

**Duration: 3 hours****Total marks: 70**

N.B. (1) Figures on the right indicate total marks.

(2) All questions are compulsory

(3) Draw the diagrams wherever necessary.

<b>Q.1.</b>		<b>10</b>
<b>A]</b>	Answer the following brief (any ten)	
	i) Define and classify antidotes?	
	ii) What is meant by half-life of radioactive element?	
	iii) What causes temporary hardness of water?	
	iv) "Boric acid is for external use only". State whether true or false and justify?	
	v) Give name of two inorganic antioxidants.	
	vi) What is mechanism of action of hydrogen peroxide?	
	vii) Define ionizing radiation.	
	viii) Give any two abrasives used in the dental products?	
	ix) What are the characteristics of an ideal antimicrobial agent?	
	x) Enlist different buffer systems in human body.	
	xi) Give two examples of drugs used as Ca supplement.	
<b>B]</b>	i) What is <i>Hyper natremia</i> ? What are its symptoms and treatment?	<b>2</b>
	ii) Write a note on antacid combination therapy?	<b>3</b>
<b>Q. 2</b>		
<b>A]</b>	Write a note on gastric protective and adsorbing agents.	<b>4</b>
<b>B]</b>	Write a note on Anesthetics.	<b>3</b>
<b>C]</b>	i) Write a note on sclerosing agents and its ideal characteristics.	<b>4</b>
	ii) What are consequences of cyanide poisoning and how is it treated?	
<b>Q.3</b>		
<b>A]</b>	Explain the need and application of hematinic.	<b>2</b>
<b>B]</b>	Explain and compare various anticaries agents.	<b>4</b>
<b>C]</b>	i) Write a note on biological effects of different types of radiations?	<b>3</b>
	ii) Describe role of Iodine radioisotope as diagnostic agents	<b>2</b>
<b>Q.4</b>		
<b>A]</b>	Define buffers and buffer action? Enumerate different types of pharmaceutical buffers.	<b>4</b>
<b>B]</b>	Write short notes on (any two)	<b>4</b>
	i) Preservatives in pharmaceuticals	
	ii) Lubricants	
	iii) Antioxidants	
<b>C]</b>	What are applications of radiopharmaceuticals?	<b>3</b>
<b>Q.5</b>		
<b>A]</b>	Discuss the role of copper as essential and trace ion.	<b>4</b>
<b>B]</b>	Write a note on Chelating Agents as antidotes in metal poisoning.	<b>3</b>
<b>C]</b>	Write a note on different types of water.	<b>4</b>
<b>Q.6</b>		
<b>A]</b>	Answer the following (any two)	<b>6</b>
	i) Write a note on acid-base imbalance and measures to rectify.	
	ii) Discuss in brief the electrolyte combination therapy.	
	iii) Write a note on physiological role of chloride and bicarbonate.	
<b>B]</b>	i) Write a brief note on calamine as a topical agent.	<b>3</b>
<b>C]</b>	What are Expectorants? Give example and explain their modes of action.	<b>2</b>