

Name :

Roll No. :

Invigilator's Signature :

CS/B.Pharm(NEW)/SEM-1/PT-103/2010-11

2010-11

**PHARMACEUTICAL CHEMISTRY
(INORGANIC CHEMISTRY)**

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :
 $10 \times 1 = 10$
- i) The buffer that is not used systematically but used in
ophthalmic preparations is
- a) bicarbonate buffer b) acetate buffer
c) Ab/protein buffer d) borate buffer.
- ii) Which of the following serves as a radiopaque contrast
medium ?
- a) Ferric chloride b) Iodine
c) Barium sulphate d) Sodium phosphate.
- iii) Hyperchlorhydria is treated with
- a) antibiotics b) antacids
c) antiemetics d) antidotes.
- iv) KCN is required in the limit test for
- a) heavy metals b) arsenic
c) lead d) iron.

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[Turn over



- v) Sodium lauryl sulphate is used in dentifrices as
- a) foaming agent b) abrasive
c) flavouring agent d) humectants.
- vi) Which of the following compounds is referred as milk of magnesia ?
- a) Al(OH)_3 b) Mg(OH)_2
c) CaSO_4 d) CaCO_3 .
- vii) Pernicious anaemia is caused due to the deficiency of
- a) vitamin A b) vitamin B₁₂
c) vitamin C d) vitamin E.
- viii) Which of the following antacids possesses belching and flatulence as an undesirable side effect ?
- a) $\text{MgSO}_4 \cdot 17\text{H}_2\text{O}$ b) NaHCO_3
c) AlCl_3 d) magaldrate.
- ix) Increase amount of CO_2 in blood leads to the formation of
- a) respiratory alkalosis b) systemic alkalosis
c) respiratory acidosis d) none of these.
- x) Which of the following radiations are electromagnetic radiation ?
- a) X-rays and γ -rays b) α -rays and β -rays
c) α -rays and δ -rays d) all of these.
- xi) The strength of a base is frequently expressed by
- a) base dissociation constant
b) acid dissociation constant
c) dissociation constant of water
d) all of the dissociation constants of the solution.
- xii) Which of the following is a conjugate acid in $(\text{NH}_4\text{OH} + \text{NH}_4\text{Cl})$ buffer system ?
- a) NH_3^+ b) NH_4^+
c) NH_2^+ d) none of these.



GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Define the term pH. Show that pH of neutral water is 7. $1 + 4$
3. Explain with examples the terms 'preservative' and 'antioxidant'.
4. a) Name any two compounds of iron which are official in I.P. 2007.
b) Discuss about the preparation, properties and uses of any one compound of iron. $2 + 3$
5. Give an account of the properties of transition elements.
6. Write down the preparation and uses of aluminium hydroxide gel.

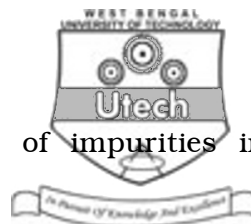
GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) What are the major intra- and extra- cellular electrolytes ?
b) Write short notes on the following :
 - i) Dehydration
 - ii) Hypovolemia
 - iii) Oedema
 - iv) ORS.
- c) Describe the role of Na^+ and Ca^{++} in human physiological system. $2 + (4 \times 2) + 5$

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8. a) Discuss about the various sources of impurities in pharmaceutical substances.
b) Outline the principle for the limit test of arsenic.
c) Give the I.P. procedure for the limit test of lead.

5 + 5 + 5

9. a) What are the importances of complexing and chelating agents ?
b) Write a short note on dimercaprol.
c) Write a short note on the orally active complexing and chelating agents.

5 + 5 + 5

10. a) Define radioactive isotopes. Give examples.
b) What do you mean by the term "Extranuclear radiations" ?
c) Write a short note on "unit of radioactivity".

OR

Show that the biological half-life of radioactive elements is $0.693/k$.

- d) Discuss the hazards associate with the storage, handling and use of radioactive substance.

2 + 2 + 4 + 7

11. a) What are topical agents ?
b) Classify topical agents with examples.
c) Write down the preparation, properties and use of calamine.
d) Write a short note on astringents as topical agents.

1 + 4 + 5 + 5