GATE-1991

PART - A Section-I (Choose The Correct Answer)

1. Multiple choice question

i. Cortisone is
(a) 4-Pregnane-12 a, 21 diol 3, 20-dione
(b) 4-Pregnene-17a, 21 diol 3, 11, 20-trione
(c) 4-Pregnene-16 a, 21 diol 3, 11, 20-trione
(d) 4-Pregnane-17 a, 21 diol 3, 11, trione

ii. Pregnenohoe, an intermediate in synthesis of steroids, on oppenauer oxidation gives
(a) Progesterone (b) 9a- Fludrocortisone
(c) Triamcinolone (d) a Methyl Prednisolone

iii. In congestive cardiac failure, digitalis glycosides are used because it increases HL
(a) The heart rate
(b) The force of myocardial contraction
(c) The venous pressure
(d) The cardiac filling pressure

iv. Shrinkage of gel by extrusion of lipids is called
(a) Syneresis (b) Dilatancy
(c) Plasticity (d) Ebullition

v. The sweetening agent commonly used in chewable tablet formula is
(a) Sucrose (b) Cyclamate Sodium
(c) Saccharin Sodium (d) Mannitol

vi. Carbamazepine is tricyclic antidepressant. It is classified as
(a) Benzodiazepine (b) Aryalkonolamine
(c) Iminostilbene (d) Benzimidazole

vii. Sulfa drugs can be conveniently estimated using the reagent
(a) 4, 4 Dithiobis-(2-nitrobenzoic acid)
(b) Tris-(hydroxyl methyl) amino methane sodium nitrate
(c) N-(1-naphthyl) ethylene diamine.
(d) N-ethylmaleimide

viii. Testosterone can be commercially synthesis from
(a) Sarsapogenin (b) Mexogenin
(c) Oubagenin (d) Halotestin

ix. Ehrlich' s reagent is
(a) Bismuth iodide solution
(b) p-dimethyl aniline solution in alcohol
(c) p-dimethyl amino benzaldehyde solution
(d) p-dimethyl aniline solution in methanol

x. The neurotransmitter is released at the end of sympathetic nerve fiber is
(a) Epinephrine (b) Nor-epinephrine
(c) Acetylcholine (d) Physostigmine

xi. The dose of the drug is 5 mg/kg body weight, how much the drug is required for the boy of 12 years who weight 21 kg
(a) 0.5 mg (b) 1.0 mg (c) 1.5 mg (d) 2.0 mg

xii. Rancidity of fat is due to
(a) Oxidation (b) Saponification
(c) Hydrolysis (d) Neutralization

xiii. Resolution of monochromator is the ability to distinguish
(a) As a separate entity adjacent spectral feature
(b) Separation of different colours
(c) Separation of UV light and Visible light
(d) Dispersing characteristics

xiv. Important activity noticed in testosterone
(a) Androgenic, Myotropic and Anabolic
(b) Pregestational, Myotropic and Anabolic
(c) Estrogenic, Mitotic and Anabolic
(d) Androgenic, Optometric and Catabolic

xv. Fruits which are derived from plants Umbelliferae are all of the type
(a) Cremocarp (b) Pericarp
(c) Epicarp (d) Mesocarp

xvi. Amygdalin on hydrolysis gives
(a) Mandelonitrile + Benzaldehyde
(b) Mandelonitrile + Benzaldehyde Glucose
(c) Mandelonitrile + Glucose
(d) Mandelonitrile Benzaldehyde Rhamnose

xvii. Erythromycin is an antibiotic. it belongs to the class of xvii.
(a) B-Lacram (b) Aminoglycoside
(c) Macrolide (d) Peptide

xviii. Vinblastine and Vincristine act by
(a) Interfering with synthesis of transfer RNA
(b) Inhibition of fragmentation of DNA
(c) Binding to protein
(d) Incorporating into folic acid metabolism

xix. Water attack test is used to identify the alkalinity in XIX.
(a) Type I glass (b) Type II glass
(c) Type ill glass (d) All the three types

xx. Select the drug that will aggravate bronchial asthma
(a) Amphetamine (b) Morphine
(c) Propranolol (d) Tubocurarine

xxi. The presence of unpaired electron in metal ion complex meant for spectral analysis is called
(a) Paramagnetic (b) Diamagnetic
(c) Bimagnetic (d) Unimagnetic

xxii. The biological half-life of drug
(a) It is a constant physical property of the drug
(b) It is a constant chemical property of the drug

(c) It may be increased in patients with impaired renal failure
(d) It may be decreased in patients by giving the drug by rapid IV injection

xxiii. The ilkovic equation in the polarographic measurement is given by

(a) $V=\frac{\pi r^2 \Delta P}{81.n}$ (b) $i_d = 607nCD^{\frac{1}{2}} m^{\frac{2}{3}} t^{\frac{1}{6}}$

(c) $V=\frac{H^2 r^2}{81.n} \cdot \frac{e}{m}$ (d) $P_0 - P = P_0(1-e^{-abc})$

xxiv. The vitamin which has deodorant property is
(a) Vitamin A (b) Vitamin C
(c) Vitamin D (d) Vitamin E

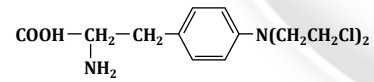
xxv. A type of flow in which viscosity increases when the substance agitated is
(a) Plastic (b) Pseudoplastic (c) Dilatant (d) Thixotropy

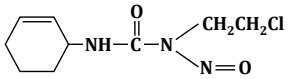
xxvi. Subcoating is given to the the tablets
(a) To increase the bulkness
(b) To avoid deterioration due to microbial attack
(c) To prevent the solubility of in acidic media
(d) To avoid stickiness

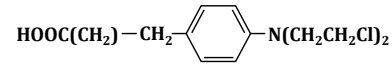
xxvii. Water resistance of glass container are tested by measuring
(a) Amount of alkali released into water
(b) Amount of acid released into water
(c) Estimation of silicate level
(d) Turbidity

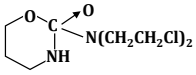
xxviii. The pH of pharmaceutical buffer system can be calculated by
(a) pH partition theory
(b) Noyes whitney law
(c) Henderson-Hasselbach equation
(d) Michaelis Menten Equation

xxix. Chlorambucil is an anti-cancer drug. Its structure is

(a) 

(b) 

(c) 

(d) 

xxx. The stationary phase in TLC is
(a) Adsorbent
(b) Liquid held between glass plate and adsorbent
(c) Glass plates
(d) None of these

xxxi. Digoxin is
(a) Has its action terminated by metabolism in the liver
(b) Has a plasma t1/2 of 6 hours
(c) Should be given half of its normal dose to hypothyroid patients
(d) Provide benefit in atrial fibrillation by increasing the force of contraction

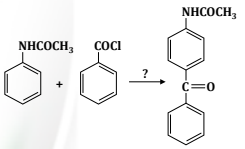
xxxii. The ingredients mentioned below are commonly used as the coating agents for film coating EXCEPT
(a) Cellulose acetate phthalate
(b) Carnauba wax
(c) Hydroxy ethyl cellulose
(d) Sodium carboxy methyl cellulose

xxxiii. Morphine is the drug of choice for
(a) Urinary tract infection (b) Colic pain
(c) Bronchial asthma (d) Cardiac asthma

xxxiv. Drug used in treatment of bronchial asthma usually
(a) Block both α and ß adrenergic receptors
(b) Stimulate α receptors but block ß receptor
(c) Stimulate ß receptors but block a receptor
(d) Stimulate α and or ß receptors

xxxv. The formula for the preparation of ascorbic acid injection L.P. may include
(a) Glacial acetic acid
(b) Dilute hydrochloric acid
(c) Propylene glycol
(d) Sodium carbonate or sodium bicarbonate or sodium hydroxide in water

xxxvi. The chemical reaction shown below can be carried out using the reagent listed from A to D Indicate the correct one
(a) CH_3HgBr
(b) CH_3Cl
(c) $AlCl_3$
(d) CH_3COONa



xxxvii. Lactose is the most widely used diluent in the tablet formulation. However, it is not used in the formulation of one of the following
(a) Pyrazinamide (b) Ibuprofen
(c) Sulfacetamide (d) Isoniazid

xxxviii. The area under the serum concentration time curve of the drug represents
(a) The biological half-life of the drug
(b) The amount of drug in the original dosage from
(c) The amount of drug absorbed
(d) The amount of drug excreted in the urine

xxxix. Vinca alkaloids are isolated from
(a) Catharanthus roseus and contain indole and indoline moieties
(b) Rosco chromogens and contain indole and indoline moieties
(c) Catharanthus roseus and contain quinoline and quinaidine moieties
(d) Cathaanthus indicus and contain indole and quinoline moieties

xxxxl. Aprotic solvent have
(a) Acidic properties
(b) Basic properties
(c) Both acidic and basic properties
(d) No acidic or basic properties

SECTION - II (Match The Following)

2. Match of the following

i. The antibiotics and their adverse effect are mentioned below

1. Chloramphenicol	[P] Gray baby syndrome
2. Erythromycin	[Q] Hepatotoxicity
3. Cephalosporins	[R] CNS toxicity
4. Streptomycin	[S] Hypersensitivity Reaction
	[T] Ototoxicity

(a) 1-[T], 2-[Q], 3-[R], 4-[S]
(b) 1-[P], 2-[Q], 3-[S], 4-[T]
(c) 1-[P], 2-[Q], 3-[T], 4-[S]
(d) 1-[P], 2-[T], 3-[R], 4-[S]

ii. Permitted limit of ethylene oxide in various products are mentioned below. Match them

1. Ophthalmic preparations	[P] 5 ppm
2. Hard gelatin capsule shell	[Q] 10 ppm
3. Surgical material	[R] 15 ppm
4. Intra uterine devices	[S] 25 ppm
	[T] 35 ppm

(a) 1-[T], 2-[Q], 3-[R], 4-[P]
(b) 1-[P], 2-[Q], 3-[S], 4-[T]
(c) 1-[P], 2-[S], 3-[R], 4-[Q]
(d) 1-[P], 2-[T], 3-[R], 4-[S]

iii. Expression for the following terms are given [P] to [1] Match them correctly

1. Beer's Law	[P] $T = 1 / I\alpha$
2. Absorptivity	[Q] $\log I0 / I = abc$
3. Transmission	[R] $a = bc$
4. Absorbance	[S] $A - \log 10 (1/T)$

(a) 1-[Q], 2-[R], 3-[S], 4-[P]
(b) 1-[P], 2-[Q], 3-[S], 4-[R]
(c) 1-[P], 2-[R], 3-[Q], 4-[S]
(d) 1-[P], 2-[S], 3-[R], 4-[Q]

iv. The side chain as given from 1 to 4 is present in local anesthetics listed [P] w [T] Match them correctly

1.  [P] Procaine
2.  [Q] Lidocaine
3.  [R] Benzocaine
4.  [S] Butesin
   [T] Dibucaine

(a) 1-[R], 2-[Q], 3-[P], 4-[S]
(b) 1-[P], 2-[R], 3-[Q], 4-[S]
(c) 1-[P], 2-[R], 3-[S], 4-[Q]
(d) 1-[P], 2-[Q], 3-[R], 4-[S]

v. Match the suitable test organism for assaying the antibiotics mentioned below

1. Streptomycin	[P] Streptomyces griseus
2. Rifampicin	[Q] Streptomyces mediterranei
3. Tetracycline	[R] Streptomyces aureofaciens
4. Gentamycin	[S] Micromonospora purpurea
	[T] Micrococcus luteus

(a) 1-[S], 2-[P], 3-[Q], 4-[R]
(b) 1-[P], 2-[Q], 3-[R], 4-[S]
(c) 1-[S], 2-[Q], 3-[R], 4-[P]
(d) 1-[P], 2-[Q], 3-[S], 4-[R]

vi. The region of spectrum for the following are given in term of wavelength (cm) in [P] to [T] Match them correctly

1. X-Rays	[P] 106- 105
2. UV-Rays	[Q] 105 - 104
3. Visible Rays	[R] 108 - 106
4. Infrared- Rays	[S] 104 - 102
	[T] 102 - 10

(a) 1-[S], 2-[Q], 3-[P], 4-[R]
(b) 1-[P], 2-[Q], 3-[S], 4-[R]
(c) 1-[S], 2-[Q], 3-[P], 4-[T]
(d) 1-[R], 2-[P], 3-[Q], 4-[S]

vii. The causative organism of the disease is given and the drug used for the treatment is Indicated in [F] to [T] Match them.

1. E histolytica	[P] Clofazimine
2. P falciparum	[Q] Chloramphenicol
3. S typhi	[R] Emetine
4. M. leprae	[S] Methenamine
	[T] Mebendazole

(a) 1-[R], 2-[S], 3-[Q], 4-[P]
(b) 1-[P], 2-[Q], 3-[S], 4-[R]
(c) 1-[R], 2-[Q], 3-[P], 4-[S]
(d) 1-[Q], 2-[P], 3-[S], 4-[R]

viii. Match the correct mechanism of action for the diuretic agents mentioned below

1. Acetazolamide	[P] Increases the serum K+level
2. Chlorothiazide	[Q] Competitively antagonizes aldosterone
3. Spiranolactone	[R] Inhibit Active Na+ secretion, decreasing K excretion In distal nephron
4. Triamterene	[S] Inhibit Carbonic anhydrase
	[T] Inhibit electrolyte reabsorption in the distal portion of ascending limb of the loop of Henle

(a) 1-[T], 2-[Q], 3-[R], 4-[S]
(b) 1-[P], 2-[Q], 3-[S], 4-[T]
(c) 1-[S], 2-[T], 3-[Q], 4-[R]
(d) 1-[P], 2-[T], 3-[R], 4-[S]

ix. The position 5 of barbituric acid analogous mentioned below have substituents as indicated in [P] to [T] Match them properly to identify correct structure

1. Phenobarbital	[P] $-C_2H_5$, $-C_2H_5$
2. Barbital	[Q] $-C_2H_5$, $-CH(CH_3)_2$

3. Probarbital [R] $-C_2H_5$, $-C_6H_5$
4. Pentobarbital [S] $-C_2H_5$, $-CH(CH_3)-CH_2-CH_2-CH_3$
[T] – CH_3, C_6H_5

(a) 1-[R], 2-[P], 3-[Q], 4-[S]
(b) 1-[P], 2-[Q], 3-[S], 4-[R]
(c) 1-[R], 2-[Q], 3-[S], 4-[P]
(d) 1-[P], 2-[S], 3-[Q], 4-[R]

x. The following drug can be prepared starting from the intermediate given in [P] to [T] Match them

1. Atenolol [P] 4-OH phenylacetamide
2. Ibuprofen [Q] γ-picoline
3. Haloperidol [R] 4 NH_2 quinoline
4. Isoniazid [S] Isobutyl benzene
[T] 4-(p-chlorophenyl) 4- OH piperidine

(a) 1-[T], 2-[Q], 3-[R], 4-[S]
(b) 1-[P], 2-[S], 3-[T], 4-[Q]
(c) 1-[R], 2-[Q], 3-[T], 4-[S]
(d) 1-[P], 2-[T], 3-[R], 4-[S]

xi. Choose the most appropriate instruments/apparatus listed from [F] to [Q] for the shady of the following

1. Thiamine [P] Colorimeter
2. Ferrous jons [Q] pH meter
3. Acidity of carboxylic acid [R] Fluorimeter
4. Barium sulphate [S] Colorimeter
[T] Nephelometer

(a) 1-[T], 2-[Q], 3-[R], 4-[S]
(b) 1-[P], 2-[Q] 3-[S], 4-[T]
(c) 1-[P], 2-[Q] 3-[T], 4-[S]
(d) 1-[R], 2-[S], 3-[Q], 4-[T]

xii. Following drugs are tested with reagents listed in [P] to [T] Match them correctly

1. Aspartic acid [P] α - Nephthol in alcohol
2. Dextran [Q] 2. 6 dichloro phenol indophenol
3. Nicotine [R] Ninhydrin
4. Vitamin A [S] Antimony trichloride in chloroform
[T] Potassium bismuth iodide solution

(a) 1-[T], 2-[Q], 3-[P], 4-[S]
(b) 1-[P], 2-[Q], 3-[S], 4-[T]
(c) 1-[R], 2-[P], 3-[T], 4-[S]
(d) 1-[R], 2-[S], 3-[Q], 4-[T]

xiii. Match the antibiotics with their mechanism of action correctly.

1. Ampicillin [P] Inhibition of nucleic acid synthesis
2. Chloramphenicol [Q] Inhibition of cell wall synthesis
3. Nystatin [R] Inhibition of growth by competitive antagonism
4. Rifampicin [S] Inhibition of protein synthesis
[T] Inhibition of cell membrane function

(a) 1-[T], 2-[Q], 3-[R], 4-[S]
(b) 1-[Q], 2-[S], 3-[T], 4-[P]
(c) 1-[S], 2-[Q], 3-[T], 4-[P]
(d) 1-[R], 2-[P], 3-[Q], 4-[T]

xiv. As per drug and cosmetics acts, match correct schedule to their respective titles

1. Schedule P [P] Standard for poison
2. Schedule Q [Q] Standard for cosmetics
3. Schedule S [R] Standard for ophthalmic preparations
4. Schedule FF [S] Life period of the drug
[T] Coal tar colour used in cosmetics

(a) 1-[T], 2-[Q], 3-[R], 4-[S]
(b) 1-[P], 2-[Q], 3-[S], 4-[R]
(c) 1-[S], 2-[T], 3-[Q], 4-[R]
(d) 1-[R], 2-[S], 3-[Q], 4-[P]

xv. The source and constituents of the following umbelliferous fruits are listed in [P] to [S] Match them correctly

1. Caraway [P] Foeniculum vulgare-Anethole/Fenchone
2. Fennel [Q] Carum carvi-Carvone
3. Dill [R] Anethum graveolens-Cuminic aldehyde
4. Coriander [S] Coriandrum sativum- linalool

(a) 1-[Q], 2-[P], 3-[R], 4-[S]
(b) 1-[R], 2-[Q], 3-[S], 4-[P]
(c) 1-[P], 2-[Q], 3-[R], 4-[S]
(d) 1-[S], 2-[R], 3-[P], 4-[Q]

xvi. Given below are the microscopic diagnostic features of the drug listed in [P] to [T] Choose the appropriate one

1. Cluster crystal of calcium oxalate [P] Stramonium leaves
2. Candelabra trichomes [Q] Cinnamon bark
3. Phloem fibres [R] Alexandrian senna
4. Glandular trichomes [S] Digitalis purpurea
[T] Verbascum thapus

(a) 1-[P], 2-[Q], 3-[R], 4-[S]
(b) 1-[P], 2-[T], 3-[Q], 4-[S]
(c) 1-[S], 2-[Q], 3-[T], 4-[R]
(d) 1-[R], 2-[P], 3-[Q], 4-[T]

xvii. In the preparation of capsule shell the ingredients mentioned are present for the specific purpose. Match them

1. Preservatives [P] Mineral oil
2. Acid Solubility [Q] Essential oil
3. Organoleptic additive [R] Titanium dioxide
4. Opacifier [S] Fumaric acid
[T] Propyl paraben

(a) 1-[T], 2-[Q], 3-[P], 4-[S]
(b) 1-[P], 2-[Q], 3-[S], 4-[T]
(c) 1-[T], 2-[S], 3-[Q], 4-[R]
(d) 1-[R], 2-[S], 3-[P], 4-[T]

xviii. The emulsent and their sources are given below. Match them

1. Karaya [P] Synthetics
2. Carrageenan [Q] Collagen
3. Gaur [R] Sea wood
4. Gelatin [S] Gum exudates
[T] Seed extract

(a) 1-[T], 2-[P], 3-[Q], 4-[S]
(b) 1-[R], 2-[Q], 3-[S], 4-[T]
(c) 1-[P], 2-[Q], 3-[T], 4-[S]
(d) 1-[S], 2-[R], 3-[T], 4-[Q]

xix. List below are some schedules 1 to 4 and the rule [P] to [T] match them correctly

1. C [P] List of medicine required to be taken only under supervision of R.M.P.
2. F [Q] Biological and special products
3. G [R] Provision applicable to vaccines, toxins, antigens and Sera
4. M [S] GMP requirement of factory premises plants, Equipment etc.
   [T] Standards for surgical dressing

(a) 1[P], 2-[Q], 3-[R], 4-[S]
(b) 1-[P], 2-[Q], 3-[S], 4-[R]
(c) 1-[Q], 2-[R], 3-[P], 4-[S]
(d) 1-[R], 2-[S], 3-[Q], 4-[P]

xx. Preparation listed 1 to 4 are assayed by the given in [P] to [T] Match them correctly

1. Heparin sodium injection LP.
2. Gentamycin injection L.P
3. Mixed gonadotropin antitoxin L.P
4. Chorionic gonadotropin inj. L.P

[P] Biological assay using prostate glands of Immature rats
[Q] Biological assay using clostridium welchii Type A antitoxin
[R] Microbiological assay using method A
[S] Biological assay using sheep plasma
[T] Biological assay using human plasma

(a) 1-[R], 2-[Q], 3-[P], 4-[S]
(b) 1-[P], 2-[R], 3-[5], 4-[Q]
(c) 1-[S], 2-[R], 3-[Q], 4-[P]
(d) 1-[R], 2-[S], 3-[P], 4-[Q]

PART - B

3. (a) Give the systematic names, structural formulas of some biological important purine bases
(b) What is biuret test? Which type of compounds are usually tested?
(c) Caffeine on treatment with KCIO3 and HCl gave two products. What are they? Give complete equation

4. Give the IP assay method for sodium ascorbate IP (Monosodium -1- ascorbate) Give reaction

5. (a) Give an expression for Stoke's law
(b) What does it indicate?

6. (a) How do you test for rancidity of Arachis oil IP?

(b) Ascorbic acid $\xrightarrow[\text{boil}]{\text{HCl}}$ A + B + C, What are A,B and C ?

7. Give complete equation

$$\alpha = -\text{terpineol} \xrightarrow[\text{boil}]{\text{NOCl}} A \xrightarrow{\text{Re arrangement}} B \xrightarrow[-HCL]{C_2H_5ONa} C \xrightarrow[\Delta -H_2O]{H2SO_4} D$$

what is A, B, C, and D? Given the complete equation.

8. (a) What is HLB
(b) Draw the HLB scale and suggest suitable classification for various surfactant on basis of HLB value of scale
(c) A polyhydric alcohol fatty acid ester gave a saponification number 48.0; the corresponding acid gave an acid number of 280. What is HLB value of ester?

9. Give the pharmacology of the following. Answer should not exceed 4 sentences in each case
(a) Nitrazepam
(b) Ethacranic acid
(c) Hydralazine HCI

10. (a) What is passive diffusion? Give the mathematical representation of Ficks law of diffusion.
(b) A250 ml infusion contain 1865 g of potassium chloride. How many millequivalent of KE are present? Mol Wt of KC174.6

11. (a) Suggest the names of important types of stomata according to the characters of guard cell
(b) Give the name of 3 different types of trichomes present in medicinal plants. What is Cicatrix

12. Draw complete equation show what happen when following reaction carried out
(a) Tropine is treated with mandelic acid
(b) Morphine is demethylated and product allylated
(c) Cocaine is treated with hot dilute acid

13. (a) Write the full structure of any three drugs which are prepared starting from m-chloroaniline.
(b) Give chemical nomenclature of chlordiazepoxide

14. (a) Name the three physiochemical properties which are important for drug activity.
(b) The K of acetic acid is 1.75 x 10. Calculate pka

15. The general structure of tetracycline is an octahydro analogous of naphthalene on which a number of substituent's are possible. Write the structure and number of the positions.

16. Why glucuronidation is most common conjugative pathway in drug metabolism? Give three reasons. Give one example of one drug molecule

17. (a) What is major difference between the following chromatographic techniques?
(i) Paper and thin layer chromatography
(ii) Gas-liquid and high-pressure liquid chromatography
(b) Define Gradient elution

18. Product A, B, C, and D are formed by the following chemical reactions. Complete the equation by writing the structures.
1. α – naphthol + Epichlorohydrin ⟶ (A)
2. (A) + isopropylene ⟶ (B)
3. Piperazine + Diethyl carbamylcholine ⟶ (C)
4. (C) + Methyl iodide ⟶ (D)

19. (a) Write the tautomeric form of barbituric acid
(b) Give synthesis of metronidazole

20. Caffeine has the UV absorption maximum at 272 mμ.1316 g of this drug was dissolved in enough water to make 1 litre. Exactly 10 ml of this solution was dilute to 100 ml and absorbance of this solution in 1.0 cm cell at 272 mu was 0.854.
(i) Calculate molar absorptivity of caffeine.
(ii) Calculate the concentration of unknown solution of this drug which gave an absorbance of 1.022 in 2.0 c of cell
The molecular weight of caffeine is 194.2

21. The IR absorption band of an organic compound are observed as follow: 3080, 2960, 1680, 1580, 1430,1360, 755 and 690 cm^{1}. Indicate the functional groups corresponding to these bands (The empirical formula of this compound is C8H8O)

22. Define the following term used in parenteral filtration:
(a) Polishing (b) Cold sterilization (c) Impaction

23. Describe the terms mentioned below and give two examples of each
(a) Antipruritis (b) Keratoplastics (c) Keratolytics

24. (a) What is sterile water for injection? How you will identify the oxidizable impurities in it?
(b) Calculate the amount of sodium chloride required to adjust 500 ml of a 0.5 %solution of procaine hydrochloride isotonic with blood plasma. The F.P.D. of 1% solution of procaine HCl is -0.12° C and sodium chloride is -58° C.

25. Mention the possible drug-drug interaction of the following combinations
(a) Aluminium hydroxide gel with isoniazid
(b) Aspirin with heparin injection
(c) Phenytoin with sulphasomidine

26. Define the following terms used in tablets coating
(a) Opaquants
(b) Bridging
(c) Compression coating

27. Define the term mentioned below used in aerosol technology:
(a) Leak test (b) Biological test (c) Spray test

Answer Key

PART (SECTION - I)

i - b	ii - a	iii - b	iv - a	v - b	vi - c	vii - c	viii - a	ix - c	x - b
xi - b	xii - a	xiii - a	xiv - a	xv - a	xvi - a	xvii - c	xviii - b	xix - b	xx - b
xxi - a	xxii - c	xxiii - b	xxiv - b	xxv - c	xxvi - a	xxvii - a	xxviii - c	xxix - c	xxx- a
xxxi - d	xxxii - b	xxxiii - b	xxxiv - c	xxxv - d	xxxvi - c	xxxvii- d	xxxviii - c	xxxix - a	xI - d

PART (SECTION - II)

i - b	ii - c	iii - a	iv - c	v - b	vi - d	vii - a	viii - c	ix - a	x - b
xi - d	xii - c	xiii - b	xiv - c	xv - a	xvi - b	xvii - c	xviii - d	xix - c	xx - c

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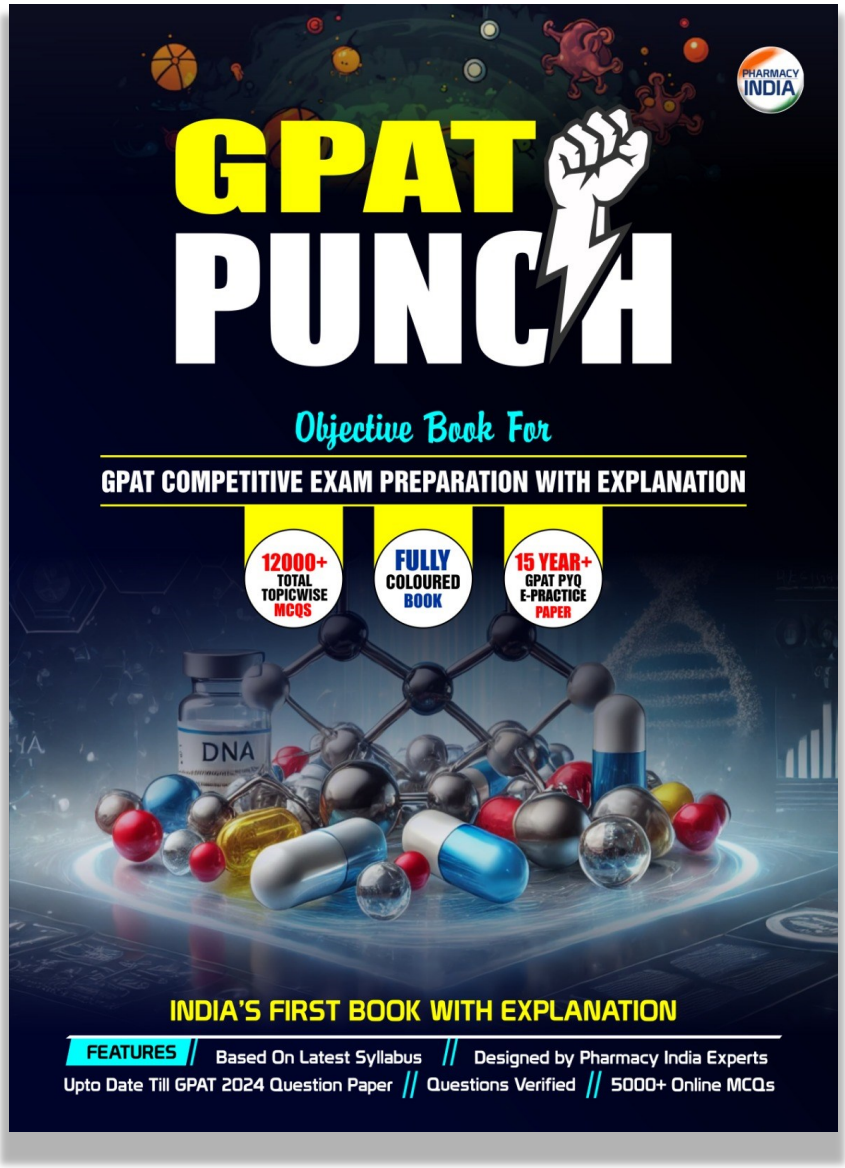

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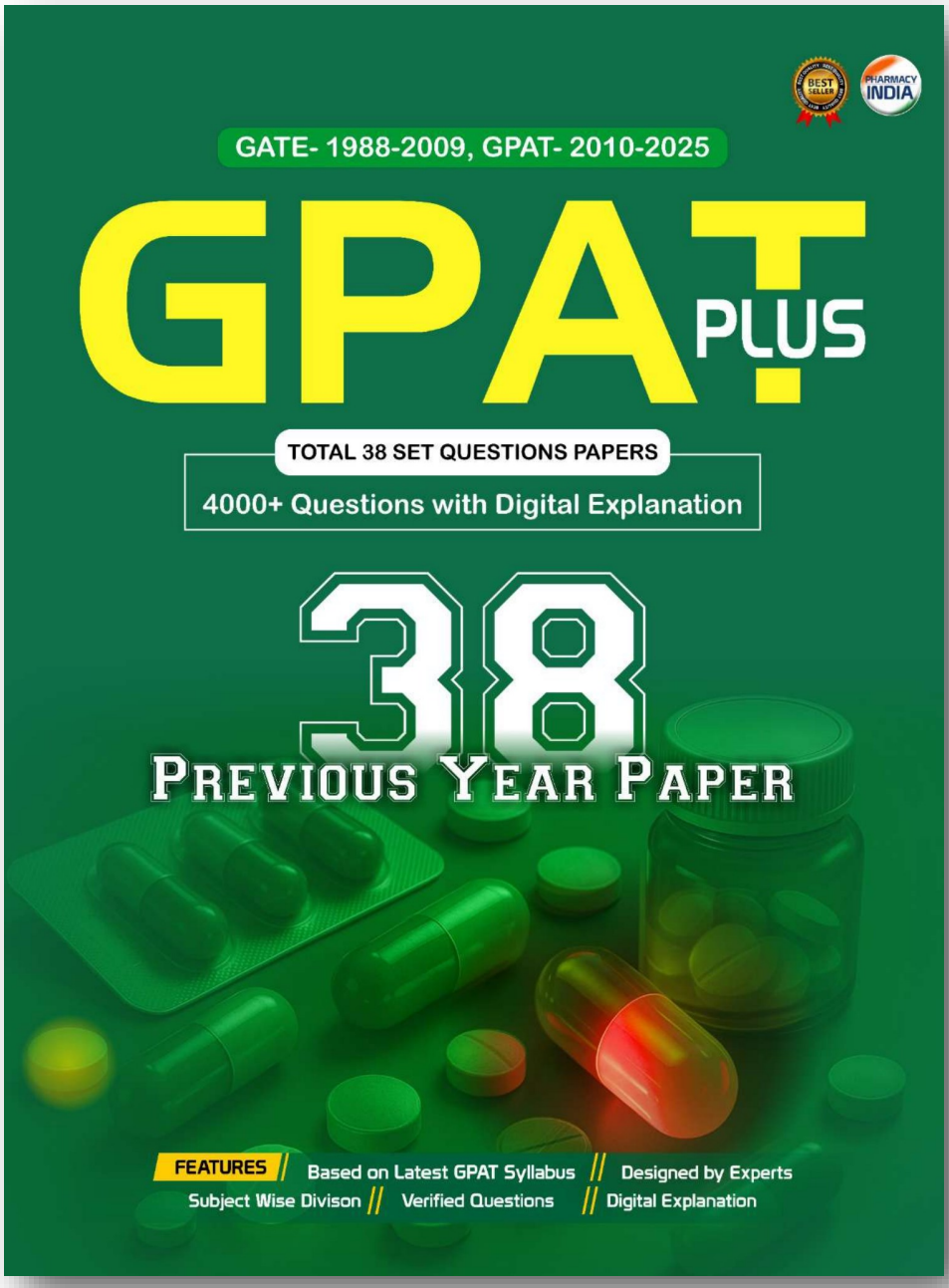

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