

Roll No

BE - 101

B.E. I & II Semester

Examination, December 2016

Engineering Chemistry

Time : Three Hours

Maximum Marks : 70

- Note:* i) Answer any five questions.
ii) All questions carry equal marks.

1. What is meant by hardness of water? How hardness of water may be removed by internal treatment methods?
2. Define calorific value. Discuss how you will determine calorific value of a fuel by Bomb calorimeter?
3. What are Lubricants? Write functions of lubricants. Explain following properties of lubricants:
 - a) S.E.N.
 - b) Flash point
 - c) Viscosity Index
4. What are Polymers? Give classification of polymers with examples. Discuss reaction mechanism of polymerisation.
5. State and derive Bear-Lambert's law. Discuss instrumentation, working and applications of colorimetry.

6. Write short notes on (any three)
 - a) NMR spectroscopy
 - b) Setting of cement
 - c) Municipal water and its treatment
 - d) Octane number
 - e) Nylon 6:6
7. Give composition of cement. Describe manufacture of cement with the help of diagram and reactions.
8. Write explanatory notes on following (any three):
 - a) Silicone resin
 - b) Chromatography
 - c) Proximate analysis
 - d) Zeolite process
 - e) Refractories
