

SET -A

BHARATI VIDYPEETH COLLEGE OF ENGINEERING, NAVI MUMBAI
DEPARTMENT OF APPLIED SCIENCE

TERM TEST -I

Sub: Applied Chemistry-I

Marks:15

Time:45 Min

Sem-I - 2015-2016

Molecular weight -Ca=40, S=32, O=16, H=1, Mg=24, Na=23, Al-27, Fe-56.

- Q.1 Solve any two from Q.No.a), b), c) and one from Q.No.d) and Q.No. e) 06
(2 marks each)
- a) Distinguish between temporary and permanent hardness.
- b) What is Ultra filtration? Give its industrial applications.(any two)
- c) What are the requirements of potable water?
- d) Under what conditions solid lubricants are used? Give examples of solid lubricants.
- e) Define viscosity and viscosity index.
- Q.2 1.55gms of oil is saponified with 20ml of N/2 alcoholic Potassium hydroxide 04
solution. After refluxing the mixture; it requires 15 ml of N/2 HCl solution.
Find Saponification value of oil.

OR

- b) What is lubrication? Explain the mechanism of Extreme Pressure lubrication. 04
- Q.3 Calculate the quantity of Lime (85% pure) and Soda (95% pure) required for 05
a) softening 50,000 litres of water containing the following salts per litre.
 $\text{Ca}(\text{HCO}_3)_2 = 8.1\text{mg/L}$; $\text{Mg}(\text{HCO}_3)_2 = 7.3\text{mg/L}$, $\text{CaSO}_4 = 13.6\text{mg/L}$;
 $\text{MgSO}_4 = 12\text{mg/L}$, $\text{NaCl} = 4.7\text{mg/L}$; $\text{MgCl}_2 = 23.75\text{mg/L}$, $\text{FeSO}_4 = 5\text{mg/L}$,
 $L = 1.04$
 $S = 5.12$

OR

- b) Describe Zeolite method with principle, labeled diagrammed, reactions and 05
advantages.

Best of luck