Roll No. .....

24005

B. Tech. 2nd Semester (Common for all Branches)

Examination – May, 2017

ENGINEERING CHEMISTRY

Paper : CH-101-F

Time : Three Hours] *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt ***five*** questions in all, selecting ***one*** question from each Section. Question No. **1** is ***compulsory***. All questions carry equal marks.

1. (a) State phase rule. $2 \times 10 = 20$

(b) What do you understand by autocatalysis ?

(c) Define ppm.

(d) Name any two coagulants.

(e) What is dry corrosion ?

(f) What is meant by rusting of iron?

(g) What are solid lubricants ? Give examples.

(h) What is cc ation polymerization ?

(i) Give the u Teflon.

(j) What is th ciple of DTA ?

CTION – A

2. (a) Draw anc ain the phase diagram of Zn-Mg system in 10

(b) Discuss th se diagram of any one component system. 10

3. Write short no the following : 5 × 4 = 20

(a) Enzymati ysis

(b) Promoter: alysis

(c) Poisoners alysis

(d) Cooling c

CTION – B

4. (a) What is (embrittlement in boilers ? How can this b ented ? 8

(b) Discuss tl e and sludge formation in boilers and their l. 12

5. (a) Distingui: tween zeolite and Lime-soda process fc ning of hard water. 10

(b) Give a br ount of various processes used for domestic treatment. 10

CTION – C

6. (a) What is c c protection? Explain its types for the preve of corrosion. 10

(b) Define electrochemical corrosion. Describe the electrochemical theory of corrosion with reference to rusting of iron. 10

7. (a) What is Lubrication ? Explain the different mechanisms of lubrication. 10

(b) Describe the following properties of lubricants :

(i) Flash point and Fire point 5

(ii) Viscosity index 5

SECTION – D

8. Discuss the following :

(a) Polymeric composites 10

(b) Effect of structure on the properties of polymers 10

9. Describe the principle, technique and applications of the following :

(a) I R Spectroscopy 10

(b) U V Spectroscopy 10