



17208

11819

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) Use of Non-programmable Electronic Pocket Calculator is **permissible**.
 - (6) 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) Name two methods used for preparation of steel.	2
b) Name two oxides ores of Fe. Write their chemical formulae.	2
c) Write any four properties of mild steel.	2
d) Distinguish between galvanizing and sherardizing (any two points).	2
e) State the constituents of paint and one function of each.	2
f) Define corrosion. Give its types.	2
g) Give two applications of metal cladding process.	2
h) Write four characteristics of potable water.	2
i) State two causes of hardness of water.	2
j) Draw diagram of reverse osmosis cell for desalination of sea water.	2
k) Name two constituents of cement with its formulae.	2
l) Give chemical composition of Lean lime.	2
2. Attempt any four of the following :	16
a) Write chemical reactions taking place in the zone of reduction in blast furnace.	4
b) Distinguish between Annealing and Normalizing.	4
c) State the effect of alloying elements Ni and Co. on the properties of steel.	4
d) Explain the mechanism of immersed corrosion with evolution of H ₂ – gas.	4
e) Explain any two factors affecting rate of atmospheric corrosion.	4
f) Explain metal cladding process with suitable diagram.	4

P.T.O.



3. Attempt **any four** of the following : **16**
- a) Define : **4**
 - i) Hard water
 - ii) Soft water
 - iii) Degree of hardness
 - iv) Filtration.
 - b) Write any two causes of scale and sludge formation in boiler. Give two disadvantages. **4**
 - c) Explain the permutit process of water softening with neat sketch diagram and write the reactions of regeneration. **4**
 - d) Name the types of impurities present in water. Explain the process of sterilization of water using bleaching powder. **4**
 - e) Describe a bad effect of using hard water in following industries : **4**
 - i) Paper industry
 - ii) Textile industry
 - f) Define concrete. State any three properties of concrete. **4**
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