PVP 12

Code: **AE1T2**

I B.Tech-I Semester-Regular Examinations-February 2013

ENGINEERING CHEMISTRY-I

(For Aeronautical Engineering)

Duration: 3hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1.a) What are reversible and irreversible process? Explain. (6m)

b) Describe the Carnot cycle. Derive an Expression for the efficiency of heat engines. (8m)

2.a) Define lubrication. Explain fluid film and boundary film lubrication. (8m)

b) Give an account of selection of lubricants for engineering application. (6m)

3.a) What is vulcanization? Write the advantages of vulcanized rubber over a raw rubber. (6m)

b) What are Elastomers? Write preparation, properties, and uses of Buna-S and Buna-N. (8m)

4.a) Describe classification and general properties of refractories. (8m)

b) What are ceramics?How are they classified. (6m)

5.a) What are adhesives? Explain the factors influencing adhesive action (7m)

b) How do you classify abrasives? Give some application of abrasives. (7m)

6.a) What is cracking? Describe thermal and catalytic cracking process. (8m)

b) Write short notes on i) polymerisaton ii) refining iii) and reforming (6m)

7.a) State and explain the phase rule. (7m)

b) Draw the diagram of silver-lead system and explain (7m)

8.a) What are the purposes of alloy making? Illustrate with suitable examples (6m)

b) Write short notes on i)Wrought iron ii) Brass iii) Nichrome (8m)