

17208

16117

2 Hours / 50 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answers with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any NINE of the following:** **18**
- a) State different products of blast furnace.
- b) State two uses of slag.
- c) Define :
- (i) Metallurgy
- (ii) Flux
- d) Why galvanised containers are not used for storing food stuffs.
- e) Identify the type of corrosion in following examples:
- (i) Submarines dipped in sea water
- (ii) Rusting of Iron articles.
- f) Define -
- (i) Sherardizing
- (ii) Chromizing
- g) Define paint. Write its two characteristics.
- h) Distinguish between temporary hardness and permanent hardness in water. (Two points)

P.T.O.

- i) Why soft water is preferred in sugar industry other than hard water ?
- j) Write four characteristics of potable water.
- k) Name the two constituents of cement with its formulae.
- l) Give any two uses of plaster of paris.

2. Attempt any FOUR of the following: 16

- a) Write the chemical reaction taking place in the zone of reduction in blast furnace.
- b) Explain the process of Annealing of steel.
- c) Give any four differences between : low carbon, medium carbon and high carbon steel.
- d) Explain the mechanism of immersed corrosion with evolution of hydrogen gas.
- e) State and explain the factors affecting rate of electrochemical corrosion.
- f) Explain metal cladding process with suitable diagram.

3. Attempt any FOUR of the following: 16

- a) Describe adverse effects of hard water washing purposes and drinking purposes.
 - b) Explain the sterilization of water by using chlorine gas and bleaching powder.
 - c) Discuss the bad-effect of using hard water in following industries:
 - (i) Paper Industry
 - (ii) Textile Industry
 - d) Explain Zeolite process with suitable diagram.
 - e) Calculate hardness of water sample if 50 ml water sample takes 8.5 ml 0.025 M disodium EDTA in titration at pH = 10 buffer.
 - f) Explain four important properties of water proofing cement.
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