

Q.1 – .20 Carry One Mark Each

1. Carr – price method is used to identify
(A) Alkaloids (B) Glycosides (C) Vitamin-A (D) Vitamin-D
2. Water attack test is performed for which type of glass containers.
(A) Type – I (B) Type – II (C) Type – III (D) Type – IV
3. Relative humidity is to be maintained in the formulation of capsules.
(A) 65% (B) 45% (C) 25% (D) 28%
4. A drug of choice for the treatment of motion sickness
(A) Atropine (B) Scopalamine
(C) Carbamazepine (D) Metaclopramide
5. Iron is an essential component of all except
(A) Xanthine oxidase (B) Carbonic anhydrase
(C) Catalase (D) Peroxidase
6. Which of the following drug is used in the treatment of multidrug resistance strain of "Plasmodium falciparum"
(A) Proguanil (B) Pyremethamine (C) Mefloquine (D) Mepacrine
7. Antiviral activity of Azidothymidine is due to
(A) it inhibits viral protein synthesis
(B) it inhibits the viral RNA dependent DNA polymerase
(C) it inhibits viral DNA polymerase
(D) xanthine oxidase
8. Orange – red coloured urine is a relatively common side effect of the following therapy
(A) Riboflavin (B) Chloramphenicol (C) Rifampicin (D) Dapsone
9. Opioid drugs are used as all of the following agents except
(A) Antitussive (B) Analgesics
(C) Antidiarrheals (D) Anti inflammatory

10. The sex pheromones such as 7, 8 epoxy 2-methoxy octadecane have been exploited for
(A) Pest control (B) Insect control (C) Weed control (D) Rodenticide
11. Hyocyanine is a tropane alkaloid biosynthesized from
(A) Ornithine (B) Tryptophan (C) Tyrosine (D) Lysine
12. Meyer and overtone postulated that anesthetic potency is related to
(A) Cellular permeability (B) Lipoid solubility
(C) Effect on cellular colloids (D) All of the above
13. An example of drug that contains 1, 2 benzo thiazine moiety
(A) Piroxicam (B) Diltiazem
(C) Hydrochlor thearide (D) Diazepam
14. When Diphenyldiketone is condensed with urea in presence of alcoholic alkali gives
(A) Benzoin (B) Phenytoin
(C) Phenobarbitone (D) Primidone
15. Dobutamine is a cardiovascular drug acts by
(A) Stimulation of α_1 receptors (B) Stimulation of β_1 receptor
(C) Stimulation of both α_1 & β_1 receptor (D) Blocking β_2 receptors
16. "Azaspirodecanedione" derivative having anti-anxiety property
(A) Buspirone (B) Vigabatrine (C) Spiranolactone (D) Tiagabine
17. 3-chloro diphenylamine is condensed with sulfur in presence of iodine gives
(A) 2-chloro phenothiazine (B) 2-iodo, 3 chloro phenothiazine
(C) 4-chloro 2 iodo phenothiazine (D) 3 chloro - phenothiazine
18. "Acute dystonic reaction" and "Akathisia" are the major adverse effects, produced by phenothiazine derivatives can be treated by
(A) Diphen hydramine (B) Benzotropine
(C) Levodopa (D) Pyridoxin

19. Antineoplastic agent that is classified as an alkylating agent
(A) Bleomycin (B) Busulfan (C) Bemegride (D) Uincriston
20. _____ defined as number of mgs of KOH required to neutralize the free fatty acids present in 1 gm of fat or oil
(A) Acetyl value (B) Acid value
(C) Saponification value (D) Iodine value

Q.21 – Q.75 Carry Two Marks Each

21. $\pi - \pi^*$ singlet transition results is
(A) U.V absorption (B) Excitation
(C) Phosphorescence (D) Fluorescence
22. Sodium and potassium in biological fluids can be estimated by
(A) Fluorimetry (B) Turbidometry
(C) Flame Photometry (D) Colorimetry
23. The preferred source of light in a U.V spectrophotometer is
(A) Tungsten lamp (B) Hydrogen discharge lamp
(C) Mercury arc (D) Deuterium lamp
24. An example for alkaloid which is in liquid state
(A) Nicotin (B) Papaverin (C) Emetin (D) Hesperidin
25. Cocaine on complete hydrolysis gives
(A) Methanol + Benzoic acid + Ecgonine
(B) Ethanol + Benzylalcohol + Ecgonine
(C) Ecgonine + Benzoic acid + phenol
(D) Tropine + Ecgonine
26. Ergosterol on irradiation in presence of U.V light gives
(A) Vitamin D₁ (B) Vitamin D₂ (C) Vitamin D₃ (D) Vitamin D₅
27. The activity of dihydro folate reductase is inhibited by
(A) Sulfamethoxazole (B) Dapsine
(C) Pyrimethamine (D) Solapsine

28. "Optic neuritis" is a chief adverse effect of
(A) Isoniazide (B) Pyrazinamide (C) Rifampicin (D) Ethambutol
29. In size reduction process, "Rittinger's law" states that the energy required for size reduction of material is
(A) Indirectly proportional to surface area produced
(B) Directly proportional to surface area produced
(C) Inversely proportional to surface area produced
(D) Logarithmic ratio between the size of feed and reduced product
30. A licence is issued to manufacture for sale of drugs other than those specified in schedules C, C₁ and X
(A) Form 28 (B) Form 25 (C) Form 21 B (D) Form 22 C
31. Following I.V bolus administration of drug plasma concentration was found to be 18.2, 10.0, 5.5mg/ml of zero time, after 2 hours and 4 hours respectively
(A) 12 hours (B) 23 hours (C) 25 hours (D) 2.3 hours
32. Wave length of a radiation is 5.0M, wave number corresponding to that is
(A) 4000 cm⁻¹ (B) 2000 cm⁻¹ (C) 3000 cm⁻¹ (D) 1000 cm⁻¹
33. Solubility of sparingly soluble salt can be determined by
(A) Potentiometer (B) Conductometer (C) Amperometer (D) Colorimete
34. To calculate "diffusion current" the following one is used:
(A) Nernst equation (B) Illkovic equation
(C) Jalonski equation (D) Planks equation
35. H₂ receptor antagonists have therapeutic value is
(A) Urticaria (B) Rhinitis (C) Gastric disease (D) Skin disease
36. Clavulnic acid is a
(A) Inactivates bacterial B - lactamase
(B) Potent inhibitor of cell wall transpeptidase
(C) Potent inhibitor of D-alanine
(D) In-activates cell membrane function

37. When P-Amine 2-chloro ethylbenzoate is condensed with diethylamine gives one of the following product
(A) Prilocain (B) Procain c (C) Benzocain (D) Butacain
38. Loop directic belongs to sulfonylurea class
(A) Furosemide (B) Toresemide
(C) Ethacrynic acid (D) Tolazamide
39. Streptomycin is an aminoglycosidic antibiotic which has complete hydrolysis gives
(A) Streptobiosamine + streptose + N-metheyl glucosamine
(B) Streptobiosamine + streptose
(C) Streptine + streptobiosamine
(D) Streptidine + strepto biosamine + D-glucose
40. Polyene antibiotic such as Nystatin acts by
(A) Inhibits bacterial DNA synthesis (B) Act as antimetabolite
(C) React with sterol of cell membrane (D) React with cell wall function
41. "Lysozyme" is present in the following biological fluids
(A) Lacrimal fluid (B) Cerebrospinal fluid
(C) Seminal fluid (D) Saliva
42. Among the four opoids given below, the metabolite one of the following produces "cardiotoxicity"
(A) Fentanyl (B) Meperidine
(C) Propoxyphen (D) Diphenoxylate
43. In the microbiological assay of bacitracin – IP the test organism used is
(A) Stap.aureus (B) E.coli
(C) B.pumilis (D) micrococcus luteus
44. "Stratified cork" is a characteristic microscopic identification of the following croude drug
(A) Ipecae (B) Kurchi (C) Rauwolfia (D) Quillia
45. _____ on treatment with philoroglucinol and HCl gives pink colouration
(A) Starch (B) Calcium oxalate (C) Tannius (D) Lignins

46. "Betains" are used in the formulation shampoos because they have
(A) Foaming property (B) Antimicrobial activity
(C) Antioxidant property (D) Hair conditioning effect
47. Ethyl N-methyl 4 phenyl piperidine carboxylate is a chemical name of
(A) Pethidine (B) Methadone
(C) Propoxyphen (D) Diphenoxylate
48. 2 bis (2 chlonethyl) amine per hydro 1, 3, 2 oxazaphosphorinane produces major toxic effect is known as
(A) Hirsutism (B) Haemorrhiegc cystitis
(C) Ototoxicity (D) Encephalitis
49. The standardizing agent for acetous perchloric acid
(A) Sodium hydroxide (B) Potassium permanganate
(C) Potassium hydrogen phthalate (D) 1, 4 dioxane
50. Mulling agent(s) used in Infra-Red spectroscopy
(A) Nujor (B) Hexachlorobutadiene
(C) NaBr (D) Both (A) & (B)
51. Choose an adreno-corticoid which does not occur in nature
(A) 3-oxo 17 β hydroxy androst - 4ene
(B) 11 β , 7 α , 21 Trihydroxy 1, 4 pregnadiene 3, 20 dione
(C) 11 α , 17 α , 21 Trihydroxy pregn4ene 3, 20 dione
(D) None of the above
52. Nitrazepam is synthesized from
(A) p-nitroaniline and benzyl alcohol
(B) p-nitroaniline and benzyl chloride
(C) m-nitro aniline and benzylamine
(D) p-nitroaniline and benzoyl chloride
53. Etoposide is a semi-synthetic anti-neoplastic agent derived from
(A) Podophyllum hexandrum (B) Podophyllum peltatum
(C) Podophyllum annua (D) Podophyllum brecifolia
54. "Western blotton test" is used to diagnose
(A) Diphtheria (B) AIDS (C) Scarlet fever (D) Leprosy

55. Which of the following is used for the transporting corrosive fluids -
 (A) Piston pump (B) Plunger pump
 (C) Diaphragm pump (D) Centrifugal pump

56.

List I Additives

List II Function

- | | |
|----------------------|--------------------------------|
| (A) Opacifying agent | (1) Aspartame |
| (B) Preservative | (2) Titanium dioxide |
| (C) Antioxidant | (3) Benzyl alcohol |
| (D) Sweetening agent | (4) Butylated hydroxyl toluene |
| (A) A-2 B-3 C-4 D-1 | (B) A-2 B-3 C-1 D-4 |
| (C) A-1 B-2 C-3 D-4 | (D) A-1 B-2 C-4 D-3 |

57.

List I Ingredients

List II Stapes of supar coating

- | | |
|---------------------|---------------------|
| (A) Gelatin | (1) Polishing |
| (B) Carnauba wax | (2) Seal coating |
| (C) PEG-4000 | (3) Sub-coating |
| (D) Sucrose | (4) Syrup coating |
| (A) A-3 B-1 C-2 D-4 | (B) A-1 B-4 C-3 D-2 |
| (C) A-3 B-1 C-4 D-2 | (D) A-1 B-2 C-4 D-3 |

58.

List I Apparatus / Instrument

List II For study of the following

- | | |
|-----------------------|---------------------------------|
| (A) Rotosort | (1) Particle size in suspension |
| (B) Ultrasonifier | (2) To check unfilled capsules |
| (C) Andreasen Pipette | (3) Rheology of semisolids |
| (D) Zeta meter | (4) Homogenization of emulsions |
| (A) A-2 B-4 C-1 D-3 | (B) A-2 B-4 C-3 D-1 |
| (C) A-1 B-3 C-2 D-4 | (D) A-1 B-2 C-3 D-4 |

59.

List I Drug

List II Receptor against / Antagonist

- | | |
|-----------------------------|--|
| (A) Yohimbine | (1) α_2 receptor antagonist |
| (B) Labetalol | (2) β_1 receptor antagonist |
| (C) Metoprolol | (3) α_1 receptor agonist |
| (D) Phenylephrine | (4) α and β receptor antagonist |
| (A) A - 1 B - 4 C - 2 D - 3 | (B) A - 1 B - 4 C - 3 D - 2 |
| (C) A - 2 B - 3 C - 4 D - 1 | (D) A - 1 B - 2 C - 3 D - 4 |

60.

List I Antibiotic

List II Mode of action

- (A) Nalidixic acid (1) Binds to 50s ribosomes and prevents translocation in proton synthesis
(B) Amphotericin (2) Intercalates the base pairs in DNA synthesis
(C) Norfloxacin (3) Acts on cell sterols of cytoplasmic membrane
(D) Erythromycin (4) Prevents DNA synthesis
- (A) A - 4 B - 3 C - 2 D - 1 (B) A - 2 B - 3 C - 1 D - 4
(C) A - 4 B - 1 C - 3 D - 2 (D) A - 2 B - 3 C - 4 D - 1

61.

List I Drug

List II Enzyme inhibitor

- (A) Phenelezine (1) Inhibits acetyl cholinesterase
(B) Physostigmine (2) Inhibition of MAO-B
(C) Allupurinol (3) Inhibition of MAO
(D) Deprenyl (4) Xanthine oxidase inhibitor
- (A) A - 3 B - 1 C - 4 D - 2 (B) A - 1 B - 2 C - 3 D - 4
(C) A - 1 B - 3 C - 4 D - 2 (D) A - 2 B - 4 C - 3 D - 1

62.

List I Disease

List II Causing agent

- (A) Plague (1) Leishmania Dinavani
(B) Syphilis (2) Boardetella pertusis
(C) Whooping cough (3) Tropenema pellidum
(D) Kala-azar (4) Yersinia pestis
- (A) A - 1 B - 4 C - 3 D - 2 (B) A - 4 B - 3 C - 2 D - 1
(C) A - 4 B - 3 C - 1 D - 2 (D) A - 3 B - 4 C - 1 D - 2

63.

List I Drug Poisoning

List II Antidote

- (A) Barbiturate (1) Penicillamine
(B) Leptazole (2) Adrenaline
(C) Histamine (3) Diazepam
(D) Lead (4) Bemegrade
- (A) A - 1 B - 2 C - 3 D - 4 (B) A - 4 B - 3 C - 2 D - 1
(C) A - 4 B - 3 C - 1 D - 2 (D) A - 4 B - 3 C - 2 D - 1

64.

List I Prodrug List II Bio-transformed

- | | | | |
|----------------|------------------|-----|-----|
| (A) Fluoxetine | (1) Oxidation | | |
| (B) Sulindac | (2) Hydrolysis | | |
| (C) Primidone | (3) Dealkylation | | |
| (D) Progabide | (4) Reduction | | |
| (A) A-1 | B-2 | C-3 | D-4 |
| (B) A-3 | B-4 | C-2 | D-1 |
| (C) A-3 | B-4 | C-1 | D-2 |
| (D) A-2 | B-1 | C-3 | D-4 |

65.

List I Biological source of crude drug List II Family

- | | | | |
|------------------------|------------------|-----|-----|
| (A) Urgenia Maritime | (1) Legumihacea | | |
| (B) Quillia saponaria | (2) Polygonaceae | | |
| (C) Rheum paltatum | (3) Rosaceae | | |
| (D) Glycyrrhiza glabre | (4) Liliaceae | | |
| (A) A-4 | B-3 | C-2 | D-1 |
| (B) A-4 | B-3 | C-1 | D-2 |
| (C) A-2 | B-1 | C-3 | D-4 |
| (D) A-1 | B-2 | C-3 | D-4 |

66.

List I Biological source of crude drug List II Principle active principle

- | | | | |
|---------------------------------|-----------------|-------|-------|
| (A) Holarrhena anti-dysenterica | (1) Ergometrine | | |
| (B) Datura metal | (2) Emetine | | |
| (C) Cephalis ipecacuanha | (3) Scopalamine | | |
| (D) Claviceps purpurea | (4) Conessine | | |
| (A) A - 1 | B - 2 | C - 3 | D - 4 |
| (B) A - 1 | B - 2 | C - 4 | D - 3 |
| (C) A - 4 | B - 3 | C - 1 | D - 2 |
| (D) A - 4 | B - 3 | C - 2 | D - 1 |

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67.

List I Starting raw material List II Drug synthesized

- | | | | |
|--|-------------------|-------|-------|
| (A) Anisole | (1) Clofazimine | | |
| (B) P-Anisidine | (2) Ipromiazide | | |
| (C) r-picoline | (3) Indomethacine | | |
| (D) N (4-chlorophenyl)
O-phenylenediamine | (4) Pamaquine | | |
| (A) A - 4 | B - 3 | C - 2 | D - 1 |
| (B) A - 4 | B - 3 | C - 1 | D - 2 |
| (C) A - 3 | B - 4 | C - 1 | D - 2 |
| (D) A - 1 | B - 2 | C - 3 | D - 4 |

68.

List I Drug	List II Active Bomer
(A) Ethambutol	(1) Recemic form
(B) Chlorprothxene	(2) Trans isomer
(C) Diethyl stilbesterol	(3) Z-isomer
(D) Atropine	(4) Dextro

(A) A - 1 B - 2 C - 3 D - 4 (B) A - 4 B - 3 C - 1 D - 2
(C) A - 4 B - 3 C - 2 D - 1 (D) A - 4 B - 2 C - 3 D - 1

69.

List I Identification Test	List II Active component
(A) Thallaquine	(1) Phenylalanine
(B) Murexide	(2) Hyocyamine
(C) Vitalis morein test	(3) Quinine
(D) Ninhydrine test	(4) Uric acid

(A) A - 3 B - 4 C - 2 D - 1 (B) A - 2 B - 1 C - 3 D - 4
(C) A - 3 B - 4 C - 1 D - 2 (D) A - 1 B - 2 C - 3 D - 4

70.

List I Drug	List II Heterocyclizing
(A) Pheniramine	(1) Aziridine
(B) Diltiazem	(2) Thiophene
(C) Tenoxicam	(3) Benzothiazepine
(D) Thiotepa	(4) Pyridine

(A) A - 4 B - 3 C - 1 D - 2 (B) A - 3 B - 4 C - 2 D - 1
(C) A - 1 B - 2 C - 3 D - 4 (D) A - 4 B - 3 C - 2 D - 1

Common Data Questions: 71 & 72

71. TMS is a most convenient reference standard because of the fact that It shows
- (A) Presence of relatively high shielding of the protons and causes to resonate at up field
- (B) Presence of protons which may be chemically equivalent but magnetically non equivalent
- (C) Presence of protons in the methyl gps are not identified
- (D) Presence of Diastereo protons and can't be distinguished

72. It contains silicon which has the one the of the following property
- (A) Silicon is more electro negative than carbon
 - (B) Silicon is more electropositive than carbon
 - (C) Silicon causes more de-shielding
 - (D) Silicon forms intermolecular association with sample

Common Data Questions: 73 & 74

Ethyl phenyl malonic ester is refluxed with urea in presence of ethanol to give product "X"

73. IUPAC name of product "X"
- (A) 5 ethyl, 5-phenyl barbituric acid
 - (B) 5 ethyl, 5-phenyl hydantoin
 - (C) 5 ethyl, 5 phenyl 2 deoxy barbituric acid
 - (D) 3 ethyl 3 phenyl acetyl urea
74. "Gingival hyperplasia" and osteomalacia are the major adverse effects produced by one of the following drug
- (A) Carbamazepine
 - (B) Phenobarbitone
 - (C) Clonazepam
 - (D) Zonisamide
75. A physician wants to maintain a 2 mg/cc of plasma drug level in a patient by administration a loading dose and simultaneously I.V. infusion at a rate of 2 mg/hr. If the drug has an elimination rate constant $K=0.1 \text{ hr}^{-1}$ and $K=15C$, what is the required infusion rate
- (A) 3 mg/hr
 - (B) 6 mg/hr
 - (C) 9 mg/hr
 - (D) 0.3 mg/hr

Linked Answer Questions No: 76 to 85 Carry Two Marks Each

Statement for Linked Answer Questions No: 76 & 77

N-methyl P-chloro aniline is condensed with reagent "X" gives 2-amino 5-chloro benzophenone which on treatment with NH_2OH (hydroxylamine) gives an oxime. Oxime on subsequent treatment with bromoacetyl bromide and NH_3 followed by dehydration gives Diazepam

76. Reagent "X" is
- (A) Anhydrous $AlCl_3$
 - (B) $NaNH_2$
 - (C) Anhydrous $ZnCl_2$
 - (D) conc H_2SO_4

77. IUPAC name of Diazepam
- (A) 7-chloro 1-methyl 5-phenyl 1, 3 dihydro 1, 4 beuzodiazepine 2-one
 - (B) 6 chloro 1-methylamino 5-phenyl 1, 3 dihydro 1, 4 benzodiazepine 2-one
 - (C) 7-chloro 1-methylamino 5-phenyl 1, 3 dihydro 1, 4 benzodiasepine 2-one
 - (D) 5-chloro 1-methyl 5-phenyl 1, 3 dihydro 1, 4 benzodiazepine 2-one

Statement for Linked Answer Questions No: 78 & 79

Sulfasalazine is a pro-drug undergo biotransformation and release pharmacologically active compounds into the body

78. Sulfasalazine is metabolized by
- (A) Sulfotransferase
 - (B) AZO reductase
 - (C) Cytochromeoxidase
 - (D) N-acetylation
79. Metabolic products of sulfasalazine
- (A) Sulfa pyridine + 5 Amino salicylic acid
 - (B) Sulfaguamidine + 3 Amino salicylic acid
 - (C) Sulfaguanidius + 4 amino salicylic acid
 - (D) Sulfatheazide + 2 amino salicylic acid

Statement for Linked Answer Questions: 80 & 81

In a formulation development laboratory a tablet is to be formulated. The core tablet should bypass the stomach and must release at intestinal P_H for better absorption .

80. Suggest a suitable coating method
- (A) Sugar coating
 - (B) Enteric coating
 - (C) Film coating
 - (D) Enamel coating
81. Choose a correct coating material to be used
- (A) Cellulose acetate phthalate
 - (B) carboxy methyl Cellulose
 - (C) HPMC
 - (D) EC

Statement for Linked Answer Questions No : 82 & 83

Tannins are one of the most widely occurring groups of natural substances in different families of higher plants. Tannins give positive test for goldbeater's skin test.

82. Name the type of tannin that will not obey to gold beater's skin test?
- (A) Condensed Tannins (B) Pseudo Tannins
(C) Hydrolysable Tannins (D) None
83. The example for above answer is:
- (A) Gallic acid (B) Ellagic acid
(C) Ipecacuanhic acid (D) Chebullagic acid

Statement for Linked Answer Questions: 84 & 85

The synthesis of anti-histaminic drug involves the reaction between diphenyl amine and sulphur, in presence of Iodine and Aluminum chloride to give a intermediate.

84. What is the intermediate?
- (A) 2-thio-diamino diphenyl intermediate (B) phenol thiazine-2-sulfone
(C) phenol thiazine (D) none
85. Above formed intermediate reacts with 1-chloro 2-(dimethyl amino) propane to give a anti-histaminic drug. The drug is:
- (A) Diphenhydramine (B) Clemestine
(C) Chloropheniramine (D) Promethazine