GATE-2000

1. One of the substances listed is used as muco adhesive

(a) Acacia (b) SCMC

(c) Burnt sugar (d) Saccharin

2. In the preparation of multilayer tablets one of the substances listed is used for hydrophilic matrix coating:

(a) C.M.C. (b) Shellac

(c) Stearyl alcohol (d) Bees wax

3. Choose the correct pH of the lachrymal fluid

(a) 8.0 (b) 6.2

(c) 7.4 (d) 9.0

4. The dip tube in the aerosol container is made from one of the following. Choose the correct one

(a) Polypropylene (b) Glass

(c) Stainless steel (d) Aluminium

5. The diameter of the mesh aperture in the IP disintegration test is given below.

(a) 2.00 mm (b) 4.0mm

(c) 1.00 mm (d) 1.50 mm

6. Choose the correct source of radiation for NMR from the listed ones

(a) Klystron oscillator (b) Globar source

(c) Radio frequency oscillator (d) Deuterium lamp

7. Choose the correct semi-rigid gel used for exclusion chromatography.

(a) Sephadex (b) Gelatin

(c) Cellulose (d) Alumina

8. One of the following is measured in amperometric titrations

(a) resistance (b) conductance

(c) voltage (d) current

9. The oil obtained from Cymbopogam flexuousus contains one of the following

(a) Citral (b) α-terpeniol

(c) α-pinene (d) Neral

10. Choose the correct key intermediates in the biosynthesis of C6-C3, which serves as a precursor for the biosynthesis of amino acids

(a) Shikimic acid (b) Pyruvic acid

(c) Dehydroquinic acid (d) Mevalonic acid

11. β-Phenyl-N-alkyl piperidine moiety is largely responsible for activity of one of the following. Choose the correct one:

(a) Buprenorphine (b) Pethidine

(c) Cyclosporine (d) Amitryptyline

12. Which of the following is a H1 receptor antagonist?

(a) 4-(5-H dibenzo [a,d] cyclohepten-5-Ylidene)-1-methyl pyridine hydrochloride

(b) 4-(5-H dibenzo [a,d] cyclohepten-5-Ylidene)-1-methyl pyrimidine hydrochloride

(c) 4-(5-H dibenzo [a,d] cyclohepten-5-Ylidene)-1-methyl piperadine hydrochloride

(d) 4-(5-H dibenzo [a,d] cyclopentane-5-Ylidene)-1-methyl piperadine hydrochloride

13. Dinesterol is synthesized from

(a) 4-Hydroxy propiophenone (b) 4-amino acetophenone

(c)4-Chloro butyrophenone (d) 4-Bromo propiophenone

14. One of the following diueretics has similar structure to the antihypertensive agent Diazoxide

(a) Acetazolamide (b) Chlorothiazide

(c)Spironolactone (d) Furosemide

15. Whicjh of the following is a n anti fungal polyene macrolide antibiotic with seven conjugated double bonds, an internal ester, a free carboxyl group and a glycoside side chain with primary amino group

(a) Streptomycin (b) Echinocandins

(c) Rifamycin (d) Amphoterecin-B

16. Choose the correct Class IV anti arrhythmic that is primarily used for treatment of supra ventricular tachyarrythmias?

(a) Mexiletine (b) Diltiazem

(c) Nifedipine (d) Propranolol

17. One of the following antiviral drugs shows the greatest selective toxicity for the invading virus:

(a) Amantadine (b) Zodovudine

(c) Idoxuridine (d) Acyclovir

18. Choose the drug that often causes tachycardia when given in regular doses

(a) Verapamil (b) Guanethedine

(c) Propranolol (d) Isosorbidr dinitrate

19. Choose an appropriate therapeutic use for Imipramine

(a) Insomnia (b) Epilepsy

(c) Bed wetting for children (d) Mania

20. The following prescription is given to a pharmacist by the physician to dispense

Rx

Calciferol solution 0.3

Water q.s. 5.0ml

Send 25 ml

The fina dosage form of the prescription will be

(a) Solution (b) Elixir

(c) Emulsion (d) Suspension

21. Purpose of a combined drug regimen in tuberculosis is

(a) Delay the emergence of drug resistance (b) Reduca the duration of active therapy

(c) Schedule the onset of therapy (d) Promote a placebo effect on the patient

22. The R-W coeeficient test is used to evaluate:

(a) Antibiotic activity (b) Sterility of packaging material

(c) Nature of orgainism in bacterial infection (d) Bactericidal activity

23. Diclofenac tablet coated with cellulose acetate phthalate has been administered to a patient. Wher do you expect the drug to be released?

(a) Stomach (b) Oral cavity

(c) Small intestine (d) Liver

24. A microscopic examination of a culture solate revealed spherical bodies with a smooth outline growing in long chains, identify the mico organism

(a) *Staphylococcus aureus* (b) *Streptococcus pyrogens*

(c) *Rhizopus solonifer* (d) *Bacillus subtilis*

25. An original license or renewed license to sell drugs remains valid upto

(a) 31st March next year in which it is granted

(b) 30th June of the following year in which it is granted or renewed

(c) 31st January of the same year in which it is granted

(d) 31st December of the year following the year it is granted or renewed

2.1. Taste sensation of some oral liquid formulations are given. Match the compatible flavor used in the formulation

(1) Salt	(A) Wild cherry
(2) Sour	(B) Vanilla
	(C) Citrus
	(D) Chocolate

2.2. Excipients used in the parenteral products are given. Match them.

(1) Chelating agent	(A) Benzyl alcohol
(2) Local anesthetic	(B) Phenol
	(C) Gelatin
	(D)Disodium edentate

2.3. HLB values are given. Match them with the correct surfactant

(1) 0-3	(A) Solubilizing agent
(2) 4-6	(B) Detergent
	(C) Antifoaming agent
	(D) w/o emulsion

2.4. Given below are the examples of Excipients. Match them with examples.

(1) Disintegrant	(A) Talc
(2) Glidant	(B) P.V.P.
	(C) Lactose
	(D) Acacia

2.5. Given below are the schedules of drugs and cosmetics act. Match them

(1) Schedule M	(A) Standards for disinfectant fluids
(2) Schedule O	(B) Standards for ophthalmic preparation
	(C) Requirement for factory premises
	(D) Standards for cosmetics

2.6. The following receptors are associated with the drugs mentioned. Match them

(1) H1 receptor	(A) Ketamserin
(2) 5HT3 receptor	(B) Cimetidine
	(C) Diphenhydramie
	(D) Ondansetron

2.7. Match the following drugs with the receptor subtypes

(1) Methadone	(A) Agonist of μ and δ receptors
(2) Enkephalins	(B) Antagonist of μ, δ and κ receptors
	(C) Agonist of μ receptors
	(D) Agonist of μ, δ and κ receptors

2.8. match the drugs with the mechanism of action

(1) Mebendazole	(A) Unknown mechanism
(2) Ivermectin	(B) Neuromuscular blockade by interaction with nicotinic receptors
	(C) Intensifies GABA mediated neurotransmission
	(D) Selectively inhibits microtubule synthesis in nematodes

2.9. Match the drugs with their mechanism of action

(1) Procainamide	(A) Blocks Ca++ channels
(2) Verapamil	(B) Blocks K+ channels
	(C) Blocks Na+ channels
	(D) Blocks β adrenoreceptors

2.10. The metabolic reactions of drugs mentioned in A to D are given. Match them

(1) Nitro reduction	(A) Oxprenolol
(2) Deamination	(B) Isoniazid
	(C) Chloramphenicol
	(D) Lidocaine

2.11. Given drugs below have characteristics mentioned in A to D. Match them

(1) Ibuprofen	(A) An aryl acetic acid
(2) Acetaminophen	(B) A salicylic acid derivative
	(C) An active metabolite of another drug
	(D) Hydrolysed in the blood stream

2.12. The systemic names of the drugs are given below. Match them.

(1) Tinidazole	(A) 2-[4,3,2-trifluoro methyl phenol selanazine-10-yl) propyl piperazine- 1-yl] ethanol
(2) Fluphenazine decanoate	(B) 1-[2-(ethyl sulphonyl) ethyl]-2-methyl-5-nitro imidazole
	(C) 1-[2-(ethyl sulphonyl) propyl]-2-methyl-5-nitro imidazole
	(D) 2-[4,3 (2-trifluoro methyl phenothiazin-10-yl) propyl piperazine-1-yl] ethanol

2.13. Match the heterocyclic system with the drugs

(1) Aziridine	(A) Thiotepa
(2) Pteridine	(B) Azathioprine
	(C) Atropine
	(D)Methotrexate

2.14. Techniques mentioned in A to D are used for the analysis of the following drugs.

(1) Sulphamethoxazole IP	(A) Conductometry
(2) Piroxicam IP	(B) HPLC
	(C) Non-aqueous titration
	(D) Dead stop end point

2.15. Match the correct formula for

(1) Molar absorption coefficient	(A) cl/A
(2) frequency	(B) A/c.l
	(C) l/λ
	(D) c/λ

2.16. Match the values with that of 1 and 2

(1) Potential of standard hydrogen taken as	(A) zero
(2) Base peak in mass spectra	(B) 100
	(C) 1
	(D) 10

2.17. In different samples of adulterated Atropa belladonna leaves, following unique characters are noted. Match with adulterants.

(1) Idioblast observed	(A) Solanum nigrum
(2) Lamina is denser	(B) Phytolacca americana
Needle shaped crystals	
Anomocytic stomata	
Palisade ratio 2-4	(C) Ailanthus glandulosa
	(D) Datura stramonium

2.18. Digitalis cardenolides mentioned below are different hydroxyl derivatives. Match them.

(1) Gitoxigenin	(A) 3β,12β,14β trihydroxy cardenolide
(2) Digitoxigenin	(B) 3β,14β dihydroxy cardenolide
	(C) 3β,14β,16β trihydroxy cardenolide
	(D) 3β,12β,16β trihydroxy cardenolide

2.19. Match the following vitamins with their biochemical roles

(1) Riboflavin	(A) Free radical scavenger
(2) Pyridoxal	(B) As a coenzyme in redox reactions
	(C) Essential in the synthesis of rhodopsin
	(D) As a coenzyme for amino acid decarboxylases

2.20. Match tye diseases with their clnical tests

(1) Diabetes mellitus	(A) Decrease in hemoglobin levels
(2) Cystic fibrosis	(B) Increase in blood sugar levels
	(C) D.N.A. diagnosis
	(D) Decreased levels of TSH

2.21. Match the correct pathways of the following

(1) Glyceraldehude-3-phosphate	(A) Cholesterol synthesis pathway
(2) Arachidonic acid	(B) Citric acid cycle
	(C) Glycolysis
	(D) Prostaglandin synthesis pathway

2.22. Match the following terms with the definitions given

(1) Biological half life	(A) Ratio of the median lethal dose to the median effective dose
(2) Therapeutic index	(B) Dosage used in the treatment
	(C) Elimination of the drug to 50% of its original concentration
	(D) Time taken for a drug to be absorbed

2.23. Given below are two vaccines. Their compositions are mentioned. Match them

(1) BCG	(A) Living attenuated *Mycobacterium tuberculosis*
(2) Whooping cough	(B) Experimentally killed and freeze dried polio vaccine
	(C) Antibodies obtained from the sera of tuberculosis patients
	(D) Killed *Bordetella pertusis* vaccine

2.24. Match the following diseases with the causative organisms

(1) Helmenthiasis	(A) Plasmodium falciperum
(2) Jaundice	(B) Taenia solium
	(C) Hepatitis A virus
	(D) Toxoplasma gonodii

2.25. Given below are the schedules as per D and C act 1940. Match them with the information to be given on the label

(1) Schedule H	(A) For external use only
(2) Schedule G	(B) For therapeutic use only
under	(C) Caution – it is dangerous to take this preparation except medical supervision
	(D) To be sold by retail on the prescription of a RMP only

ANSWER KEY FOR GATE-2000

1.1-B	1.2-A	1.3-C	1.4-A	1.5-A	1.6-C	1.7-A	1.8-D	1.9-A	1.10-A	1.11-B	1.12-C
	1.13-A	1.14-B	1.15-D	1.16-B	1.17-D	1.18-B	1.19-C	1.20-C	1.21-B	1.22-D	1.23-C
	1.24-A	1.25-D									

2.1 1-B,2-C	2.2 1-D,2-A	2.3 1-C,2-D	2.4 1-D,2-A	2.5 1-C,2-A	2.6 1-C,2-D
2.7 1-D,2-A	2.8 1-D,2-C	2.9 1-C,2-A	2.10 1-C,2-A	2.11 1-A,2-C	2.12 1-B,2-D
2.13 1-A,2-D	2.14 1-D,2-B	2.15 1-B,2-D	2.16 1-A,2-B	2.17 1-C,2-B	2.18 1-C,2-A
2.19 1-B,2-D	2.20 1-B,2-C	2.21 1-C,2-D	2.22 1-C,2-A	2.23 1-A,2-D	2.24 1-B,2-C
2.25 1-D,2-C					