Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM – SEMESTER – 1 -EXAMINATION – SUMMER-2025

Subject Code: BP104TP **Date: 23-06-2025**

Subject Name: Pharmaceutical Inorganic Chemistry

Time: 02:30 PM TO 05:30 PM **Total Marks: 80**

Instructions:

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

Q.1	**(a)**	Describe the origins of the impurities found in pharmaceuticals.	**06**
	(b)	Define the Limit test. Discuss the principle behind the limit test of Iron.	**05**
	(c)	Describe the role of the following physiological ions in the body. 1) Calcium ion, 2) Sodium ion	**05**
Q.2	**(a)**	Write the principle behind the Arsenic limit test	**06**
	(b)	Define Antacid. Write examples of the antacid. List out the ideal properties of antacids.	**05**
	(c)	What is dental caries? Write a note on the role of fluorides in treating dental caries.	**05**
Q.3	**(a)**	Explain various methods of adjusting isotonicity.	**06**
	(b)	Discuss the physiological acid-base balance in brief.	**05**
	(c)	Give the medicinal class of each of the following compounds. Chlorinated lime, Calcium carbonate, Potassium permanganate, Activated charcoal, and Potash alum	**05**
Q.4	**(a)**	Explain various mechanisms of action of antimicrobial agents.	**06**
	(b)	Explain the calcium gluconate assay principle in detail.	**05**
	(c)	Give a note on cathartics.	**05**
Q.5	**(a)**	Define haematinics. Enlist official preparations of iron. Explain the assay principle of green vitriol.	**06**
	(b)	Define buffer and buffer capacity. Enlist the application of buffers in the pharmacy.	**05**
	(c)	What are Astringents? Write effects and medicinal uses of astringents.	**05**
Q. 6	**(a)**	Give the mechanism of cyanide poisoning. How sodium thiosulphate and sodium nitrate are beneficial as inorganic drugs in cyanide poisoning?	**06**
	(b)	Explain various properties of α, β, γ radiations.	**05**
	(c)	Define expectorants. Explain the assay principle of ammonium chloride.	**05**
Q.7	**(a)**	Explain the construction and working of the Geiger-Muller counter with a detailed diagram.	**06**
	(b)	Give the chemical formula, physical properties, and method of preparation of blue vitriol.	**05**
	(c)	Write the medicinal uses of each of the following radiopharmaceuticals. ^{131}I, ^{59}F, ^{24}Na, ^{57}CO, ^{32}P	**05**

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