. a) Discuss the chemistry of vulcanisation of rubber and uses of vulcanised rubber.
    b) Give the preparation, properties and uses of 1) PVC 2) Kevlar

15. a) Give classification of lubricants with examples and applications.
    b) Explain the following with significance 1) viscosity index 2) Glazing method

16. a) Explain the sterilization of water along with specifications of potable water.
    b) Discuss the boiler trouble due to scale and sludge and treatment methods to avoid it

17. a) Discuss the phase diagram of Pb-Ag system with its significance.
    b) Compare the isothermal process with adiabatic Process deriving reversible and irreversible work expressions.

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Code No. 2005/BL

FACULTY OF ENGINEERING

B.E. I-Year(Backlog) Examination, Oct / Nov 2020

Subject : Programming in C & C++

Time: 2 Hours **Max.Marks:75**

PART –A

Note : Answer any Seven Questions **(7 x 3 = 21 Marks)**

1 What is a variable? Write rules for writing variable.

2 List and explain relational operators.

3 What are two dimensional arrays?

4 What is #define directive?

5 Write on enumeration data type.

6 Write a new and delete operators.

7 What is the use of try block?

8 What are reference parameters?

9 What are static member functions?

10 What is scope resolution operator?

PART-B

Note : Answer any Three Questions **(3 x 18 = 54 Marks)**

11 (a) Draw an explain block diagram of a computer.
(b) Write an algorithm to find sin(x) value.

12 Explain repetition control structure with examples.

13 (a) Write a program to implement linear search.
(b) Explain call by reference technique with example.

14 (a) How can we pass an array as argument to function? Explain with example.5
(b) Write a program using structure for reading and printing different house addresses containing name, house number, area and city.

15 (a) Write a program for displaying contents of a file in reverse order.
(b) Write a program to overload unary operator.

16 Write a program illustrating multilevel inheritance. Program should also contain constructor and destructor.

17 Write short notes on the following:
(a) Dynamic binding
(b) Function templates
(c) Inline functions

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