(c) What are the importance of Viscosity in Lubricanting Oil ? How Viscosity is determined. 5

SECTION – D

8. (a) Write an essay on "The effect of structure on properties of Polymer". 6

(b) Write a short note on Vulcanisation of Rubber. 6

(c) Discuss the Prepration, Properties and application of PVC. 8

9. (a) Write a short note on Application of UV spectroscopy. 10

(b) Discuss the working and Principle of Differential Thermal Analysis. 10

Roll No. .....

24005

B. Tech. 1st Semester (Common For All Branches) Examination – December, 2018

ENGG. 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) What is Inhibitors ? Give example. 2 × 10 = 20

(b) What is Reduced Phase Rule ?

(c) What do you mean by Pilling Bedwoth Rule ?

(d) What do you understand by Tinning ?

(e) What is Critical Temperature ?

(f) What is the significance of Flash and Fire point ?

(g) Define term Tacticity.

(h) Define Iodine value of a Lubricants ?

(i) What do you mean by Lambert's Beer Law ?

(j) Define Coagulation.

SECTION – A

2. (a) Draw and explain the Phase diagram of Zn-Mg system in detail. 10

(b) Define the term Degree of Freedom and Component. Give example. 5

(c) Eutectic is a mixture not a compound. Explain. 5

3. (a) What do you mean by catalyst. Discuss their characteristics. 10

(b) What are Biocatalyst. Explain the Lock and key mechanism of enzyme action. 10

SECTION – B

4. Write short notes on : $5 \times 4 = 20$

(i) Break point chlorination

(ii) Mixed bed ionization

(iii) Reverse osmosis

(iv) Caustic embrittlement

5. (a) What are the functions of lime soda in lime soda process ? 10

(b) 100ml of an alkaline water sample required 40ml of N/50 H_2SO_4 for Phenolphthalein end-Point an another 10ml for Methyl-orange indicator. Describe the type of alkalinity and calculate in terms of $CaCO_3$ equivalents. 10

SECTION – C

6. (a) What are the factors affecting Corrosion ? 10

(b) Discuss the following term :

(i) Microbiological corrosion 5

(ii) Sacrificial anodic protection 5

7. (a) What are Lubricants ? Discuss the classification of Lubricants with examples. 10

(b) Define and explain the term emulsion. Why graphite and MoS_2 preferred as solid lubricant. 5