

**DIPLOMA IN CIVIL ENGINEERING DCLE(G) /
DIPLOMA IN MECHANICAL ENGINEERING
(DME) / DCLEVI / DMEVI / DELVI / DECVI /
DCSVI / ACCLEVI / ACMEVI / ACELVI /
ACECVI / ACCSVI**

Term-End Examination

June, 2016

00818

BET-013 : CHEMISTRY

Time : 2 hours

Maximum Marks : 70

Note : *Attempt five questions in all. Question number 1 is compulsory. Answer any four questions from questions no. 2 to 8. All questions carry equal marks.*

1. Answer the following questions in brief :

- (a) Write the two abundant components of air along with their percentage content in the atmosphere. 2
- (b) Write the electronic configuration of C (6) and Mg (12). 2
- (c) What is an alloy ? Give two examples. 2
- (d) Name four important ores of iron. 2
- (e) What is crude oil ? 2
- (f) Name any four colouring materials of glass. 2
- (g) What are addition polymers ? 2

2. (a) Why is an anion always larger than its parent atom? 4
- (b) Explain the periodic trends of the following properties : 8
- (i) Atomic Radius
- (ii) Ionisation Energy
- (iii) Metallic Character
- (iv) Ionic Radius
- (c) Name two important zones of atmosphere. 2
3. (a) Describe the preparation, properties and uses of chlorine. 8
- (b) Explain the Ammonia Synthesis by Haber process. 4
- (c) Give the oxidation states of Nitrogen in NO_2 and HNO_2 . 2
4. (a) Draw a neat diagram of Blast furnace. 4
- (b) Write a short note on Intermetallic compounds, giving two examples. 6
- (c) If the pH of a solution is 5, find its pOH. ($\text{p}K_w = 14$) 4
5. (a) Write a detailed note on boiler corrosion and its prevention methods. 10
- (b) Write any four characteristics of a good fuel. 4

6. (a) What do you understand by free radical polymerisation ? Explain in detail with examples. 8
- (b) What is meant by 'Synthetic Petrol' ? Give any one method for its synthesis. 6
7. (a) Compare and write the differences between sliding friction and rolling friction. 8
- (b) Write short notes on the following : 6
- (i) Nylon
- (ii) Polyesters
8. (a) What is glass ? What are the functions of borax and alumina used in the manufacture of glass ? 8
- (b) What are ceramics ? How are these classified ? 6
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