GATE-2001

1.1 Starting material used for the synthesis of L.Thyroxine is
- (A) 2-amino-5-chloroacetophenone
- (B) Phenyl alanine
- (C) 2-amino-5-chloro benzophenone
- (D) L-tyrosine

1.2 One of the following antianxiety agent is an azaspirodecanedione derivative
- (A) Lorazepam
- (B) Cycloheptadine
- (C) Meprobamate
- (D) Buspirone

1.3 Include the following drug under proper classification. NEFEDIPINE
- (A) Quinoline derivative
- (B) Arylpiperidine derivative
- (C) Isoquinoline derivative
- (D) Pyridine derivative

1.4 Acetazolamide can be synthesized from one of the following intermediate
- (A) 5-amino-2-mercapto-1,3-thiazole
- (B) 5-amino-2-mercapto-1,3,4-thiadiazole
- (C) 5-amino-2-mercapto-1,2,3-thiadiazole
- (D) 5-amino-2-mercapto-1,3,4-tetrazole

1.5 Chose the correct trichomes of *Digitalis purpurea*
- (A) Numerous covering trichomes and a few glandular trichomes
- (B) Few covering trichomes
- (C) Few glandular trichomes and few covering trichomes
- (D) Few glandular trichomes

1.6 PANAXADIOL is a constituent of
- (A) Ginger
- (B) Jatamansi
- (C) Ginseng
- (D) Pepper

1.7 The plant hormone which shows specific effect on the cell division
- (A) Auxins
- (B) Abscisic acid
- (C) Cytokinins
- (D) Ethylene

1.8 One of the following condition is maintained in programmed temperature gas chromatography
- (A) Temperature of the whole column is raised during analysis
- (B) Temperature at the sample injection system is raised
- (C) Temperature of the detector is gradually raised
- (D) Temperature of the recorder alone is raised

1.9 A BOLOMETER consist of
(A) Two metal welded together
(B) A thin blackened platinum strip in an evacuated vessel
(C) Deuterated triglycine sulphate
(D) Tungsten

1.10 Choose the correct excipient for enhancing solubility in tablet manufacture
(A) PEG
(B) Microcrystalline cellulose
(C) Talc
(D) Lactose

1.11 Two or more ions present together can be determined successfully by polarograph even if their half wave potentials interfere or overlap by
(A) Titration
(B) Complexation
(C) Filtration
(D) Healing

1.12 One of the following is a Selective Serotonin Reuptake inhibitor
(A) Desipramine
(B) Fluoxetine
(C) Buprppione
(D) Maprotiline

1.13 Plasmodial resistance of Chloroquine is due to
(A) Induction of inactivating enzyme
(B) Change in receptor structure
(C) Increase in the activity of DNA Repair mechanism
(D) Decreased Carrier Mediated Drug Transport

1.14 One of the following actions of Opiod analgesic is mediated via Kappa receptors
(A) Cerebral vascular dilation
(B) Euphoria
(C) Spinal analgesia
(D) Physical dependence

1.15 One of the following drug has activity against Herps Sipmlex virus Type I and is used topically. Systemic administration of the same result in bone marrow depression, hepatic dysfunction and nephrotoxicity.
(A) Acyclovir
(B) Amantadine
(C) Vidarabine
(D) Idoxuridine

1.16 A women has to be treated for Upper Respiratory Tract infection. 6 years back she was found hypersensitive to Pen. V. The cultures now reveal a strain of Streptococcus pneumonia that is sensitive to all of the following drugs. Which one of the following would be the best choice for the patient?
(A) Amoxicillin
(B) Erythromycin
(C) Cefaclor

(D) Cyclacillin

1.17 The unit of conductance is

(A) Ohms
(B) Amperes
(C) mhos
(D) millivolts

1.18 The shells of soft gelatine capsules may be made elastic or plastic like by the addition of

(A) Sorbitol
(B) Povidone
(C) PEG
(D) HPMC

1.19 The rate of drug bioavailability is most rapid when the drug is formulated as a

(A) Controlled release product
(B) Hard gelatine capsules
(C) Tablet
(D) Solution

1.20 The loading dose of a drug is usually based on

(A) Total body clearance of the drug
(B) Percentage of drug bound to plasma proteins
(C) Fraction of drug excreted unchanged in urine
(D) Apparent volume of distribution and desired drug conc. In plasma

1.21 Browne's tube are the most commonly used chemical indicator for

(A) Ethylene oxide sterilization
(B) Radiation sterilization
(C) Heat process sterilization
(D) Filtration sterilization

1.22 A specimen obtained from a patient's cerebrospinal fluid, cultured in specialized media for about 5 weeks showed the presence of bent rods and tested positive with Zeihl- Neelsen reagent. Identify the organism

(A) Niesseria meningitides
(B) Mycobacterium tuberculosis
(C) Bacteroides fragilis
(D) Leptospira interrogans

1.23 *Staphylococcus aureus* is used for the IP assay of

(A) Doxycycline
(B) Bleomycin
(C) Kanamycin
(D) Carbenicillin

1.24 State pharmacy council should have the following numbers of elected members

(A) 6
(B) 9
(C) 5
(D) 7

1.25 Drug combination Warfarin/ Vitamin K results in a specific interaction. Identify

(A) Antagonistic
(B) Increased sedation
(C) No known interaction
(D) Harmful only in the presence of oxidising agents

2.1 In the glucuronidation reaction of oxazepam – the functional group responsible is

(A) OH

(B) COOH

(C) SH

(D) NH_2

2.2 Benzhydryl bromide when treated with 2-dimethyl amino ethanol in presence of K2Cr2O3gives one of the following

(A) 2-diphenyl ethoxy-N,N-dimethylethylamnine

(B) 2-diphenyl methoxy-N,N-diethylethylamine

(C) 2-diphenyl methoxy-N,N-dimethylethylamine

(D) 2-diphenyl methoxy-N,N-diethylethylamine

2.3 Demeclocycline differs from chlortetracycline only by

(A) Absence of methyl group on C-6

(B) Absence of OH group on C-6

(C) Absence of dimethylamino group on C-4

(D) Absence of OH group on C-3

2.4 Choose the IUPAC name for Carbamazepine

(A) 5[3-(dimethylamino)ethyl]10,11-dihydro-5Hdibenz[b,f]azepine

(B) 5H dibenz[b,f] azepine-5-carboxamide

(C) 5H dibenz[b,f] azepine-5-acid chloride

(D) 5[3-(dimethylamino)propyl]10,11-dihydro-5Hdibenz[b,f]azepine

2.5 Reserpine is derived from

(A) Squalene

(B) Homoserine

(C) Tryptophan and Tryptamine

(D) Asparazine

2.6 An alkaloid from *Atropa belladone* having the molecular formula C17H23O3N having α-$D22^0$ when warmed ethanolic alkaline solution is converted into

(A) (-)Hyoscyamine

(B) (+)Hyoscyamine

(C) (+)Hyoscyamine

(D) (+)Hyoscine

2.7 Choose the appropriate description for Ergot

(A) Loosely arranged or in small more or less agglutinated angular mass

(B) A pseudoparenchyma formed by the interwooving closely appressed compact septate hyphae

(C) The crystocarps have fallen out leaving corresponding oval perforations in the ramuli

(D) Colourless separate hyphae about one quarter the width of the cotton trichomes and they become twisted together

2.8 Characteristics bands observed in the IR spectrum of alcohol results from

(A) OH and CO stretching

(B) OH stretching

(C) CO stretching only

(D) CH bending only

2.9 Bulking agent used for parenteral preparation is

(A) Sodium metabisulphide

(B) Benzyl alcohol

(C) Carbolic acid

(D) Sorbitol

2.10 Identify the correct non inflammable propellant

(A) Trichloromonofluoromethane

(B) Trichloromonofluoromethane

(C) Dimethyl ether

(D) Difluoromethane

2.11 Elastomer used in rubber stopper formulation is

(A) Polybutadiene

(B) Butylstearate

(C) Titanium dioxide

(D) Butylated hydroxyl toluene

2.12 Schedule D as per D&C act is concerned with

(A) List of drugs exempted from the provision of import of drugs

(B) Diseases or ailments which a drug may or may not purport to prevent or cure

(C) Requirement of factory premises

(D) List of prescription drugs

2.13 Official method for the analysis of ciprofloxacinis by

(A) Potentiometry

(B) HPLC

(C) Gas Chromatography

(H) Non aqueous titration

2.14 The radiofrequency radiation is associated with

(A) Light consisting of one colour only

(B) Nuclear Magnetic Resonance

(C) Mass spectroscopy

(D) ESR

2.15 How many grams of drug should be used in preparing 500 ml of 1:2500 solution

(A) 0.2

(B) 0.02

(C) 0.4

(D) 1.25

2.16 The pyroelectric detector converts electromagnetic radiation into

(A) Electrical signal

(B) Fluorescence

(C) Electrons

(D) Visible light

2.17 The mechanism of Digitalis is

(A) Decrease intracellular Na concentration

(B) Inhibit Na-K-ATPase

(C) Activated adenyl cyclase which produces c-AMP

(D) Decrease release of Ca from sarcoplasmic reticulum

2.18 Mechanism of action for Dactinomycin is

(A) Inhibit topoisomerase II

(B) Cross link DNA

(C) Inhibit function of microtubules

(D) Inhibit DNA polymerase

2.19 One of the drug when coadministered with Terfenadine may lead to life threatening Cardiac dysarrythmia

(A) Lomafloxacine

(B) Clofazimine

(C) Irtaconazole

(D) Neomycin

2.20 Adverse effect of one of the following drug includes amenorrhea, bone marrow depression, gastrointestinal distress and haemorrhagic distress. Identify

(A) Cyclizine

(B) Piroxicam

(C) Cyclophosphamide

(D) Cimetidine

2.21 Varicella Zoster is the causative organism for

(A) Small pox

(B) Dermatophytosis

(C) Herpes

(D) Infectious mononucleosis

2.22 One of the following is confirmed by DNA diagnosis test

(A) Hyperuricemia

(B) Cyst fibrosis

(C) Acute pancreatitis

(D) Hyperlipidemia

2.23 The conversion of fructose -1,6-biphosphate to Glyceraldehyde-3-phosphare is catalyzed by

(A) Phosphoglycerate kinase

(B) Enolase

(C) Aldolase

(D) Triosephosphate isomerase

2.24 Morphine undergoes microsomal oxidation by

(A) N-delakylation

(B)Aromatic hydroxylation

(C) Oxidative deamination

(D) O-dealkylation

2.25 SULFASALZINE is a prodrug that is activated in the intestine by bacterial enzymes

(A) Azoreductase

(B) Choline esterase

(C) Glucuronyl transferase

(D) Amylase

ANSWER KEY FOR GATE-2001

1.1 (B)	1.2 (D)	1.3 (B)	1.4 (B)	1.5 (D)
1.6 (C)	1.7 (A)	1.8 (A)	1.9 (B)	1.10 (A)
1.11 (B)	1.12 (B)	1.13 (D)	1.14 (C)	1.15 (D)
1.16 (C)	1.17 (C)	1.18 (A)	1.19 (D)	1.20 (D)
1.21 (C)	1.22 (A)	1.23 (A)	1.24 (A)	1.25 (A)
2.1 (A)	2.2 (C)	2.3 (A)	2.4 (B)	2.5 (C)
2.6 (A)	2.7 (B)	2.8 (B)	2.9 (D)	2.10 (B)
2.11 (B)	2.12 (A)	2.13 (B)	2.14 (B)	2.15 (A)
2.16 (A)	2.17 (B)	2.18 (A)	2.19 (C)	2.20 (C)
2.21 (A)	2.22 (B)	2.23 (A)	2.24 (A)	2.25 (A)