

R09**Code: 9ABS103**

B.Tech I Year (R09) Supplementary Examinations June 2017

ENGINEERING CHEMISTRY

(Common to all branches)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

- 1 (a) Give the procedures for the preparation of various solutions used in the determination of hardness of water by EDTA method.
(b) Write a note on caustic embrittlement in boiler corrosion.
- 2 Write notes on the following:
(a) Electroplating.
(b) Electroless plating.
- 3 What is the composition of natural rubber? Why it is elastic? Explain the processing of natural rubber.
- 4 (a) Justify the statement that "Future nanotechnology is referred to as nano medicine".
(b) Write a brief account on applications of nanotechnology to energy resources.
- 5 (a) Write briefly about the applications of thermal insulators.
(b) Explain the use of SF₆ in electrical industry.
- 6 (a) Draw and explain the phase diagram of one component system and three phase system.
(b) Explain the reason that the fusion curve of ice has negative slope whereas the sublimation curve has a positive slope in the phase diagram.
- 7 (a) Describe the method of determination of calorific value of a solid fuel by bomb calorimeter.
(b) What are the gaseous fuels? How they are advantages over other fuels?
(c) What are the different units expressed to know the efficiency of a fuel?
- 8 (a) What is meant by setting and hardening of cement?
(b) With the help of sequence of chemical reactions explain the setting and hardening of cement.
