

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV(NEW) – EXAMINATION – SUMMER 2019

Subject Code:2140501

Date:25/05/2019

Subject Name: Physical And Inorganic Chemistry

Time:02:30 PM TO 05:00 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 | (a) Define phase, component & degree of freedom | 03 | |
| | (b) Explain intra & inter molecular hydrogen bonding | 04 | |
| | (c) Discuss principle, instrumentation and working of UV-VIS spectroscopy | 07 | |
| Q.2 | (a) Define heat of reaction and heat of combustion | 03 | |
| | (b) Give differences between order and molecularity of reaction | 04 | |
| | (c) Write classification and applications of propellant. | 07 | |
| OR | | | |
| Q.3 | (c) Explain phase diagram of Eutectic system | 07 | |
| | (a) Write a note on ionic bond | 03 | |
| | (b) Write a note on buffer solution | 04 | |
| Q.3 | (c) Discuss Hess's Law of constant heat summation and its application | 07 | |
| | OR | | |
| | Q.3 | (a) Discuss construction of salt bridge | 03 |
| (b) Explain briefly Chromatography | | 04 | |
| (c) Explain in detail covalent bonds | | 07 | |
| Q.4 | (a) Explain allotropy | 03 | |
| | (b) Draw phase diagram of water system | 04 | |
| | (c) Derive rate law for first order reaction | 07 | |
| OR | | | |
| Q.4 | (a) Write briefly about electromagnetic radiation | 03 | |
| | (b) Write a note on Glass electrode | 04 | |
| | (c) Explain acid base neutralization through conductometric titration. | 07 | |
| Q.5 | (a) Explain Half cell reaction & electrode potential | 03 | |
| | (b) Derive Gibb's phase rule. | 04 | |
| | (c) Discuss Differential thermal analysis and its applications. | 07 | |
| OR | | | |
| Q.5 | (a) What do you understand by zero order reaction? Give example | 03 | |
| | (b) Explain radioactive decay | 04 | |
| | (c) Write classification, preparation and uses of explosives | 07 | |
