K20U 1270

Reg. No. : ....

Name : ....

III Semester B.Sc. Degree (CBCSS – Sup./Imp.) Examination, November 2020
(2014 – '18 Admns.)
COMPLEMENTARY COURSE IN CHEMISTRY
3C03CHE (BS) : Chemistry (For Biological Sciences)

Time : 3 Hours

Max. Marks : 32

SECTION – A

Answer **all** questions. **Each** question carries **1** mark.

1. What is meant by effective atomic number ?

2. What are meso compounds ?

3. What are closed systems ?

4. Name the monomers of nylon 6.

5. What are the functional groups present in carboxylic acid and amide.　　(5×1=5)

SECTION – B

Answer **any four** questions. **Each** question carries **2** marks.

6. Draw the conformations of ethane. Which is more stable ? Why ? .

7. Explain the term electromeric effect.

8. Give two examples each for ortho-para directing and meta directing group.

9. What is chain polymerization ? Give one example.

10. Calculate the change in entropy when 27.3 kJ of heat is transferred to a system at 273 K isothermally and reversibly.

11. What are primary and secondary valencies in complexes ?　　(4×2=8)

SECTION – C

Answer **any three** questions. **Each** question carries **3** marks.

12. Discuss the structure of benzene.

13. Derive the relation between C_p and C_v.

14. What are differences between thermoplastic and thermosetting plastics ?

15. Give any three applications of coordination compounds.

16. Explain the methods for resolution. **(3×3=9)**

SECTION – D

Answer **any two** questions. **Each** question carries **5** marks.

17. Discuss the mechanism of SN reactions.

18. Explain the conformational isomerism of cyclohexane and propane.

19. a) Discuss hybridization and magnetic properties of $[Co(NH_3)_6]$ and $[CoF_6]$ on the basis of VB theory. **3**

    b) How is Nylon 66 prepared ? **2**

20. a) State and explain second law of thermodynamics. **3**

    b) What is the physical significance of entropy. **2**

(2×5=10)