

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

- (b) 07
- Permanent hardness is due to the presence of _____.
(a) Chlorides and sulphides (b) carbonate and bicarbonates (c) both (a) and (b)
 - Which metal catches fire when comes in contact with water?
(a) Na (b) K (c) Hg
 - 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
 - The process of separating volatile solid from a non volatile solid is called as _____.
(a) Sublimation (b) Filtration (c) Crystallization
 - In purification of Petroleum, Sulphuric acid is used to separate _____ component.
(a) Acidic (b) Basic (c) Both acidic and basic
 - 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.
 - 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
