

Roll No

BE-101 (GS)
B.E. I & II Semester Examination, June 2020
Grading System (GS)
Engineering Chemistry
Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. Why do we express hardness of water in terms of CaCO_3 equivalents?
2. Describe ion exchange resin method for softening water?
3. Define calorific value. Discuss how you will determine calorific value of a fuel by Bomb calorimeter?
4. Define lubricant. Discuss classification of lubricants with suitable examples. What are the functions of lubricant.
5. Define NCV and GCV. How are gross and net calorific values of a solid fuel determined using Bomb calorimeter.
6. What are Polymers? Give classification of polymers with examples. Discuss reaction mechanism of polymerisation.
7. Discuss with the help of a neat diagram, various steps involved in the manufacture of portland cement.

OR

Discuss the important properties of lubricating oils, which are useful for their evaluation.

8. State and derive Bear-Lambert's law. Discuss instrumentation, working and applications of colorimetry.
9. Write explanatory notes on following (any two):
 - a) Knocking
 - b) Setting and hardening of cement
 - c) Break point chlorination
