OneStopGate
One Stop to GATE Success

Q. No. 1 – 20 Carry One Mark Each

1. An antidiabetic drug Piogliazone used in Type 2 diabetes acts by
   (A) Decrease of glucose uptake in muscles (B) Increasing insulin sensitivity
   (C) Inhibiting intestinal n-glucosidase (D) Stimulating insulin secretion

2. An angiotensin-II receptor blocker useful in treating hypertension is
   (A) Enalaprilat (B) Valsartan (C) Atenolol (D) Amiodipine

3. Co-administration of NSAIDs with Warfarin may often lead to
   (A) Antagonistic interaction
   (B) Interaction to change in drug transport
   (C) Interaction due to disturbances in electrolyte balance
   (D) Additive or synergistic interaction

4. Laminaria and Kelp are the principal genera, currently used for the industrial production of
   (A) Carrageenans (B) Agar
   (C) Fucans (D) Alginic acid and alginates

5. A transverse section of the root fo Glycyrrhiza glabra when treated with 80% sulphuric acid gave
   (A) Deep yellow colour (B) No reaction, but only charring
   (C) Deep blue colour (D) Deep red colour

6. Microscopy of the bulbs of Urginea Indica family Liliaceae shows
   (A) Prisms of calcium oxalate (B) Calcium carbonate and silica
   (C) Rosettes of calcium oxalate (D) Raphides of calcium oxalate

7. Streptomycin is a
   (A) di-acidic base possessing an aldehydic carbonyl group
   (B) tri-acidic base possessing an aldehydic carbonyl group
   (C) neutral compound possessing a ketonic group
   (D) acidic compound possessing a carboxylic group

8. The antihistamine with diphenyl methyl group is
   (A) Methdilazine (B) Cyclizine hydrochloride
   (C) Pheniramine (D) Phenindamine

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9. Heterocyclic rings present in pilocarpine are
(A) Imidazole and Quinoline (B) Imidazole and Thiazole
(C) Quinoline and Phenanthrene (D) Imidazole and Dihydrofuran

10. The most important microbial virulence factor in the etiology of bacterial meningitis is
(A) Exotoxin (B) Components of the capsule
(C) Coagulase (D) Hyaluronidase

11. Commonly used tetanus vaccine is produced by
(A) treatment of the causative organism with heat or UV light and finally obtaining the toxoid
(B) sub-culuring the virus at pH 10.4
(C) artificially generating antibodies to viral glycoproteins
(D) isolating the antigenicity genes from the causative organism

12. Which of the following equations is valid for standard B-DNA?
(A) A+T=G+C (B) A+T=2(G+C) (C) 2(A+T)=3(G+C) (D) A+G=T+C

13. Clinical jaundice, typified by yellowing of the tissues is associated with elevated levels of
(A) serum lysozyme (B) serum bilirubin
(C) serum creatinine (D) serum γ-glutamyl transferase

14. In NMR spectrometry, the chemical shift (δ) is expressed in
(A) Parts per million (B) Gauss (C) Tesla (D) Hertz

15. In chromatographic separation, the different species in the sample, undergo the process of
(A) chemical interaction (B) partition (C) volatilization (D) ionization

16. A target material used in the production of X-rays is
(A) potassium (B) copper (C) aluminium (D) sodium

17. The requirements and guidelines for clinical trials, import and manufacture of new drugs as per the Drugs & Cosmetics Rules is given under Schedule
(A) N (B) Y (B) A (D) B

18. The growth of large particles at the expense of smaller ones, as a result of a difference in the solubility of the particles of varying sizes, is termed as
(A) Interfacial phenomenon (B) Partitioning
(C) Erosive formulation (D) Oswald ripening

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19. Cyclic oligomers of glucose that form water soluble inclusion complexes, which are biocompatible and improve the bioavailability of drugs

(A) chlorophyll (B) polyethylene glycol

(C) cross povidone (D) cyclodextrin

20. 'Draves test' is associated with measuring the efficiency of

(A) Detergents (B) Wetting agents

(C) Suspending agents (D) Adsorbent

Q. No. 21 – 75 Carry Two Marks Each

21. Effects of fibrates on blood lipids are mediated by

(A) Inhibiting both synthesis and esterification of fatty acids

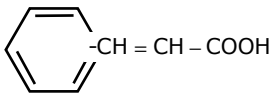
(B) Their interaction with peroxisome proliferators-activated receptors (PPARs)

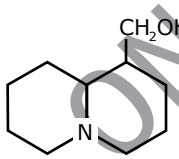
(C) Reducing the conversion of HMG-CoA to mevalonate

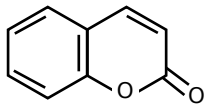
(D) Sequestering bile acids

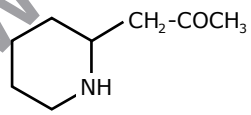
22. A cardioselective beta blocker with vasodilating properties is

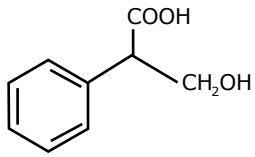
(A) Pindolol (B) Atenolol (C) Bisoprolol (D) Nebivolol

23.  is the precursor for the biosynthesis of

(A) 

(B) 

(C) 

(D) 

24. (-) – Hyoscyamine is

(A) 15-20 times more active as a mydriatic than (+)- hyoscyamine

(B) Inactive as a mydriatic

(C) 3-5 times less active as a mydriatic than (+)- hyoscyamine

(D) 100 times more active as a mydriatic than (+)- hyoscyamine

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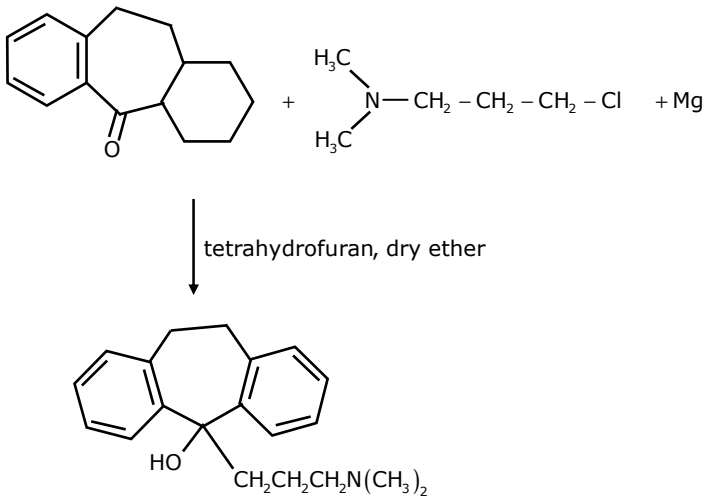
25.



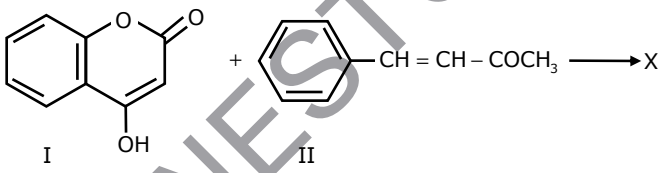
The reaction is known as

(A) Grignard reaction
(B) Gabriel phthalimide synthesis
(C) Gomberg reaction
(D) Reimer Tiemann reaction

26. In thiazole diuretics, the position 7 is very important and is occupied by a

(A) CH_3 group
(B) Free sulphamoyl group
(C) Chloro group
(D) Free – NH_2 group

27. Compound I reacts with II to form X



X is I II

(A) Ethyl biscoumacetate
(B) Phenindione
(C) Warfarin
(D) Dicoumarol

28. A mass spectrum is obtained by plotting

(A) Molecular weight versus peak height
(B) Concentration versus peak height
(C) Concentration versus degree of deflection of ions
(D) Abundance of ions versus their m/e ratio

29. Aldehydes can be distinguished from other C=O containing compounds by IR, due to

(A) The low frequency of absorption of aldehydes
(B) The alkyl or aryl group is attached to >C=O
(C) The double bond present
(D) The double at the C-H-stretching region

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30. A super disintegrant in tablet formulation is

(A) sodium starch glycollate (B) starch

(C) PVP (D) Mg-Aluminium silicate

31. A drug was administered to 30 subjects as a tablet (30 mg), an oral aqueous solution (30 mg) and as an intravenous infusion (0.3 mg). Mean AUC's (ng.hr/mL), dose normalized to 1 mg, for tablet, oral solution and IV were 0.91, 0.87 and 103.0 respectively.

Calculate the relative bioavailability of the drug in tablet compared to the oral solution and the absolute bioavailability of tablet form

(A) 104.6%, 0.883% (B) 81%,5.6%

(C) 10.46%, 8.83% (D) 19%, 56%

32. When ammonium chloride is gradually and slowly incorporated into an emulsion stabilized with ammonium oleate,

(A) Emulsion will crack immediately

(B) It will invert from o/w to w/o type

(C) It will invert from w/o to o/w type

(D) There will be no impact on its physical stability

33. A prescription requires 4 mEq/ liter of hydrogen phosphate ion HPO_4^{-2}. How many milligrams of dibasic potassium phosphate K_2HPO_4 (molecular weight 174) be required?

(A) 174 mg/litre (B) 30.5 mg/litre (C) 522 mg / litre (D) 348 mg/ litre

34. Gram positive bacteria typically contain

(A) cell walls that lack peptidoglycans

(B) repeating units of arabinogalactan and mycolates in their cell walls

(C) Peptidoglycan containing muramic acid and D-amino acids in their cell walls

(D) cell walls containing predominantly polysaccharides and glycoprotein

35. Quaternary structure of a protein molecule refers to

(A) Specific association of two or more copies of a polypeptide chain to result in a biologically active molecule

(B) Regularly seen local structures within a polypeptide chain

(C) The portion of the polypeptide chain that comes into contact with another protein molecule

(D) The portion of the structure that gets stabilized upon binding to nucleic acids

36. A blood sample is treated with alkaline phosphotungestic acid to from tungsten blue, which is estimated colorimetric ally to give a positive reaction. The sample contains

(A) Protien (B) Serum creatinine

(C) Serum Phenylalanine (D) Uric acid

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37. Two important steps for plant regeneration by organogenesis are

(P) Establishment of callus cultures (Q) Initiation of somatic embryogenesis

(R) Germination of seeds (S) Initiation of cell suspensions

(A) Q, S (B) P, R (C) P, S (D) Q, R

38. Two tests for ephedrine are

(P) A solution in dilute HCl, treated with copper sulphate and sodium hydroxide gives a violet colour

(Q) An alcoholic solution gives a red colour with $FeCl_3$

(R) On shaking with solvent ether, the organic layer shows purple while the aqueous layer becomes blue in colour

(S) A solution of vanillin gives a violet-red colour

(A) Q, S (B) P, S (C) P, R (D) Q, R

39. Dried fruits of sweet fennel has two of the following properties

(P) 80% of E-anethole, 10% of methyl chavicol and 5% (+) – fenchone as constitutents

(Q) 65-75% (+)- Linalool as a constitutent

(R) The fruit is a diakene, almost cylindrical and surrounded by large stylopod

(S) The fruit is elongated and surrounded by calyculus

(A) P, R (B) Q, S (C) P, S (D) Q, R

40. Dihydroxy acetone phosphate is involved in the biosyntheses of two of the following

P: serotonin Q: triacylglycerol R: pyruvate S: methionine

(A) P, Q (B) P, R (C) Q, S (D) Q, R

41. The virus responsible for SARS can be described by two of the following features

P: It contains double-stranded DNA and requires two complementary strands to be synthesized to serve as mRNA

Q: It has distinctive club-shaped particles projecting from the surface, appearing like a crown.

R: It contains plus-strand RNA that can serve directly as mRNA

S: It is retrovirus and requires extra cellular DNA for replication

(A) P, Q (B) P, S (C) Q, R (D) R, S

42. Two of the following facts are associated with Ethylene oxide gas

(P) It is non toxic and non inflammable and used for sterilization

(Q) It is a colourless inflammable gas, toxic in nature and used for sterilization

(R) It is diluted with CO_2

(S) It cannot penetrate plastic and paper packaging

(A) P, R (B) P, S (C) R, S (D) Q, R

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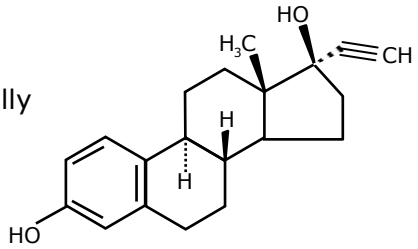
43. This compound



(P) is active parenterally

(Q) shows greater activity orally than parenterally

(R) is orally inactive

(S) has no parenteral activity

(A) P, Q (B) Q, R (C) R, S (D) P, S

44. Tranexamic acid is

P trans-4-amino methyl cyclohexane carboxylic acid

Q a polypeptide

R an inhibitor pf proteolytic enzymes including plasmin

S used for the prophylaxis of hemorrhage associated with excessive fibrinolysis

(A) P, S (B) P, R (C) Q, R (D) R, S

45. Prostaglandins are derivatives of

P C_{25} acid

Q 7-(2 cyclohexyl) pentenoic acid

R C_{20} prostanoic acid

S 7-(2 octyl cyclopentyl) heptanoic acid

(A) P, Q (B) R, S (C) P, R (D) Q, S

46. Two ex-officio members of the Drugs Technical Advisory Board under Drugs and Cosmetics Act are

(P) The Drugs Controller General of India

(Q) The President, Medical Council of India

(R) The Secretary, Pharmacy Council of India

(S) The Director, National Institute of Pharmaceutical Education and Research, India

(A) P, Q (B) P, R (C) R, S (D) P, S

47. Calfactant is

P a sterile non-pyrogenic lung surfactant intended for intracgeal instillation to premature infants

Q a synthetic surfactant popularly used to prepare total parental nutrition

R a potent chelating agent used to prevent metal induced oxidation process

S an extract of natural surfactant from calf lungs

(A) P, Q (B) R, S (C) P, S (D) Q, R

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48. In cross-over bioavailability studies, in which the subjects must be rested for sufficient time between each drug administration to ensure that 'washout' is complete. Practically, wash-out is deemed complete, when

(P) 95% is washed out (Q) 100% is washed out

(R) 5 biological half-lives have elapsed (S) 2 biological half-lives have elapsed

(A) P, R (B) P, S (C) Q, R (D) Q, S

49. Two reference electrodes are

P. Glass membrane electrodes Q. Sb/Sb_2O_3 electrodes

R. Calomel electrode S. Silver/Silver-chloride electrode

(A) P, Q (B) Q, S (C) R, S (D) P, R

50. Polarography can be used for the

P simultaneous determination of several analytes

Q study of resistance of a solution

R study of current potential relationship

S study of optical activity of organic compounds

(A) P, S (B) Q, S (C) P, R (D) P, Q

51. Primary amines show

P Two N-H stretching bands in the range of 3500 – 3300cm^{-1}

Q Only one band in the region 3500 – 3300 cm^{-1}

R -NH band in primary amine results in a broad band in the region 1640 – 1560 cm^{-1}

S the typical –NH2 stretching value at 1715 cm^{-1}

(A) Q, R (B) P, R (C) P, S (D) Q, S

52. The drug disulfiram is

P known to inhibit dopamine β-hydroxylase and cause noradrenaline depletion

Q a substance that produces aversive reaction to alcohol

R known to stimulate dopamine β-hydroxylase

S used in barbiturate poisoning

(A) P, S (B) Q, R (C) R, S (D) P, Q

53. Two important attributes associated with L- asparaginase

P: an enzyme obtained from E.Coli and is administered paranterally

Q: an enzyme obtained from Streptococcus caespitosus and is administered orally

R: used in acute lymphocytic leukemia

S: used as fibrinolytic

(A) P, S (B) P, R (C) Q, R (D) Q, S

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54. Amikacin is

P a semisynthetic aminoglycoside and a derivative of kanamycin

Q a semisynthetic aminoglycoside and a derivative of tobramycin

R it is administered parenterally and does not cause nephrotoxicity and otooxicity

S it is administered parenterally and is both nephrotoxic and ototoxic

(A) P, Q (B) P, R (C) P, S (D) Q, S

55. Matching exercises. Match Group I and Group-II and identify the correct combinations

Group-I **Plant**	**Group-II** **Source**
(P) Thorn apple	(1) Dried leaves and flowering tops of Hyoscyamus niger
(Q) Henbane	(2) Dried leaves and flowering tops of Datura Stramonium
(R) Deadly nightshade	(3) Leaves of Digitalis purpurea dried at a temperature below 60ºC
(S) Foxglove leaves	(4) Dried leaves and other aerial parts of Atropa acuminate

(A) P - 2 Q - 1 R - 4 S - 3 (B) P - 1 Q - 2 R - 3 S - 4

(C) P - 3Q - 4 R - 2 S - 1 (D) P - 2 Q - 3 R - 4 S - 1

56.

Group I Drugs	**Group II** Source
(P) Kaolin	(1) natural diatomaceous earth consisting of siliceous skeletons of fossils
(Q) Kieselguhr	(2) purified native hydrated aluminium silicate free from gritty particles
(R) Calamine	(3) hydrated magnesium silicate
(S) Talc	(4) an ore contains zinc oxide with a small amount of ferric oxide

(A) P – 1 Q – 4 R – 3 S – 2 (B) P – 2 Q – 4 R – 1 S – 3

(C) P – 2 Q – 1 R – 4 S – 3 (D) P – 3 Q – 2 R – 1 S – 4

57. Proof for the following in the natural products is obtained by some reactions

Group-I **Natural product**	**Group-II** **Reactions**
(P) Cholesterol-nature of ring	(1) Treatment with HNO_2 forms a nitroso compound
(Q) Ephedrine-secondary amino group	(2) Selenium dehydrogenation gives Diel's hydrocarbon

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(R) Morphine-secondary-OH group

(3) With-CH_3I in aqueous KOH gives (-) codeine, which is not soluble in alkali; codeine can be oxidized with chromic acid to codeinone

(S) Caffeine-nature of ring

(4) Oxidation with potassium chlorate in hydrochloric acid gives dimethyl alloxan and methyl urea

(A) P - 3Q - 1 R - 2 S - 4

(B) P - 2 Q - 1 R - 3 S - 4

(C) P - 3 Q - 4 R - 1 S - 2

(D) P - 4Q - 2 R - 1 S - 3

58. Derivatives of cortisol and their structural modifications are

	Group I		**Group II**
	Derivative		Structural modification
P.	Prednisolone	1.	1, 2-dehydro, 9α-fluoro, 16α-methyl
Q.	Dexamethasone	2.	1, 2-dehydro
R.	Betamethasone	3.	1, 2- dehydro, 9α-fluoro, 16β-methyl
S.	Triamcinolone	4.	1, 2-dehydro, 9α-fluoro, 16α-hydroxy

(A) P-2 Q-1 R-3 S-4

(B) P-2 Q-1 R-3 S-4

(C) P-2 Q-4 R-3 S-1

(D) P-3 Q-2 R-1 S-4

59.

	Group I		**Group II**
	Drugs		Starting material for synthesis
P.	Clofazimine	1.	p-chloronitro benzene
Q.	Ketoconazole	2.	L-phenyl alanine
R.	Melphalan	3.	-N-(4-chlorophenyl)-O-phenylenediamine
S.	Dapsone	4.	2, 4-dichloro phenylbromide and glycerine

(A) P-1 Q-2 R-3 S-4

(B) P-4 Q-3 R-1 S-2

(C) P-3 Q-4 R-2 S-1

(D) P-2 Q-1 R-4 S-3

60.

Group I	Group II
Industrial dryers	Pharmaceutical materials dried
(P) Drum dryer	(1) Antibiotic solution
(Q) Fluidized bed dryer	(2) Tablet granules
(R) Spray dryer	(3) Gelatin
(S) Freeze dryer	(4) Suspension of kaolin

(A) P – 1 Q – 3 R – 4 S – 2

(B) P – 4 Q – 2 R – 3 S – 1

(C) P – 4 Q – 2 R – 1 S – 3

(D) P – 3 Q – 2 R – 4 S – 1

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61. **Group I** — Name of equation

(P) Noyes & Whitney equation

(Q) B.E.T equation

(R) Stokes equation

(S) Higuchi equation

Group II — Equation

(1) $\frac{dM}{dt} = \frac{DS}{h}(C_s - C)$

(2) $\frac{P}{Y(P_0 - P)} = \frac{1}{Y_m b} + \frac{b-1}{Y_m b}\frac{P}{P_0}$

(3) $v = \frac{d^2 (P_s - P_0) g}{18\eta_0}$

(4) $Q = \sqrt{\frac{DC_s t}{2A - C_s}}.(2A - C_s)$

(A) P – 4 Q – 2 R – 3 S – 1

(B) P – 2 Q – 4 R – 1 S – 3

(C) P – 4 Q – 2 R – 1 S – 3

(D) P – 1 Q – 2 R – 3 S – 4

62.

	Group I Types of coating		**Group II** Coating materials
(P)	Seal coating	(1)	HPMC
(Q)	Sub coating	(2)	Carnauba wax
(R)	Polishing	(3)	Gelatin
(S)	Film coating	(4)	PEG 4000

(A) P – 4 Q – 3 R – 2 S – 1

(B) P – 4 Q – 2 R – 3 S – 1

(C) P – 2 Q – 4 R – 1 S – 3

(D) P – 1 Q – 3 R – 2 S – 4

63.

	Group I Interacting drugs		**Group II Pharmacological effect**
P	Verapamil and Atenolol	1	Increased risk of hyperkalemia
Q	Clozapine and Co-trimoxazole	2	Bradycardia and asystole
R	Alcohol and Flunitrazepam	3	Increased risk of bone marrow suppression
S	Ramipril and Amiloride	4	Severe CNS depression

(A) P – 4 Q – 2 R – 3 S – 1

(B) P – 2 Q – 3 R – 4 S – 1

(C) P – 3 Q – 4 R – 2 S – 1

(D) P – 4 Q – 1 R – 2 S – 3

64.

	Group I Receptors		**Group II Agonists**
P	β-adrenetgic (Type 2)	1	Phenylephrine
Q	α-adrenergic (Type 1)	2	Bromocriptine
R	Dopaminergic (Type 2)	3	Ritodrine
S	5-hydroxytryptamine (Type 1A)	4	Buspirone

(A) P – 1 Q – 4 R – 3 S – 2

(B) P – 3 Q – 2 R – 4 S – 1

(C) P – 2 Q – 3 R – 4 S – 1

(D) P – 3 Q – 1 R – 2 S – 4

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65.

	Group I Drugs		Group II Mechanism
P	Terbinafine	1	Inhibition of reverse transcriptase
Q	Cidofovir	2	Selective inhibition of squalene epoxidase
R	Imatinib	3	Inhibition of DNA polymerase
S	Stavudine	4	Tyrosine kinase inhibitor

(A) P – 1 Q – 1 R – 3 S – 4 (B) P – 4 Q – 3 R – 2 S – 1

(C) P – 2 Q – 3 R – 4 S – 1 (D) P – 3 Q – 2 R – 1 S – 4

66.

	Group I Materials used		**Group II** Instrumental techniques
P.	Sodium chloride	1.	Colorimetry
Q.	Glass	2.	UV spectrophotometry
R.	Quartz	3.	X-ray diffraction
S.	Potassium hydrogen phthalate	4.	IR spectrophotometry

(A) P-1 Q-2 R-3 S-4 (B) P-4 Q-1 R-2 S-3

(C) P-3 Q-4 R-1 S-2 (D) P-2 Q-3 R-4 S-1

67.

	Group I Drugs		**Group II** B. P. Assay
P.	Iopanoic acid	1.	Titration of a solution in anhydrous formic Acid and acetic anhydride with 0.1 N perchloric acid
Q.	Cyclizine hydrochloride	2.	Titration of a solution in dimethyl formamide With 0.1 M tetrabutyl ammonium hydroxide
R.	Chlorothiazide	3.	Treating with sodium hydroxide and zinc powder and then titration with 9.1 N silver nitrate
S.	Chlorambucil	4.	Titration with 0.1 N sodium hydroxide using phenolphthalein indicator

(A) P-1 Q-2 R-3 S-4 (B) P-2 Q-4 R-1 S-3

(C) P-4 Q-3 R-1 S-2 (D) P-3 Q-1 R-2 S-4

68.

	Group I Techniques		**Group II** Related equations
P.	Potentiometry	1.	$id=708nCD^{1/2}m^{2/3}t^{1/6}$
Q.	Polarography	2.	$V_R = t_R F_c$

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R. Colorimetry 3. P-3 Q-1 R-2 S-4 $E=E^0-\frac{RT}{nF}\log[H^+]$

S. Column chromatography 4. $A=\varepsilon bc$

(A) P-1 Q-4 R-3 S-2 (B) P-3 Q-2 R-1 S-4

(C) P-2 Q-3 R-4 S-1 (D) P-3 Q-1 R-4 S-2

69.

	Group I Test		Group II Principle
P	Direct agglutination test	1	Measures antibody titres after soluble antigens are attached to inert particles and incubated with antibodies
Q	Passive agglutination	2	Detects blocking-type antibodies, globulins and complement that are attached to red cell antigens
R	Haemagglutination inhibition test	3	RBCs coated with homologous antigens added to antibodies incubated with soluble antigens
S	Coomb's test	4	RBS antigens incubated with antibodies and antibody titre visually examined

(A) P – 2 Q – 4 R – 1 S – 3 (B) P – 4 Q – 1 R – 3 S – 2

(C) P – 1 Q – 3 R – 2 S – 4 (D) P – 3 Q – 2 R – 4 S – 1

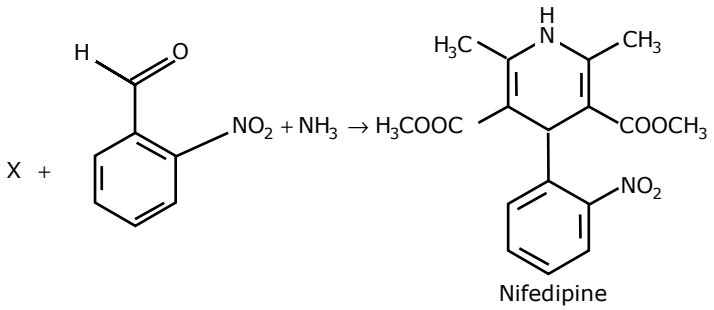
70.

	Group I Enzymes		Group II Functions
P	Na^+-K^+ ATPase	1	Electron transport
Q	Cytochrome c oxidase	2	Pathway converting pyruvate to oxaloacetate
R	Malate dehydrogenase	3	Generation of electrochemical potential
S	Tyrosine Kinase	4	Signal transduction

(A) P – 3 Q – 1 R – 2 S – 4 (B) P – 1 Q – 3 R – 4 S – 2

(C) P – 2 Q – 4 R – 1 S – 3 (D) P – 4 Q – 2 R – 3 S – 1

Common Data Questions 71, 72 & 73



Nifedipine

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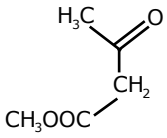
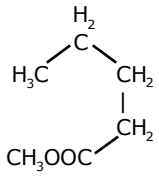
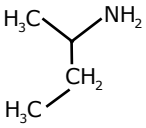
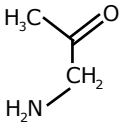
71. Reagent X is

(A) 

(B) 

(C) 

(D) 

72. Nifedipine when exposed to day light and artificial light, is readily converted to a derivative of

(A) 4-Phenyl pyridine
(B) Nitrosophenyl pyridine
(C) Diazophenyl pyridine
(D) Nitrobenzene

73. The B.P.assay of Nifedipine is by titration of a

(A) Solution in anhydrous acetic acid with 0.1M perchloric acid
(B) Solution in previously neutralized acetone with 0.1N sodium hydroxide; end point by potentiometry
(C) Solution in previously neutralized acetone against standard potassium dichromate solution
(D) A solution in 2 methyl -2 propanol and perchloric acid with 0.1M cerium sulphate using ferroin as indicator

Common Data Questions 74 & 75

Tenoposide is a natural product used for the management of certain diseases.

74. It is derived form

(A) Flavonolignans form Silybum marianum
(B) Lignans from Podophyllum peltatum
(C) Lignans from Schizandra chinensis
(D) Neolignans from Piper futokadsura

75. This drug is used in the management of

(A) Candidiasis
(B) Trypanosomiasis
(C) Cardiac arrhythmia
(D) Acute leukemia in children

Linked Answer Questions: Q.76 to Q.85 Carry Two Marks Each

Statement for Linked Answer Questions: 76 & 77

Extracts of Chondrodendron tomentosum, family menispermaceae contains several alkaloids

76. One of the important alkaloid is

(A) (-) Phyllandrene
(B) (+) Holarrhenine
(C) (+) Tubocurarine
(D) (±) Colchicine

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77. This alkaloid has

(A) Bis benzyl tetrahydro isoquinoline ring (B) Quinoline ring

(C) Phenanthrene ring (D) Pyrido pyrimidine ring

Statement for Linked Answer Questions: 78 & 79

Several drugs are used for migraine

78. Acute migraine is treated with

(A) Prazosin (B) Formeterol (C) Sumatriptan (D) Dopamine

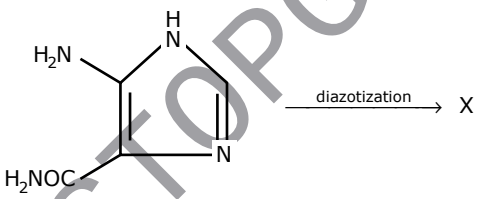
79. The drug chosen is an agonist of

(A) α_1 adrenoceptor (B) α_2 adrenoceptor

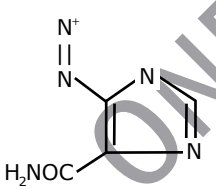
(C) M_3 receptor (D) $5-HT_{ID}$ receptor

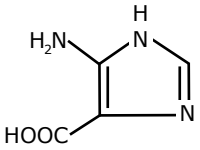
Statement for Linked Answer Questions: 80 & 81

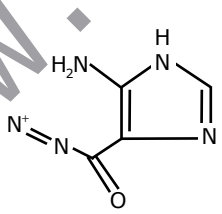
A drug which is used for malignant melanoma is obtained as follows

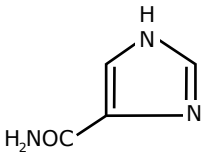


80. X is

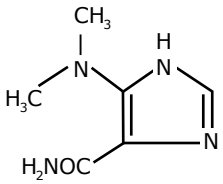
(A) 

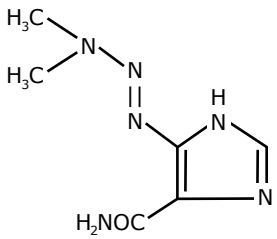
(B) 

(C) 

(D) 

81. X on treatment with dimethylamine gives the drug

(A) 

(B) 

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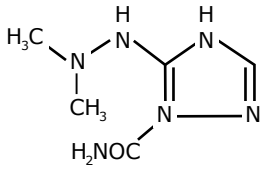
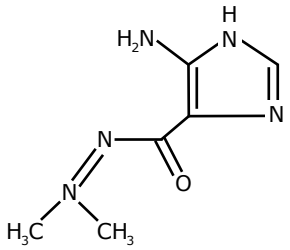
(C) 

(D) 

Statement for Linked Answer Questions: 82 & 83

A 250 mg dose of a drug was administered to a patient by rapid IV injection. The initial plasma concentration was 2.50μg/mL. After 4 hours, the plasma concentration was 1.89μg/mL. Assuming that the drug was eliminated by a pseudo first order process and the body behaves as one compartment model

82. K_{el} is

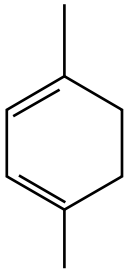
(A) $0.0699\,h^{-1}$ (B) $0.0349\,h^{-1}$ (C) $1.623\,h^{-1}$ (D) $0.699\,h^{-1}$

83 Biological half life is

(A) 4.95 hours (B) 19.82 hours (C) 99.1 hours (D) 9.91 hours

Statement for Linked Answer Questions: 84 & 85

As per the Woodward-Fieser rule, the absorption maxima of the compound shown is calculated from the base value and the ring residue values



84. Base value is

(A) 215nm (B) 253nm (C) 240nm (D) 217nm

85. Absorption maxima is

(A) 273nm (B) 258nm (C) 265nm (D) 237nm

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