17227

21314

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 answers with ***neat*** *sketches* ***wherever*** *necessary.*
(4) Figures to the ***right*** *indicate* ***full*** *marks.*
(5) Assume suitable data, if ***necessary****.*
(6) Use of Non-programmable Electronic Pocket Calculator is ***permissible****.*

MARKS

1. Answer **any nine** : **(9×2=18)**

a) Write two quality parameters for potable water.

b) Define temporary hardness of water. Name two salts responsible for temporary hardness of water.

c) Define BOD and COD.

d) Calculate the pH value of solution having hydrogen ion concentration 1×10^{-4} gm/liter. Is it acidic or alkaline ?

e) Define :
   i) calorific value
   ii) ignition temperature

f) Write the boiling range of kerosene gasolene.

g) Write composition of CNG.

h) Write applications of Biodiesel.

i) Define :
   i) Neutralisation number
   ii) Saponification value

j) Write any two advantages of metal spraying process.

k) Define paint. Write two characteristics of paint.

l) Draw a labelled diagram of bomb calorimeter.

P.T.O.

MARKS

2. Answer **any four** : **(4×4=16)**

   a) What is zeolite ? Draw a labelled diagram of zeolite process. Write chemical reaction of regeneration.

   b) Write composition properties and application of LPG.

   c) Define lubricant. Name the lubricant used for :

      i) Delicate instruments

      ii) Machine at low speed and extreme pressure

   d) Explain boundary lubrication with the help of a diagram.

   e) Define atmospheric corrosion. Describe mechanism of atmospheric corrosion by oxygen gas.

   f) Describe four factors affecting rate of electrochemical corrosion.

3. Answer **any four** : **(4×4=16)**

   a) Explain sterilisation of water by using (i) Chlorine water (ii) Bleaching powder.

   b) Distinguish between Galvanising and tinning.

   c) Explain hydrogen evolution mechanism of electrochemical corrosion.

   d) Write characteristics of good fuel.

   e) Define proximate analysis. How is moisture content in coal determined by proximate analysis ?

   f) Write two functions of a lubricant. Classify lubricants giving one example of each.

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