17203

14115

2 Hours / 50 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory*.

(2) Answer each next main Question on a new page.

(3) Illustrate your answer 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) Write four names of iron ore with chemical formula.

b) Pig iron melts at lower temperature than pure iron. Why ?

c) Define heat treatment. State its two purposes.

d) Name the alloy steel which is used for making leaf and coil springs. State its composition.

e) Define immersed corrosion. State two factors on which it depends.

f) Give the mechanism of corrosion take place due to oxygen.

g) What is meant of differential aeration principle ?

h) Why galvanised containers are not used for storing and canning food stuffs ?

i) Define fuel. Classify it depending on its nature.

Marks

j) What is meant by calorific value and ignition temperature.

k) Write two applications of Biodiesel.

l) Define lubricants. Name the types of lubricants.

2. Attempt any <u>FOUR</u> of the following : **16**

a) What are the chemical reactions taking place in zone of reduction of blast furnace.

b) How is the steel prepared from pig iron using open hearth process ?

c) State composition, properties and uses of heat resisting steel.

d) State four characteristics of good fuel.

e) Write with labelled diagram, composition and applications of petroleum fractions.

f) Write composition, properties and applications of LPG.

3. Attempt any <u>FOUR</u> of the following : **16**

a) Write the mechanism of electro chemical corrosion with evolution of hydrogen gas.

b) Distinguish between galvanising and tinning.

c) Name the method which is used in making 'alclad' sheets. Write in brief about it.

d) State with the help of figure principle of boundary lubrication.

e) Define the terms : Viscosity, Oiliness, acid value and emulsification.

f) Write the characteristics and applications of graphite.

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