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BET-013

Diploma in Civil Engineering / Diploma in Electrical & Mechanical Engineering

01485

Term-End Examination

June, 2010

BET-013 : CHEMISTRY

Time : 2 hours *Maximum Marks : 70*

Note : *Question number **1** is **compulsory**. Answer any other **four** questions from questions number **2** to **8**. All questions carry **equal** marks.*

1.	(a)	What is Law of Octaves ?	**2**
	(b)	Write the structure of Nitric Acid.	**2**
	(c)	Give two important ores of copper, with their chemical formula.	**2**
	(d)	Why ice has lower density than water ?	**2**
	(e)	What is biogas and what are its uses ?	**2**
	(f)	What are sliding and rolling frictions ?	**2**
	(g)	What do you understand by Annealing ?	**2**
2.	(a)	What are Lanthanides and Actinides ? Give two examples each.	**6**
	(b)	Write the electronic configuration of the following :	**8**
		(i) Na^+ (atomic no. of Na is 11)	
		(ii) Cl^- (atomic no. of Cl is 17)	
		(iii) Kr (36)	
		(iv) Cs (55)	

3.	(a)	Describe the Contact Process for commercial production of Sulphuric Acid.	6
	(b)	State any four uses of Hydrogen.	4
	(c)	What is Ozone and why ozone layer in atmosphere is important ?	4
4.	(a)	Describe the functioning of Blast furnace with a neat diagram.	8
	(b)	Explain the three types of alloys with relevant examples.	6
5.	(a)	Discuss about scale formation and different conditioning methods.	8
	(b)	pH of a solution is 3. What is the pOH ? ($pK_w = 14$)	3
	(c)	Name any three units for expressing hardness of water.	3
6.	(a)	Explain any four criteria for selection of coal.	8
	(b)	Differentiate between water gas and producer gas.	2
	(c)	Define the calorific value of a fuel and mention any two units to express it.	4
7.	(a)	Define a lubricant and state any three functions of a lubricant.	6
	(b)	Differentiate between oil in water and water in oil emulsions.	4
	(c)	Write a note on Aniline point.	4

8. (a) What is PVC and write the chemical formula of the monomer in it ? **4**

(b) Write a detailed note on condensation polymers. **6**

(c) Explain about vulcanisation. **4**
