

**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.*

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*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.  $2 \times 10 = 20$   
(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 ?

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- (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. <http://haryanapapers.com> 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 × 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 and 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

- (c) What are the importance of Viscosity in Lubricating 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
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