

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (NEW) EXAMINATION – WINTER 2021****Subject Code:2140501****Date:04/01/2022****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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Discuss Beer-Lambert's law	03
	(b) Draw the schematic diagram of GC and Uv-Visible spectrometer	04
	(c) Discuss the metallurgy of iron	07
Q.2	(a) Discuss ionization chamber method for radioactivity measurement	03
	(b) Define buffer mixture. Explain H-H equation	04
	(c) Write a note on classification and applications of propellant	07
OR		
	(c) Write a note on classification and applications of explosive	07
Q.3	(a) Write the application of infrared spectroscopy	03
	(b) Discuss the fusion reaction	04
	(c) Write a note on differential thermal analysis	07
OR		
Q.3	(a) Write the application of NMR	03
	(b) Discuss the fission reaction	04
	(c) Mention the property of metal	07
Q.4	(a) Explain the hydrogen bond	03
	(b) Describe the Faraday's law of electrolysis	04
	(c) Discuss the eutectic system	07
OR		
Q.4	(a) Discuss the enthalpy for exothermic and endothermic reaction	03
	(b) Explain electrochemical cell	04
	(c) Derive integration law for first and second order reaction	07
Q.5	(a) Describe Gibb's phase rule law	03
	(b) Write significant of electrode potential	04
	(c) Discuss the electroanalytical methods	07
OR		
Q.5	(a) Discuss the Hess's law	03
	(b) Discuss the molecular spectroscopy	04
	(c) Write a note on one and two component system	07
