

Question no.1 is compulsory. Attempt any from q.no2 or 3.

Write short notes on any four:

[8]

a) what is corrosion ? Explain the basic reason of metallic corrosion. [co 2]

b) Explain the functions of any four ingredients of paints with suitable example. [co2]

c) Explain why Noble metals never undergo corrosion. [co2]

d) Differentiate between thermal cracking and thermal cracking. [co1]

e) How does the volatile matter determined? [co1]

f) 1.95 g of coal was taken for nitrogen estimation. The ammonia liberated req. 9.5ml of 0.4N H_2SO_4 for neutralization. The same sample weighing 1.5 g in Bomb calorimeter exp. Produced 0.35g of $BaSO_4$. Calculate the percentage of N & S. [co1]

Q.N.2 a) What is cracking? Describe the manufacture of gasoline by fixed bed catalytic cracking. [co1] [3]

b) How do the following factors affect the rate of corrosion [co2]

a) Position of metal in Galvanic series. B) pH of the medium [2]

c) Relative areas of anode and cathode. [co2]

c) Write a short note on Mining of crude petroleum. [co1] [2]

OR

Q.no.3a) What is electrochemical theory of corrosion? Explain wet theory in detail [co2] [3]

b) A sample of coal has the following composition C= 80% H=6% S=1.5% O=8% N=2.5%

Ash =2%.. Calculate HCV & LCV. [co1] [2]

c) Explain sacrificial anodic protection. [2]