

**DIPLOMA IN CIVIL ENGINEERING
(DCLEC(G))/
DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

**DCLEVI/DMEVI/DELVI/DECVI/DCSVI/
ACCLEVI/ACMEVI/ACELVI/ACECVI/ACCSVI**

Term-End Examination

December, 2013

BET-013 : CHEMISTRY

Time : 2 hours

Maximum Marks : 70

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- Note :* (i) *Question Number 1 is compulsory.*
(ii) *Answer any other four questions from question numbers 2 to 8.*
(iii) *All questions carry equal marks.*
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| . | (a) What is Law of Octaves ? | 2 |
| | (b) Write two most abundant components of air, alongwith their percentage content in the atmosphere. | 2 |
| | (c) Differentiate between a Mineral and a Ore. | 2 |
| | (d) State any four merits of a solid fuel. | 2 |
| | (e) What are the lubricating oils ? | 2 |
| | (f) What are addition polymers ? | 2 |
| | (g) What are semi solid lubricants ? | 2 |
| . | (a) Discuss in detail about modern Periodic Table. | 10 |
| | (b) Which is larger: Na or Na ⁺ ? Explain why. | 4 |

3. (a) Write the electronic configuration of following :
- (i) O (8) (ii) P (15)
(iii) Cl (17) (iv) I (53)
- (b) Describe any two methods for preparation of Oxygen.
- (c) Why the second ionisation energy is higher than the first ionisation energy ?
4. (a) Discuss the commercial production of Sulphuric Acid by contact process.
- (b) Explain the functioning of a blast furnace with a diagram.
5. (a) What is Froth flotation ?
- (b) Explain the boiler corrosion and its prevention.
6. (a) Write a note on water gas, its preparation and uses.
- (b) What is desalination ?
- (c) What are the functions of a lubricant ?
- (d) What is flash point ?
7. (a) pH of a solution is 2. What is the pOH ? Is the solution acidic or basic ?
- (b) Explain how petroleum is refined through fractional distillation ?
- (c) Write note on Co- polymers.
8. (a) Discuss about graphite as a lubricant.
- (b) What are ceramics and give examples
- (c) Why glass is called as "Super cooled liquid" ?
- (d) Write any four uses of bleaching powder.
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