

Code :R5100304

B.Tech I Year (R05) Supplementary Examinations, May 2011
ENGINEERING CHEMISTRY
(Mechanical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

1. Give an account of the various methods involved in the treatment of potable water.
2. Distinguish between the following:
 - (a) Internal conditioning and external conditioning of water.
 - (b) Boiler scales and sludges.
3. Write short notes on the following:
 - (a) Cathodic protection
 - (b) Caustic embrittlement corrosion.
4. What are the constituents of paints and discuss their functions?
5.
 - (a) What are elastomers? Give examples.
 - (b) What are the ingredients used in compounding of plastics? What are their functions?
6. Explain the mechanisms of different types of lubricating process.
7.
 - (a) Write a notes on synthetic lubricants.
 - (b) Describe any four desirable properties of lubricant oil.
8.
 - (a) Calculate the gross and net calorific value of coal having the following composition.
Carbon = 82%, Hydrogen = 8%, Sulphur = 1.5%, Nitrogen = 3%,
Ash = 5.5%,
Latent heat of steam = 587 cal/gm.
 - (b) Write a note on Nuclear fuels.
