23104726

QP CODE: 23104726

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR/IMPROVEMENT/REAPPEARANCE EXAMINATIONS, FEBRUARY 2023

First Semester

B.Sc Chemistry Model II Industrial Chemistry

Vocational Course - CH1VOT01 - INDUSTRIAL ASPECTS OF INORGANIC AND ORGANIC CHEMISTRY

2017 Admission Onwards

5261B7B1

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Define cetane number.
2. Write the chemical composition of water gas and producer gas.
3. Based on carbon content, how is coal ranked?
4. Mention the structural difference between starch and cellulose.
5. How is spurious colour harmful to health?
6. Give the difference between baking soda and baking powder.
7. What is the fundamental principle of Zone Refining?
8. What is wet corrosion?
9. What is phosphating?
10. What is the basic structural unit of silicates?
11. What are zeolites?
12. What do you mean by a zero-dimensional nanomaterial? Give an example.

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Write a note on reforming.
14. Explain the Bergius process.
15. Discuss one method of manufacture of oxalic acid.
16. Give the structure and flavour of any three heterocyclic compounds serving as food flavours.
17. Discuss the principle involved in (a) zone refining (b) the van Arkel process.
18. What is cathodic protection of metals? Under which circumstances this method is applied?
19. Explain the requirements of an electrically insulating material.
20. Write a note on the classification insulators.
21. Write a note on the toxic effects of nanomaterials on the human health.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Write in detail on the (i) distillation of coal tar (ii) ultimate and proximate analyses of coal.
23. Explain briefly the different types of food additives with suitable examples.
24. (a) Elaborate on the classification of steel (b) Discuss the important heat treatments of steel.
25. Discuss the structure, properties and important applications of important crystalline forms of carbon.

(2×10=20)