No. of Printed Pages : **2**

36524

B.Sc. V Semester (CBCS) Degree Examination, March/April - 2022

CHEMISTRY

Paper No. 5.2 . Chemistry - VI

Time : 3 Hours | Maximum Marks : 70

Instructions : *(i)* ***Section - A*** *contains questions from Inorganic, Organic and Physical Chemistry.*

(ii) ***Section - B*** *contains questions from Inorganic.* ***Section - C*** *contains questions from Organic and* ***Section - D*** *contains questions from Physical Chemistry.*

(iii) Answer ***all*** *the four* ***Sections A, B, C*** *and* ***D.***

SECTION - A

Answer **any ten** of the following. **10x1=10**

1. Define random error.
2. Write any two general properties of solvents.
3. Define protic and aprotic solvents.
4. What is artificial radioactivity ?
5. Define thermosetting polymers.
6. What is epimerization ?
7. Write difference between hard and soft soap.
8. Write any one use of Nylon-6,6.
9. Define transport number.
10. State Kohlrausch's law.
11. Define degree of polymerization.
12. Define equivalent conductance.

P.T.O.

SECTION - B

Answer **any two** of the following questions. **2x10=20**

13. (a) What are the types of error ? Explain with suitable example. **6**
    (b) Explain the sampling of solids, liquids and gases with suitable examples. **4**

14. (a) Write chemical reactions of liquid ammonia as a solvent. **6**
    (b) Discuss the chemical reaction in liquid SO_2. **4**

15. (a) Discuss the nuclear shell model. **6**
    (b) Write the difference between Nuclear fission and Nuclear fusion. **4**

SECTION - C

Answer **any two** of the following questions. **2x10=20**

16. (a) Write any three synthetic application of ethyl acetoacetate. **6**
    (b) Explain the saponification and iodine number of oils and fats. **4**

17. (a) Discuss the elucidation of open chain structure of D-Glucose. **6**
    (b) What are syndets ? Explain the cleaning action of soap. **4**

18. (a) Explain with suitable example of Theory of colour and constitution. **6**
    (b) Write the synthesis of teflon. **4**

SECTION - D

Answer **any two** of the following questions. **2x10=20**

19. (a) Explain the Debye-Huckel-Onsagar equation for the strong electrolyte. **6**
    (b) Define cell constant. Explain conductance in metal and electrolytic solution. **4**

20. (a) Describe the conductometric acid-base titration with respect to. **6**
        (i) Strong acid v/s strong base
        (ii) Weak acid v/s weak base
    (b) Explain the variation of equivalent conductance with dilution. **4**

21. (a) Determine the molecular weight of polymers by viscosity methods. **6**
    (b) Write Hittorf's law and experimental determination of transport number for non-attackable electrodes. **4**

- o O o -