

17227

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 SEVEN of the following:** **14**
- a) Define corrosion. State its types.
 - b) Define sheradising.
 - c) State the names of different methods of protection of metal from corrosion.
 - d) Name types of oxide films. Which of them gives better protection against corrosion?
 - e) Define fuel. Name any two solid fuels.
 - f) Write the composition of biogas.
 - g) Write any two advantages of liquid fuel.
 - h) Draw a neat diagram of fractional distillation of crude petroleum.
 - i) Write any two application of grease.
 - j) Define pH and pOH. Write relation between them.

P.T.O.

- 2. Attempt any FOUR of the following:** **12**
- a) Explain the mechanism of immersed corrosion with a diagram.
 - b) Distinguish between galvanising and tinning giving suitable examples.
 - c) (i) Define proximate analysis.
(ii) Explain proximate analysis for determination of ash content.
 - d) State any four characteristics of a good fuel.
 - e) Explain the mechanism of fluid film lubrication.
 - f) 'Water acts as a lubricant'. Explain.
- 3. Attempt any FOUR of the following:** **12**
- a) State any two applications and any two properties of LPG.
 - b) Explain determination of gross calorific value by using Bomb Calorimeter.
 - c) Define the following terms:
 - (i) Fire point
 - (ii) Viscosity index
 - (iii) Saponification value.
 - d) Write the application of graphite and molybdenum disulphide lubricants (two of each).
 - e) Define BOD and COD.
 - f) Explain determination of hardness of water using EDTA method.
- 4. Attempt any FOUR of the following:** **12**
- a) Explain electrochemical protection by sacrificial anodic method.
 - b) State and explain the factors affecting the rate of atmospheric corrosion.
 - c) Write any four applications of biodiesel.
 - d) State two advantages and two disadvantages of chlorination of water.
 - e) Explain Zeolite method of softening water.
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