



**5204**

**BOARD DIPLOMA EXAMINATION, (C-16S)**

NOVEMBER - 2019

**II SEMESTER (COMMON) EXAMINATION**

**ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES - II**

Time : 3 Hours]

[Total Marks : 80

**PART - A**

**2×15=30**

- Instructions :*
- (1) Answer any 15 questions.
  - (2) Each question carries 2 marks.
  - (3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

- 1 What is smelting ?
- 2 Write the composition and uses of brass.
- 3 Define ore and gangue.
- 4 Define conductor and insulator.
- 5 Write any two differences between electrolytic cell and galvanic cell.
- 6 What is electrolysis ?

- 7 What is electrochemical series ?
- 8 Define emf of cell.
- 9 State any four factors which influence the rate of corrosion.
- 10 What is rust ? Write its chemical formula.
- 11 Write a note on organic coatings for the prevention of corrosion.
- 12 Define 'elastomer'.
- 13 Write any two disadvantages of using plastics.
- 14 Write the preparation and uses of Buna-S.
- 15 What is vulcanization ?
- 16 State the composition and uses of producer gas.
- 17 What is green house effect ?
- 18 Write any two adverse effects of acid rain.
- 19 What are primary air pollutants ? Give an example.
- 20 Define water pollution.

**PART - B**

10×5=50

**Instructions :**

- (1) Answer any **FIVE** questions.
- (2) Each question carries **TEN** marks.
- (3) Answer should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 21 (a) Explain the froth flotation method of concentration of ore. 5  
(b) Write any five differences between metals and non metals. 5
- 22 (a) State and explain Faraday's laws of electrolysis. 6  
(b) Write the differences between metallic conductors and electrolytic conductors. <http://www.sbtetonline.com> 4
- 23 (a) Explain the construction and working of Galvanic cell with example. 6  
(b) The standard reduction potentials of Mg and Cd electrodes are  $-2.37\text{v}$  and  $-0.40\text{V}$  respectively. Calculate the e.m.f. of cell,  $\text{Mg}/\text{Mg}^{2+}//\text{Cd}^{2+}/\text{Cd}$ . 4
- 24 (a) Explain the : 5  
(i) Composition cell and  
(ii) Stress cell formation during corrosion.  
(b) Explain the prevention of corrosion by sacrificial anode method. 5
- 25 (a) Write any six differences between thermo plastics and thermo settings plastics. 6  
(b) Explain condensation polymerization with example. 4

- 26 Write a method of preparation and uses of the following plastics :  
(i) Polythene  
(ii) PVC  
(ii) Teflon  
(iv) Polystyrene
- 27 (a) Define fuel. State five important characteristics of a good fuel. 6  
(b) Classify the fuels based on their physical state. Give examples. 4
- 28 (a) What is deforestation ? Explain the (i) causes and (ii) consequences of deforestation. 5  
(b) Explain any three control methods of water pollution. 5

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