

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- IV (New) EXAMINATION – WINTER 2019

Subject Code: 2140501

Date: 16/12/2019

Subject Name: Physical And Inorganic Chemistry

Time: 10:30 AM TO 01:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

MARKS

- Q.1** Define the following terms with suitable examples: **14**
- 1 Phase
 - 2 Triple Point
 - 3 Thermo Chemistry
 - 4 Endothermic Reactions
 - 5 Bessmerisation
 - 6 Buffer Solution
 - 7 Radio Activity
 - 8 Explosives
 - 9 Propellants
 - 10 Radiation
 - 11 Flame Photometry
 - 12 Order of Reaction
 - 13 Nuclear Reaction
 - 14 pH
- Q.2** (a) What do you understand by salt bridge? **03**
 (b) What is Electro Chemical Cell? **04**
 (c) Explain Hess's Law of constant heat summation with illustration. **07**
- OR**
- (c) Explain Handerson-Hesselblatch equation for acidic and basic buffer. **07**
- Q.3** (a) What is Gibbs phase rule? **03**
 (b) Differentiate between Ionic and Metallic bond. **04**
 (c) Explain order of reaction in detail. **07**
- OR**
- Q.3** (a) What is Metallurgy? **03**
 (b) Explain various steps involved in Metallurgy. **04**
 (c) Explain the Metallurgy of Aluminum. **07**
- Q.4** (a) What is Nuclear Chemistry? **03**
 (b) Differentiate between the types of Hydrogen bonding. **04**
 (c) Explain the method of measuring Radioactivity. **07**
- OR**
- Q.4** (a) What is Fusion Reaction? **03**
 (b) Differentiate between Order and Molecularity. **04**
 (c) What are Explosives and propellants? Classify and give uses. **07**
- Q.5** (a) What is half life? **03**
 (b) Classify Buffer Solution with examples. **04**
 (c) Give various properties possessed by Metals. **07**
- OR**
- Q.5** (a) What is Qualitative and Quantitative Analysis? **03**
 (b) Give the full form of – HPLC, DTA, UV and Rf. **04**
 (c) Explain Beer-Lamberts along with block diagram of Absorption Spectro Photometer. **07**
