

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER- 1st / 2nd EXAMINATION (New Syllabus) – WINTER 2013

Subject Code: 2110001**Date: 26-12-2013****Subject Name: Physics****Time: 10:30 am – 01:00 pm****Total Marks: 70****Instructions:**

1. Question No. 1 is compulsory. Attempt any four out of remaining six questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 Objective Question

- (a) 07
1. In detection of C and H, the lime water turns milky due to presence of ____.
(a) Carbon (b) Hydrogen, (c) Calcium
 2. Which of the following reagent is used for detection of Carbon and Hydrogen?
(a) copper oxide (b) Calcium oxide (c) Potassium Iodide.
 3. Phenol formaldehyde resin is also known as ____.
(a) Bakelite (b) orlon (c) Malamine
 4. Which of these element can be found by lessaigne test?
(a) Nitrogen (b) oxygen (c) hydrogen
 5. Which Indicator is used for complexometric titration?
(a) EDTA (b) EBT (c) phenolphthalein
 6. Substance which are volatile and insoluble in water are purified by ____.
(a) Steam distillation (b) Crystallization (c) fractional distillation
 7. Brass is an alloy of ____.
(a) Cu and Zn (b) Sn and Zn (c) Fe and Zn

- (b) 07
1. Permanent hardness is due to the presence of ____.
(a) Chlorides and sulphides (b) carbonate and bicarbonates (c) both (a) and (b)
 2. Which metal catches fire when comes in contact with water?
(a) Na (b) K (c) Hg
 3. Which of the following process is to be carried out when two or more substances are to be separated?
(a) Crystallization (b) Fractional crystallization (c) sublimation
 4. The process of separating volatile solid from a non volatile solid is called as ____.
(a) Sublimation (b) Filtration (c) Crystallization
 5. In purification of Petroleum, Sulphuric acid is used to separate ____ component.
(a) Acidic (b) Basic (c) Both acidic and basic
 6. In an electrochemical cell, the current flow from ____ to ____ pole in the external circuit. (a) negative to positive (b) positive to negative (c) through the electrolyte.
 7. The alloy formed by Copper and tin is known as ____.
(a) Bronze (b) Brass (c) Steel

- Q.2 (a) Define softening of water and explain the cold lime soda process with a neat schematic diagram. 07
- (b) What is Corrosion? Discuss the different methods to protect metals from corrosion. 07

- Q.3** (a) What are the constituents of Portland cement? Discuss the mechanism of setting and hardening of Portland cement. 07
(b) What is proximate analysis and ultimate analysis of coal . Discuss its significance. 07
- Q.4** (a) What are refractory? Classify the different types of refractory and state its properties. 07
(b) What are alloys? Give the characteristics and classification of alloys. 07
- Q.5** (a) What is vulcanization of rubber? Discuss the different application of rubber. 07
(b) Discuss the refining of crude oil with the help of a suitable diagram of fractional distillation column. 07
- Q.6** (a) Give the preparation and uses of Polystyrene and Nylon. 07
(b) What are enzymes? State its characteristics. 07
- Q.7** (a) Explain the manufacturing process of ethyl alcohol by fermentation process. 07
(b) What is desalination of Brackish water? Explain the method of electro dialysis. 07
