

This question paper contains **3** printed pages]

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S. No. of Question Paper : **13324**

Unique Paper Code : **3184000016**

Name of the Paper : **Pharmacological Science**

Name of the Course : **GE-Biomedical Science (NEP-UGCF)**

Semester : **VII**

Duration : **3 Hours**

Maximum Marks : **90**

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt *five* questions in all.

Question No. 1 is compulsory.

Attempt subparts of a question together.

1. (a) Define (any *six*) :

6×2=12

(i) Drug

(ii) Generic name

(iii) Volume of Distribution

P.T.O.

(iv) Transdermal patch

(v) Analgesics

(vi) Loading dose

(vii) Antagonist.

(b) Differentiate between (any *three*) :

3×4=12

(i) Pharmacokinetics and Pharmacodynamics

(ii) Drug dependence and Intolerance

(iii) Efficacy and Potency

(iv) Zero order and First order kinetics.

(c) State True or False. Justify your answer (any *two*) :

2×3=6

(i) Brand names reflect the chemical structure of a drug.

(ii) Highly protein-bound drugs always have a short half-life.

(iii) Benzodiazepines are preferred over barbiturates.

2. Write mechanism of action and contraindications of any *three* :

3×5=15

(a) Paracetamol

(b) Bethanecol

(c) Tolbutamide

(d) Celecoxib.

3. Write short notes on :

- (a) Teratogenicity
- (b) Bioavailability
- (c) Hormone Replacement Therapy.

4. (a) Classify the dosage forms on the basis of physical state, explaining in brief *two* representative formulations from each class.

(b) What factors govern the choice of route of drug administration ? List the advantages and disadvantages of oral route of drug administration.

(c) Explain how the pH of urine influences the renal excretion of acidic and basic drugs. Support your answer with suitable examples.

5. (a) Explain briefly the various macromolecular targets of drugs. 5,5,5

(b) Explain how Amphotericin B acts against fungal infections. Mention the important adverse effects associated with its use.

(c) What is a DRC ? Graded DRC shows individual, continuous responses; quantal DRC shows all-or-none responses in a population. Comment.

5,5,5

6. (a) Write a short note on antimicrobial therapy highlighting the mechanism of action of a bactericidal drug.

(b) Discuss in detail the phases of drug metabolism.

(c) What is meant by an Adverse Drug Reaction (ADR) ? Explain the importance and functions of pharmacovigilance in minimizing ADRs.

5,5,5