21ICH4C11L

Sl. No.

M.Sc. IV Semester Degree Examination, Sept./Oct. - 2024

INDUSTRIAL CHEMISTRY

DSC - 11 : Inorganic Industrial Materials

(NEP)

Time : 3 Hours   Maximum Marks : 70

Note : *(i)   Answer **any five** questions including **Q.No.1**.*

   *(ii)   **Q.No.1** is **compulsory**.*

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1. (a)   Describe the manufacture of white ceramic wares. How is it different from porcelain materials ?

(b)   Explain the role of raw materials used in the manufacture of refractories.

(c)   How are ceramics classified ? Explain their properties.

(d)   Discuss the manufacture of enamel glass and methods of application.

4+3+3+4=14

2. (a)   With a labelled diagram describe the manufacture of chlorine and its applications.

(b)   Narrate the history of development of Portland cement and grading system to represent quality of cement.

(c)   How does coloured glasses produced industrially ? Explain different colours in them by suitable examples.   **5+5+4=14**

3. (a)   Describe with a neat figure the process of manufacture of pig iron.

(b)   Illustrate the process of manufacture and refining of nickel.

(c)   Explain the zone refining method to produce pure Bismuth.   **5+5+4=14**

4. (a)   How is the Liquation method useful to obtain pure copper ?

(b)   Illustrate the chromatographic method of refining of metals.

(c)   How does vapour phase method applied to refine metals ?   **5+5+4=14**

5. (a)   Discuss the classification and merits of gaseous fuels over solid and liquid fuels.

(b)   How does the amount of moisture, ash, proteins and calcium determined in coal ?

(c)   Discuss the cloud point method of analysis of petrol and petroleum products.

5+4+5=14

6. (a) Explain the process of manufacturing of sodium bicarbonate.

(b) Write the mechanism of setting and hardening of cement.

(c) Discuss the commercial applications of glass. **5+5+4=14**

7. (a) Explain the manufacture of steel by Bessemer process.

(b) Discuss the extraction of zinc from zinc blende and its refining by electrolytic method.

(c) Explain the zone process for refining of metals. **5+5+4=14**

8. (a) Illustrate electrolytic method of refining copper.

(b) Explain the analysis of petrol by viscosity and vapour pressure methods.

(c) Explain the method of estimation of sulphur in petroleum products and its toxic effects. **5+5+4=14**

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