

Seat Number

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T 1.2.2

**Pharmaceutical Chemistry - II (Inorganic & Physical Chemistry)**  
**(Also Old Sem.- II Equivalence 125)**  
**(1220)**

P. Pages : 2

Time : Three Hours

Max. Marks : 80

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.
5. Figures to the right indicates full marks.
6. Draw well labelled diagrams wherever necessary.

**SECTION - I**

1. Solve **any five**.

10

- a) Define radiopharmaceuticals with example.
- b) What is Dental Fluorosis?
- c) What is B.A.L? State its use.
- d) Define tableting aids with example.
- e) Define Bacteriostatics and Bactericidal with example.
- f) Why hydrogen peroxide acts as oxidizing and Reducing agent?
- g) What is Universal antidote? State components and their role.

2. Solve **any four**.

20

- a) State mechanism of action for Emetics and Expectorants and give properties preparation and uses for Ammonium chloride or Copper Sulphate.
- b) What is cyanide poisoning? Elaborate puritanism and treatment.
- c) Write a note on Radio-Opaque contrast media.
- d) Define Anticarrier Agents. Explain role of Fluorides in treatment of dental carries.
- e) Define Topical Antimicrobial Agents. Classify them with examples, explain mechanisms in short.

- f) Define with examples:
- |                          |                       |
|--------------------------|-----------------------|
| i) Sclerosing Agents     | ii) Complexing Agents |
| iii) Sequestering agents | iv) Astringents       |

3. Solve **any one**.

10

- a) Define Topical Agents? Classify them in detail with examples. Explain mechanism and uses for protective Adsorbents with properties, Preparation, uses for any two compounds.
- b) Define Radiopharmaceuticals. Enlist methods for their production and chambers used for measurement of radioactivity. Add note on Biological Effects or Quality control of radiopharmaceuticals.

## SECTION – II

1. Solve **any five**.

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- a) Enlist gas laws. State universal gas equation.
- b) Differentiate between photochemical and Thermochemical reactions.
- c) Define first order reaction with example.
- d) State Beers- Lamberts Law.
- e) Define catalysis state types with examples.
- f) State uses of P-32 and I-125.
- g) State characteristics of Enzyme catalysis.

2. Solve **any four**.

20

- a) Define second order and Third order reaction. Explain first order reaction.
- b) State postulates of Kinetic Theory of gases.
- c) What is Quantum mechanics? Enlist postulates and operators.
- d) Explain Acid- Base or Homogeneous catalysis.
- e) Explain consequences for absorption of Light by molecule.
- f) Enlist methods for determination of order of reaction explain any one.

3. Solve **any one**.

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- a) Enlist and explain theories of reaction Kinetics.
- b) Draw well labelled Jablensk's Diagram and explain relaxation mechanisms for excited state molecules.

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