

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	
	(c) Explain phase diagram of Eutectic system	07
Q.3	(a) Write a note on ionic bond	03
	(b) Write a note on buffer solution	04
	(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
