No. of Printed Pages : 2

36524

B.Sc. V Semester Degree Examination, March/April - 2023

5.2 : Chemistry - VI

(CBCS)

Time : 3 Hours

Maximum Marks : 70

Note : *(i)* ***Section - A*** *contains Questions from Inorganic, Organic and Physical chemistry.*

(ii) ***Section - B*** *contains Questions from Inorganic chemistry.*

Section - C *contains Questions from Organic chemistry.*

Section - D *contains Questions from Physical chemistry.*

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

SECTION - A

10x1=10

Answer **any ten** of the following :

1. Define Precision.
2. Define absolute error.
3. Write Radioactive displacement law.
4. What is artificial radioactivity ?
5. Write the composition of oil.
6. What is Iodine number ?
7. Give any two uses of Terylene.
8. Define chromophore.
9. State Kohlrausch's law.
10. What is ionic conductance ?
11. Define mass average molecular weight.
12. Define degree of polymerisation.

P.T.O.

SECTION - B

Answer **any two** of the following : **2x10=20**

13. (a) Describe the types of determinate errors. **6**

(b) Write a note on significant figures and computations. **4**

14. (a) Write chemical reactions of liquid ammonia as a solvent. **6**

(b) Write any two chemical reactions in liquid SO_2. **4**

15. (a) Describe nuclear shell model. **6**

(b) Write the differences between Nuclear fission and Nuclear fusion. **4**

SECTION - C

Answer **any two** of the following : **2x10=20**

16. (a) Describe the mechanism of claisen condensation of synthesis of ethyl aceto acetate. **6**

(b) Describe the Killiani-Fischer synthesis of aldoses. **4**

17. (a) Explain the manufacture of soap by Hydrolyzer process. **6**

(b) Write the synthesis and uses of Teflon. **4**

18. (a) Elucidate the open chain structure of D-glucose. **6**

(b) Give the classification of dyes based on structure. **4**

SECTION - D

Answer **any two** of the following : **2x10=20**

19. (a) Describe the conductometric titration of - **6**

(i) Strong acid and strong base

(ii) Weak acid and strong base

(b) Define cell constant. Explain conductance in metal and electrolytic solution. **4**

20. (a) Explain the method of determination of molecular weight of polymer by viscosity method. **6**

(b) The resistance of $\frac{N}{10}$ solution of an electrolyte was found to be 210 ohms at 25°C. **4**

Calculate equivalent conductance of the solution at 25°C. (cell const. = 0.88)

21. (a) Describe the experimental method of determination of transport number by Hittorf's method for non-attackable electrodes. **6**

(b) Explain equivalent conductance and molar conductance with their units. **4**

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