

FACULTY OF ENGINEERING
B.E. I – Year (Backlog) Examination, December 2017
Subject : Programming in C & C++

Time : 3 Hours

Max. Marks: 75

Note: Answer all questions from Part-A any five questions from Part-B.

PART – A (25 Marks)

- 1 Find the octal and hexadecimal equivalent of the given decimal numbers
 (i) 25 (ii) 235 2
- 2 Rewrite the following code using switch statement: 3
 if (x >= 0 && x <= 10) K = 5
 else if (x > 10 && x <= 20) K = 12
 else if (x > 20 && x <= 30) K = 16
 else K = 20. 3
- 3 Discuss the scope of a variable with example.
- 4 What is command line argument? 2
- 5 Differentiate structure and unions with example. 3
- 6 How files are accessed randomly? 2
- 7 How it is possible to access the data members in a member function
 when data member and argument to member function are having the
 same name. 3
- 8 What is need for abstract class? Give example. 2
- 9 What is inline function? 2
- 10 Write a function to count the number of objects of a class created. 3

PART-B (50 Marks)

- 11 (a) Draw a flowchart to find the root of a quadratic equation. 5
 (b) Write a program to print all prime numbers less than 100. 5
- 12 (a) Explain different ways of passing arguments to function with example. 5
 (b) Write a program that reads a string of maximum 100 characters from
 the user, then modifies it by removing all the vowels and prints the
 result out. Use only one array of characters. 5
- 13 (a) Write a function to copy the content of one file into another file. 5
 (b) Write a program to read the 'n' employee information and display the
 employee structure should have following fields- employee-id ,name,
 salary. 5

..2..

- 14 (a) Explain operator overloading with example. 5
- (b) Declare a class Date that contains three members namely date, month and year. Write a program that compares two given dates. If the dates are equal then display the message "equal" otherwise display the message "unequal". 5
- 15 (a) Explain the dynamic polymorphism with example. 5
- (b) Describe the different access specifiers used in C++. 5
- 16 (a) Explain the functions of each component of a computer with neat block diagram. 5
- (b) Write a program to find the GCD of two numbers recursively. 5
- 17 Write short notes on: 10
- (a) Enumeration types
- (b) Function Overloading
- (c) Exception handling

FACULTY OF ENGINEERING**B.E I – Semester (Backlog) Examination, December, 2017****Subject : Engineering Chemistry – I****Time : 3 Hours****Max Marks : 70****Note: Answer all questions from Part – A & Any five questions from Part – B.****PART – A (20 MARKS)**

1. What is a state function? Give two examples 2M
2. Define the term Entropy? 1M
3. Differentiate between reversible and irreversible processes? 3M
4. What is meant by a component? Explain with an example 3M
5. Calculate temporary and permanent hardness of a sample of water containing:
Mg (HCO₃)₂ = 29.2 mg/L, MgCl₂ = 9.5 mg/L,
Ca (HCO₃)₂ = 32.4 mg/L, CaSO₄ = 27.2 mg/L. 2M
6. Mention the common units used for expressing hardness of water? 2M
7. Define co-polymer? Give example 1M
8. What the monomers of Nylon-6, 6? 2M
9. Define acid value? 2M
10. What is glazing? 2M

PART-B Marks: (50 Marks)

11. a) Calculate work done by one mole of an ideal gas, when it expands isothermally from a volume of 10L to a volume of 20L at 25°C . 4M
b) Derive Gibbs- Helmholtz equation. Write its two applications? 6M
12. a) Draw a neat labelled phase diagram of water system and explain areas, curves and triple point in it? 6M
b) Discuss the applications of Phase rule to Pb-Ag system? 4M
13. a) Explain Ion- exchange method for softening of water? 4M
b) 100ml of water sample on titration with N/50 HCl requires 8ml of the acid to Phenolphthalein end point and 9ml of the acid to Methyl orange end point. Calculate the type of extent of alkalinity present in the water sample? 6M
14. a) Differentiate between thermo plastics and thermo settings? 4M
b) Write the structure, properties and uses of the following polymers
i) Bakelite ii) Butyl rubber 6M
15. a) Explain the extreme pressure lubrication? 5M
b) Write a short note on whitewares?
16. a) Explain entropy changes in reversible and irreversible isothermal expansion of an ideal gas? 6M
b) What is break point chlorination? Give its significance
17. a) Write the applications of conducting polymers? 4M
b) Write a short note on
i) Refractoriness
ii) Thermal spalling
iii) Porosity 6M
