PHARMACY INDIA

MISSION DRUG INSPECTOR

PREVIOUS YEAR OBJECTIVE BOOK

UTSAV VERMA
DHALENDRA KOTHALE

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2009 TO 2024
OBJECTIVE BOOK

USEFUL FOR

UPSC | HPSSC | Haryana | Chhattisgarh | Assam | SPSC | West Bengal | OPSC | Jharkhand | BPSC | MPPSC | GPSC | MPSC | UPPSC | KPSC | TNPSC | TPSC | APPSC | RHUS | Goa | Karnataka | Meghalaya Drug Inspector Examination

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PREFACE

In the dynamic landscape of pharmaceuticals, ensuring the safety, efficacy, and quality of drugs is paramount. The role of a Drug Inspector is not only pivotal but also demanding, requiring a deep understanding of regulatory frameworks, pharmaceutical sciences, and meticulous attention to detail. Aspirants aiming to embark on this noble journey often find themselves navigating through a plethora of study materials, searching for a comprehensive resource that aligns with the evolving examination patterns and standards set by various state and central government agencies.

This compendium, "Mission Drug Inspector - Previous Year Objective Book," has been meticulously crafted to serve as a beacon of guidance for aspirants preparing for the Drug Inspector examinations conducted by esteemed bodies such as UPSC, HPSSC, Haryana, Chhattisgarh, Assam, SPSC, West Bengal, OPSC, Jharkhand, BPSC, MP PSC, GPSC, MPSC, UPPSC, KPSC, TN PSC, TPSC, APPSC, RHUS, Goa, Karnataka, and Meghalaya.

Comprising the last 15 years' question papers, this book is a testament to our commitment to providing aspirants with a robust platform to assess their knowledge, hone their skills, and navigate through the intricacies of drug regulatory affairs. Each question has been meticulously curated to reflect the diversity and depth of topics that candidates may encounter in their examinations.

This book is not merely a collection of questions; it is a strategic tool designed to help you understand the nuances of drug regulation, pharmaceutical analysis, pharmacology, and related subjects. By studying the questions from previous years, aspirants can familiarize themselves with the examination pattern, gain insights into the frequently tested topics, and sharpen their problem-solving abilities.

We understand the challenges and aspirations of every aspirant striving to become a Drug Inspector. Hence, we have endeavored to make this book comprehensive, user-friendly, and up-to-date with the latest developments in the field of pharmaceutical sciences and regulatory affairs. Our aim is to empower you with the knowledge and confidence necessary to excel in your examinations and embark on a fulfilling career as a Drug Inspector.

As you embark on this journey towards excellence, remember that perseverance, dedication, and a thirst for knowledge are your greatest allies. Let this book be your companion, guiding you towards success in your pursuit of becoming a Drug Inspector.

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1. KPSC DRUG INSPECTOR 2024

1. The total amount of water present in body cavities in a 70 kg adult male is ___ L.
   (a) 1 L (b) 14 L
   (c) 42 L (d) 60 L
2. Among the following, choose the FALSE statement about G protein:
   (a) Can act as a receptor
   (b) Can activate second messengers
   (c) Dissociates reversibly into two on activation
   (d) GTP binds to alpha subunit
3. Which is TRUE about gastrin?
   (a) Stimulates growth of gastric mucosa
   (b) Secretion is blocked by atropine
   (c) Acid in stomach increases gastrin secretion
   (d) Inhibits insulin & glucagon secretion
4. Amount of oxygen carried by one gram of heamoglobin when fully saturated is:
   (a) 3.46 ml (b) 2.35 ml
   (c) 1.34 ml (d) 0.96 ml
5. Among the following which is not an action of GH?
   (a) ↑ Gluconeogenesis (b) ↑ Glycolysis
   (c) ↑ Lipolysis (d) ↑ Glycogenolysis
6. First heart sound is heard at:
   (a) At the beginning of IVC phase
   (b) At the end of IVC phase
   (c) At the beginning of IVR phase
   (d) At the end of IVR phase
7. Which among the following is not a Peptide hormone?
   (a) Insulin (b) Calcitonin
   (c) Oestrogen (d) Growth Hormone
8. False statement about sertoli cells is:
   (a) Seen in the walls of seminiferous tubules
   (b) Secretes inhibin which inhibits FSH
   (c) Secretes androgen binding proteins
   (d) Secretes androgens for spermatogenesis
9. Examples of accelerants used in topically applied drugs include:
   (a) DMF (b) DMA
   (c) DMSO (d) All of the above
10. For a satisfactory plain tablet the minimum hardness should be:
    (a) 5 Kg (b) 2 Kg
    (c) 4 Kg (d) None of the above
11. The invitro dissolution testing of tablet is to:
    (a) Correlate with *in-vivo* bioavailability
    (b) Relates drug solubility and permeability
    (c) To predict IVIVC correlation
    (d) All of the above
12. Promulgens are composed of:
    (a) Mixture of fatty acid and their ethoxylates
    (b) Lactic acid with fatty acids
    (c) Non-ionic emulsifiers
    (d) Both (a) and (c)
13. Phase inversion temperature is also called as:
    (a) Transition temperature
    (b) Coalescence temperature
    (c) HLB temperature
    (d) None of the above
14. Weathering of glass containers can be avoided by which of the following?
    (a) Sulphur treatment
    (b) Dealkalizing process
    (c) (a) and (b)
    (d) None of the above
15. LAL test is how many times more sensitive than rabbit pyrogen test:
    (a) 2-3 times (b) 5-10 times
    (c) 15-30 times (d) None of the above
16. Sunscreen products include which of the following:
    (a) Titanium Dioxide (b) Avobenzone
    (c) Zinc Oxide (d) All of the above
17. Equipment used for mixing sticky solids:
    (a) Double cone mixer (b) Planetary mixer
    (c) Ribbon blender (d) V cone blender
18. In fluids at critical velocity the flow changes from Viscous to:
    (a) Turbulent (b) Pseudoplastic
    (c) Laminar (d) Dilatant
19. Retrovirus mediated gene transfer is
    (a) *In-vivo* method (b) *Ex-vivo* method
    (c) Both (a) and (b) (d) None of the above
20. Type I-hypersensitivity reactions are mediated predominantly by:
    (a) Ig M antibodies (b) Ig G antibodies
    (c) Ig E antibodies (d) T lymphocytes
21. Therapeutic index is:
    (a) Maximum non-toxic dose/Maximum effective dose
    (b) Maximum toxic dose/Minimum effective dose
    (c) Maximum effective/Minimum non-toxic dose
    (d) Maximum effective dose/Maximum non-toxic dose
22. Myocardial contractility mainly depends on:
    (a) Intracellular Calcium
    (b) Extracellular Calcium
    (c) Both (a) and (b)
    (d) Independent of Calcium
23. Terbutaline is a:
    (a) α2 selective adrenergic agonist
    (b) β2 selective adrenergic agonist

(b) Chief Pharmacist
(c) Nursing Head
(d) Hospital Administrator

48. The ISO 9000 standards were first published in:
(a) 1975 (b) 1978
(c) 1985 (d) 1987

49. The 'Father of Quality circles' who introduced the seven tools of quality control:
(a) Kaoru Ishikawa
(b) Genichi Taguchi
(c) Frederick W Taylor
(d) Armand V Feigenbaum

50. The rVSV-ZEBOV vaccine is approved to prevent:
(a) SARS (b) Ebola
(c) Influenza (d) Covid-19

51. Coconut oil has a very low iodine value and a high saponification value. This is due to the presence of the:
(a) Triglyceride of mainly lauric acid
(b) Triglyceride of mainly myristic acid
(c) Triglycerides of smaller quantities of caproic, caprylic, oleic, palmitic and stearic acids
(d) All of the above

52. Agar is used:
(a) In the preparation of culture media
(b) As an emulsifying agent
(c) In the treatment of chronic constipation
(d) All of the above

53. Fenugreek contains the alkaloid, trigonelline, which is a:
(a) Pyridine type (b) Isoquinoline type
(c) Indole type (d) None of the above

54. Starch granules undergo gelatinization when treated with:
(a) caustic potash
(b) concentrated solutions of calcium or zinc chlorides
(c) concentrated solution of chloral hydrate
(d) all of the above

55. "Like are cured by likes" is the basic principle involved in:
(a) Ayurveda (b) Siddha
(c) Homeopathy (d) Unani

56. Which of the following is the application of plant tissue culture?
(a) Biochemical conversions
(b) Clonal propagation
(c) Production of useful phytoconstituents
(d) All of the above

57. All are optically active alkaloids except:
(a) Coniine (b) Papaverine
(c) Quinine (d) Ephedrine

58. Leaf constants are determined by using:
(a) Stomatal index (b) Vein-islet number
(c) Palisade ratio (d) All of the above

59. Shikimic acid pathway is employed by:
(a) Microorganisms only
(b) Plants only
(c) Both microorganisms and plants
(d) Animals

60. Ginseng contains:
(a) Cardiac glycosides
(b) Saponin glycosides
(c) Anthraquinone glycosides
(d) None of the above

61. Both the corm and the seeds of colchicum are used for treating:
(a) Arthritis (b) Rheumatism
(c) Gout (d) All of the above

62. Urokinase is non antigenic because it is:
(A) Obtained from plants
(b) An endogenous enzyme
(c) Obtained from microorganisms
(d) None of the above

63. A marine anticancer agent:
(a) Manoalide (b) Anthopleurin - A
(c) Bryostatin - 1 (d) α - Conotoxin

64. Turmeric contains:
(a) Turmerone (b) α, β - Atlantone
(c) Zingiberene (d) All of the above

65. Chlorinated lime is regarded as consisting of:
(a) Calcium chloride
(b) Calcium hypochlorite
(c) Calcium chloro-hypochlorite
(d) Calcium chlorate

66. The reaction by which Indole is converted into 3-dimethylamino-methylindole (Gramine) by:
(a) Reissert synthesis
(b) Mannich reaction
(c) Reimer-Tiemann reaction
(d) Friedlander's synthesis

67. DDT is chemically:
(a) Dichloro Diphenyl Trichlorohexane
(b) Dichloro Dimethyl Trichloroethane
(c) Dichloro Diethyl Trichloropropane
(d) Dichloro Diphenyl Trichloroethane

68. In which heterocyclic ring, the numbering of ring atoms does not start on the hetero atom:
(a) Indole (b) Acridine
(c) Quinoline (d) Thiophene

69. Naphthalene undergoes electrophilic substitution reactions primarily at:
(a) C-1 (b) C-5
(c) C-4 (d) C-3

2. BIHAR DRUG INSPECTOR 2023

PHARMACEUTICS

1. The enteric-coated tablets are initially tested for disintegration in which media?
   (a) Simulated gastric fluid
   (b) Simulated intestinal fluid
   (c) Purified water
   (d) Phosphate buffer (pH 6.8)
2. Which of the following excipients is not used in chewable tablets?
   (a) Diluent (b) Flavouring agent
   (c) Disintegrant (d) Sweetening agent
3. The function of cam tracks in tableting machine is to
   (a) feed the granules
   (b) guide the movement of punches
   (c) compress the granules
   (d) fix the shape of tablets
4. The capping of tablets can be prevented by
   (a) pre-compression
   (b) reducing the final compression rate
   (c) using the flat punches
   (d) All of the above
5. The Maillard reaction is due to the reaction of amine drugs with used in tablets.
   (a) disintegrant (b) binder
   (c) diluent (d) glidant
6. The deformity in of the tablet is called as mottling.
   (a) shape (b) flavour
   (c) thickness (d) colour
7. The elasticity of soft gelatin capsule shells can be controlled by adding
   (a) povidone (b) lactose
   (c) sorbitol (d) sorbic acid
8. Sulfur dioxide (0.15%) is used in the manufacturing of hard gelatin capsules to
   (a) impart strength to capsules
   (b) improve flexibility of capsule shell
   (c) opacify the shell
   (d) prevent decomposition
9. Identify the rate limiting step in the absorption of drugs from orally administered solution dosage forms.
   (a) Gastric emptying (b) Dissolution
   (c) Disintegration (d) All of the above
10. The large volume of distribution (V_d) of the drug indicates that it
    (a) is not bioavailable
    (b) is ineffective
    (c) has short half-life
    (d) is accumulated in various tissues and organs
11. The pKa of drug X is 4.2. It means that at pH of 4.2 the drug X will be
    (a) 90% unionized (b) 50% ionized
    (c) 10% ionized (d) 100% unionized
12. The units of area under plasma concentration vs time curve are
    (a) mg/cm/min (b) cm^2
    (c) mg/ml/min (d) cm^2/min
13. Limulus amoebocyte lysate test is used for testing
    (a) pyrogenicity (b) clarity
    (c) isotonicity (d) sterility
14. The base adsorption is used for determining the
    (a) amount of liquid absorbed by the drug
    (b) minimum capsule size
    (c) flow properties of capsule contents
    (d) suppository size
15. Which of the following routes of parenteral administration is used for diagnostics?
    (a) Intravenous (b) Intraspinal
    (c) Subcutaneous (d) Intramuscular
16. The large volume Parenterals contain of fluid.
    (a) 25 ml-50 ml (b) up to 75 ml
    (c) >100 ml (d) >1000 ml
17. Which of the following is the major extracellular fluid cation?
    (a) K^+ (b) Ca^{2+}
    (c) Na^+ (d) Mg^{2+}
18. The monitoring of ECG is one of the useful parameters for monitoring the serum concentration of
    (a) Ca^{2+} (b) Na^+
    (c) Mg^{2+} (d) K^+
19. The common name of hydrous wool fat is
    (a) vaseline (b) lanolin
    (c) hard wax (d) paraffin wax
20. Identify the correct statement from the following.
    (a) The drug absorption through the eye is limited by pre- corneal residence time.
    (b) The absorption of drugs from eye ointments is less than eye drops.
    (c) Blinking human eye can hold up to 30 µl of eye drop in the cul-de-sac.
    (d) Eyes can tolerate eye drops of tonicity equivalent to 5% w/v sodium chloride solution.
21. The pH of lacrimal fluid is
    (a) 7.2 (b) 7.6
    (c) 8.0 (d) 5.6
22. The creaming of emulsions as per Stokes' law is indirectly proportional to the
    (a) radius of the dispersed phase

(b) density of the dispersed phase
(c) viscosity of the medium
(d) gravity

23. The rate limiting step in the bioavailability of drugs from capsule dosage forms is
(a) disintegration (b) dissolution
(c) stability (d) pH

24. Which of the following parameters is used for the estimation of renal function?
(a) Serum creatinine (b) Blood urea nitrogen
(c) Creatinine clearance (d) Urine creatinine

25. A drug administered by parenteral route was found to be excreted in faeces which indicates that
(A) the drug is incompletely absorbed
(B) the drug is excreted in bile
(C) the site of action is the lumen
(D) All of the above

26. BCG vaccine contains the _____ of Calmette and Guerin.
(a) live strain of bacillus
(b) killed bacillus
(c) live attenuated bacillus
(d) live virus

27. Which of the following gives the passive immunity against rabies?
(a) Rabies Antiserum
(b) Rabies Vaccine Human (cell culture)
(c) Rabies Vaccine Human (neural tissue)
(d) All of the above

28. Toxoid is prepared from
(a) enterotoxin (b) exotoxin
(c) endotoxin (d) neurotoxin

29. Adjuvants are added to vaccine to
(a) preserve them against microbial contamination
(b) suspend the bioactives in suspension
(c) improve immune responses towards an antigen
(d) decrease their adverse effect

30. The absorption ointment bases are so called because
(a) they are easily absorbed into the skin
(b) they absorb large quantity of water without loss of consistency
(c) Both (a) and (b)
(d) None of the above

31. Which of the following is a component of water-soluble ointment bases?
(a) Petrolatum (b) Cetyl alcohol
(c) Hydrous wool fat (d) Polyethylene glycol

32. Which of the following emulsification equipment's works on the principle of Pohlman liquid whistle?
(a) Colloid mill
(b) Ultrasonifier
(c) Silverson emulsifier
(d) High-pressure homogenizer

33. Choose the correct statement from the following.
(a) Surfactants with HLB value 3-6 favour formation of O/W emulsions.
(b) Hydrophilic emulsifiers favor water-in-oil emulsions.
(c) According to Griffin, the HLB value of the surfactant is the mol % of the hydrophilic group divided by 5.
(d) Emulsions formed by phase inversion temperature are less stable and contain poly-dispersed internal phase.

34. Which of the following is not the characteristic of deflocculated suspensions?
(a) The rate of sedimentation is slow.
(b) The supernatant is clear.
(c) The suspension is difficult to redisperse.
(d) The sediment is very compact.

35. Which of the following is primary wound dressing?
(a) Plain gauze
(b) Absorbent gauze
(c) Absorbent cotton
(d) Compression bandage

36. Sutures of which of the following materials are categorized as absorbable?
(a) Catgut (b) Nylon
(c) Silk (d) Cotton

37. The elasticity of crepe bandage is due to the
(a) presence of rubber fibres in the bandage
(b) special type of weave that allows stretching to twice its length
(c) use of elastic synthetic fibres in the bandage
(d) use of alternate fibres of cotton and viscose in the bandage

38. Which of the following compounds show pH-independent absorption from GIT?
(a) Weakly acidic drugs with pKa values greater than 7.5
(b) Weakly basic drugs with pKa values less than 5
(c) Neutral compounds
(d) All of the above

39. Which of the following is not the characteristic of active transport?
(a) Carrier-mediated transport
(b) Energy dependent
(c) Across an electrochemical gradient
(d) Inhibited poisons by metabolic

300. Alcohol of any strength which has been rendered unfit for human consumption by the addition of substances approved by the Central Government or by the State Government with the approval of Government is the Central
(a) absolute alcohol (b) rectified alcohol
(c) natured alcohol (d) denatured alcohol

ANSWER KEY

1-a	2-c	3-b	4-d	5-c	6-d	7-c	8-d	9-a	10-d
11-b	12-c	13-a	14-b	15-c	16-c	17-c	18-d	19-b	20-a
21-d	22-c	23-b	24-c	25-b	26-c	27-a	28-b	29-c	30-b
31-d	32-b	33-c	34-b	35-a	36-a	37-b	38-d	39-c	40-d
41-d	42-c	43-b	44-a	45-b	46-a	47-b	48-c	49-b	50-b
51-d	52-a	53-b	54-d	55-c	56-a	57-d	58-c	59-a	60-d
61-b	62-b	63-c	64-b	65-c	66-a	67-a	68-a	69-a	70-a
71-b	72-a	73-a	74-b	75-a	76-b	77-a	78-c	79-b	80-d
81-c	82-c	83-d	84-d	85-a	86-c	87-d	88-c	89-b	90-d
91-b	92-b	93-d	94-b	95-a	96-a	97-b	98-d	99-b	100-d
101-a	102-d	103-d	104-a	105-a	106-d	107-a	108-b	109-a	110-c
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131-c	132-a	133-c	134-a	135-a	136-b	137-b	138-c	139-b	140-b
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181-d	182-c	183-b	184-c	185-c	186-b	187-d	188-d	189-c	190-a
191-c	192-d	193-b	194-d	195-d	196-a	197-a	198-b	199-c	200-c
201-d	202-d	203-b	204-c	205-b	206-b	207-a	208-d	209-a	210-b
211-c	212-a	213-c	214-c	215-c	216-c	217-d	218-b	219-c	220-b
221-d	222-d	223-a	224-d	225-d	226-d	227-d	228-a	229-d	230-a
231-a	232-c	233-d	234-d	235-c	236-c	237-b	238-a	239-c	240-b
241-a	242-c	243-d	244-c	245-b	246-c	247-d	248-a	249-b	250-c
251-b	252-a	253-c	254-b	255-a	256-d	257-b	258-b	259-d	260-c
261-d	262-c	263-d	264-a	265-c	266-a	267-d	268-b	269-a	270-c
271-b	272-d	273-c	274-d	275-a	276-c	277-b	278-c	279-c	280-d
281-b	282-c	283-d	284-d	285-c	286-b	287-a	288-c	289-c	290-c
291-a	292-c	293-c	294-c	295-c	296-a	297-a	298-d	299-a	300-d

3. UPSC DRUG INSPECTOR 2023

1. Which one of the following is not applicable to non-linear pharmacokinetics?
   (a) The elimination or absorption half-lives change as doses are increased.
   (b) The area under the curve (AUC) increase in a proportional manner to the administered dose.
   (c) The composition and/or ratio of the metabolites of a drug may be affected by a change in the dose.
   (d) Elimination or absorption of drug does not follow simple first-order kinetics.
2. Presystemic metabolism:
   i. Occursa liver as first-pass metabolism.
   ii. Occurs in intestine and its walls.
   iii. Occurs when drug is administered transdermally or by inhalation.
   iv. Results in decrease in bioavailability.
   Select the correct answer using the code given below:
   (a) 1, 2 and 4 (b) 1, 3 and 4
   (c) 1.2 and 3 (d) 2, 3 and 4
3. An IV dose of 500 mg is administered to a patient. It was observed that 70% of the dose was recovered unchanged in the urine. The AUC (area under the curve) was found to be 362 mg.hr/L. What will be the total clearance rate (TCR), metabolic clearance rate (MCR) and renal clearance rate (RCR)?
   (a) TCR = 23 mL/min.; RCR = 16-1 mL/min.; MCR = 9-2 mL/min.
   (b) TCR = 63 mL/min.; RCR = 44-1 mL/min.; MCR = 8.1 mL/min.
   (c) TCR mL/min.; 23 RCR = 16-1 mL/min.; MCR = 6-9 mL/min.
   (d) TCR = mL/min.; 46 RCR = 32-2 mL/min.; MCR = 13-8 mL/min.
4. Which of the following statements are not correct regarding dissolution testing of solid dosage forms?
   1. Dissolution tests are used to aid formulation development, check product quality and performance and to assess batch-to-batch quality of a drug with respect to drug product specifications.
   2. Dissolution test conditions are not selected based on properties of the drug and the type of drug form.
   3. Dissolution is often the rate-limiting step in the absorption of drugs with poor water solubility.
   4. M Dissolution cannot be correlated to oral bioavailability whilst disintegration of dosage form is a strong indicator of oral bioavailability.
   Select the correct answer using the code given below:
   (a) 1 and 3 only (b) 1 and 2 only
   (c) 2 and 4 only (d) 1 and 4 only
5. Which one of the following is not correct for dosage forms prepared using protein based drugs?
   (a) Trehalose and sucrose are ineffective in preventing protein denaturation
   (b) Low pH, i.e. pH 3-6 prevents chemical degradation
   (c) Cyclization of proteins makes them less susceptible to gut amino and carboxy peptidases
   (d) Metal chelating agents can be used to enhance the stability
6. Which one of the following represents the correct sequential arrangement in the transdermal patch (rate-limiting membrane-type) from top to bottom?
   (BL backing layer, DR = drug reservoir, AD = adhesive; RRL - removable release liner, RLM - Rate-limiting membrane)
   (a) BL→AD→DR→RLM→RRL
   (b) BL→RLM→AD DR→RRL
   (c) BL→DR→RLM→AD→RRL
   (d) BE→RRL→DR→RLM→AD
7. Inhalation aerosols should have particles. which are:
   (a) Porous with large physical diameter and small aerodynamic diameter
   (b) Porous with small physical diameter and large aerodynamic diameter
   (c) Non-porous with large physical diameter and small aerodynamic diameter
   (d) Non-porous with small physical diameter and large aerodynamic
8. In 2015, the formulation "Spritam" approved by US FDA, is a :
   (a) 3D printed fast dissolving tablet
   (b) 3D printed transdermal patch
   (c) 3D printed delayed release oral dosage form
   (d) 3D printed repeat action oral dosage form
9. Which one of the following statements regarding pharmaceutical powders is not correct?

(a) Hygroscopic powders absorb moisture from the air.
(b) Deliquescent powders absorb moisture from the air and partially or wholly liquefy.
(c) Efflorescent powders absorb moisture from the air and form water molecules of hydration or crystallization.
(d) Eutectic powders, upon mixing, become sticky or pasty or liquefies.

10. Which one of the following vehicles cannot be used for injection of drugs parenterally?
(a) Mineral oil (b) Corn oil
(c) Sesame oil (d) Castor oil

11. Capsules are available in various sizes (1, 2, 3, 4, 5, 000, 00E, 00, O and OE) for human administration. Which of the following statements regarding capsule size is/are correct?
P. "000" is the largest capsule size.
Q. "5" is the smallest capsule size.
R. "0" is the smallest capsule size.
S. "5" is the largest capsule size.
T. "000" is the smallest capsule size.
Select the correct answer using the code given below:
(a) S and T (b) P and Q
(c) R and S (d) P and R

12. 10 suppositories containing 300 mg acetaminophen have to be prepared using cocoa butter. Average weight of the blank cocoa butter suppository is 2 g and the average weight of medicated suppository is 18 g. What will be the actual weight of cocoa butter required to prepare the suppositories?
(a) 18-0 g (b) 15-0 g
(c) 18-6 g (d) 15-6 g

13. Microemulsions have droplets in the size range of:
(a) 100 Å to 5000 Ă (b) 100 Á to 1000 Å
(c) 1000 A to 5000 A (d) 5000 Å to 10000 Å

14. Which one of the following is the best technique to sterilize thermolabile and moisture-sensitive materials?
(a) Filtration sterilization
(b) Gas sterilization
(c) Dry heat sterilization
(d) Steam sterilization

15. Diffusion is facilitated in suspensions via Brownian movement when the suspensions are:
(a) Deflocculated with particle size in sub-micrometre range
(b) Deflocculated with particle size in macrometre range
(c) Flocculated with particle size in sub-micrometre range
(d) Flocculated with particle size in macrometre range

16. Medical devices under the Medical Devices Rules, 2017 have been classified in which of the following classes?
(a) Class 1, Class 2, Class 3. Class 4
(b) Class O, Class P. Class Q. Class R
(c) Class A, Class B, Class C. Class D
(d) Class I, Class II, Class III, Class IV

17. Application for manufacture of cosmetics for sale/distribution is required to be made to the State Licensing Authority in:
(a) Form COS-3 (b) Form COS-5
(c) Form COS-6 (d) Form COS-7

18. The premises licensed for manufacturing cosmetics shall be inspected by Inspector appointed by the Central Government and State Government to verify the conditions of licence not less than:
(a) Once in a year (b) Once in two years
(c) Once in three years (d) Once in four years

19. Penalty for offences committed without obtaining a valid licence for manufacture and sale of drugs under the Drugs and Cosmetics Rules shall be not less than:
1. One year 2. Two years
3. Five years 4. Three years
And fine which shall not be less than:
(i) 50,000 (ii) 2, 00,000
(iii) 1, 00,000 (iv) 3, 00,000
HAR Select the correct answer using the code given below:
(a) 1, (ii) (b) 2, (i)
(c) 3, (iv) (d) 4, (iii)

20. To maintain perpetuity of a licence to manufacture drugs, application for its continuation is required to be made within:
(a) 3 years (b) 2 years
(c) 5 years (d) 7 years

21. An Indian pharmaceutical company wants to market a fixed dose combination (FDC) of two drugs for an indication for which those drugs are already approved and given together not as an FDC, but individually at same doses. What will be the data requirement for marketing permission?

4. SENIOR SCIENTIFIC OFFICER GPSC 2023

1. In ATR FT-IR spectrometer, abbreviation ATR stands for
   (a) Automatic Transmittance Recorder
   (b) Automatic Total Reflectance
   (c) Attenuated Transmittance Recorder
   (d) Attenuated Total Reflectance
2. For aromatic rings, out of-plane bending peaks usually appear in the range
   (a) 900 – 690 cm^{-1} (b) 1600 –1475 cm^{-1}
   (c) 2000 –1600 cm^{-1} (d) 3050 – 3010 cm^{-1}
3. For tertiary amines N-H stretch occurs in the range
   (a) 1350–1000 cm^{-1} (b) 1640–1560 cm^{-1}
   (c) 3500–3300 cm^{-1} (d) None
4. An alkyl halide has a molecular ion peak with a relative intensity of 100 and the M+2 peak with a relative intensity of 97.7. Which halogen substitution will be present in the compound?
   (a) Br (b) Br_2 (c) Cl (d) Cl_2
5. The most probable fragmentation is the one that leaves the positive charge on the fragment with the lowest ionization energy. This rule is known as
   (a) Markovnikov's Rule
   (b) Stevenson's Rule
   (c) McLafferty Rule
   (d) Even-electron rule
6. M–18 peak is usually observed in
   (a) Alkanes (b) Cycloalkanes
   (c) Alcohol (d) Ether
7. Nuclear spin quantum number of 17 8O is
   (a) 0 (b) $\frac{1}{2}$ (c) $\frac{3}{2}$ (d) $\frac{5}{2}$
8. Magnetogyric Ratio of a proton (the nucleus of a hydrogen atom) is
   (a) Greater than Magnetogyric Ratio of ^{13}C
   (b) Lesser than Magnetogyric Ratio of ^{13}C
   (c) Equal to Magnetogyric Ratio of ^{13}C
   (d) None of the above
9. The usual range of coupling constant (3J) for H–C–C–H is
   (a) 6 – 8 Hz (b) 6 – 15 Hz
   (c) 11–18 Hz (d) 5 – 20 Hz
10. Solvent cut-off or minimum region of transparency for 95% Ethanol is
    (a) 190 nm (b) 195 nm
    (c) 205 nm (d) 240 nm
11. Which type of electronic transitions are possible for Cyclohexane?
    (a) $\sigma \rightarrow \sigma^*$, $\sigma \rightarrow \pi^*$, $\pi \rightarrow \pi^*$, $\pi \rightarrow \sigma^*$, $n \rightarrow \sigma^*$ and $n \rightarrow \pi^*$
    (b) $\sigma \rightarrow \sigma^*$ and $n \rightarrow \pi^*$
    (c) $\sigma \rightarrow \sigma^*$, $\sigma \rightarrow \pi^*$, $n \rightarrow \sigma^*$ and $n \rightarrow \pi^*$
    (d) $\sigma \rightarrow \sigma^*$
12. Spectrophotometric method of choice for determination of potassium in a dilute aqueous solution of potassium chloride will be
    (a) Flame emission spectrometry
    (b) Spectrofluorimetry
    (c) Atomic absorption Spectrophotometry
    (d) Mass Spectrometry
13. Which spectrophotometric method can be used to determine the concentration of quinine sulphate in ferrous phosphate syrup with strychnine and quinine?
    (a) Flame emission spectrometry
    (b) Spectrofluorimetry
    (c) Atomic absorption Spectrophotometry
    (d) Thermogravimetric analysis
14. Which detector used in Gas Chromatography is known as Katharometer?
    (a) Flame Ionization Detector
    (b) Flame photometric detector
    (c) Thermionic detector
    (d) Thermal Conductivity Detector
15. Which statement is correct in chromatography?
    (a) Lower the HETP, higher is the efficiency of the column
    (b) Higher the HETP, lower is the efficiency of the column
    (c) HETP is not having any effect on the efficiency of the column
    (d) None of the above
16. Useful pH range of cyano column is limited to
    (a) 1.5 to 3.5 (b) 4.5 to 7.5
    (c) 6.5 to 8.5 (d) 7.5 to 10.5
17. The column which can be employed either as reversed phase or normal phase is
    (a) C_{18} (b) C_6
    (c) Silica (d) Amino
18. Disadvantage of Tetrahydrofuran as solvent for HPLC analysis is that it
    (a) Rapidly oxidizes (b) is viscous
    (c) is Not UV transparent (d) None
19. Storage solvent that can be used for C18 column
    (a) Methanol (100%)
    (b) Hexane
    (c) Isopropanol
    (d) 0.05% NaN_3 in water

(d) Borntrager's test

192. Which is NOT the prominent chemical constituent in Ipecacuanha root?
(a) Ajmalicine (b) Emetine
(c) Cephaeline (d) Emetamine

193. Which of the following is an isolation technique for the volatile oil contents of herbal drugs?
(a) Steam distillation (b) Enfleurage method
(c) Solvent extraction (d) All of the above

194. Draksavaleha is an example of
(a) Parpati (b) Pisti
(c) Churna (d) Avaleha

195. The powder form of substance obtained by calcination of metals, minerals or animal products is known as _____
(a) Churna (b) Lehya
(c) Bhasma (d) Kasaya

196. Strychnine and Brucine are present in:-
(a) Bael (b) Tulsi
(c) Cinnamon (d) Nux vomica

197. _____ is defined as the study of drug response variability caused by genetic code.
(a) Chemogenomics (b) Pharmacogenomisc
(c) Metabolomics (d) All of the above

198. A biologic product that is approved based on demonstrating that it is highly similar to an FDA approved biologic product is known as
(a) Biosimilar (b) Bioisomer
(c) Original biologics (d) Replica

199. Which one of the followings is NOT a classification model?
(a) Support vector machines
(b) K-nearest neighbour
(c) Reuters machine
(d) Random Forest

200. Which of the followings is NOT an unsupervised learning model?
(a) Naive Bayes
(b) Neural networks
(c) Bayesian networks
(d) Hierarchica

ANSWER KEY

1-d	2-a	3-d	4-a	5-b	6-c	7-d	8-a	9-a	10-c
11-d	12- a	13-b	14-d	15-a	16-b	17-d	18-a	19-a	20-d
21-b	22-a	23-c	24c	25-c	26-a	27-b	28-a	29-b	30-c
31-a	32-a	33-d	34-c	35-b	36-b	37-c	38-b	39-a	40-c
41-d	42-a	43-c	44-b	45-b	46-a	47-d	48-a	49-d	50-d
51-b	52-a	53-c	54-d	55-a	56-a	57-c	58-b	59-a	60-c
61-a	62-d	63-b	64-c	65-b	66-a	67-b	68-d	69-a	70-b
71-a	72-a	73-d	74-b	75-a	76-d	77-b	78-d	79-c	80-a
81-a	82-b	83-d	84-b	85-a	86-b	87-b	88-d	89b	90-b
91-d	92-b	93-b	94-b	95-d	96-c	97-b	98-d	99-a	100-d
101-a	102-d	103-b	104-c	105-d	106-a	107-d	108-c	109-d	110-a
111-b	112-a	113-c	114-c	115-b	116-a	117-b	118-b	119-c	120-c
121-d	122-a	123-c	124-a	125-c	126-a	127-b	128-c	129-a	130-b
131-c	132-d	133-a	134-b	135-d	136-a	137-c	138-a	139-d	140-b
141-a	142-d	143-a	144-c	145-c	146-a	147-a	148-a	149-d	150-a
151-c	152-a	153-c	154-d	155-d	156-d	157-c	158-d	159-c	160-b
161-a	162-d	163-b	164-a	165-c	166-b	167-b	168-d	169-d	170-b
171-a	172-b	173-d	174-c	175-a	176-d	177-d	178-a	179-c	180-b
181-c	182-a	183-a	184-b	185-a	186-c	187-a	188-b	189-a	190-a
191-d	192-a	193-d	194-d	195-c	196-d	197-b	198-a	199-c	200-a

5. OPSC DRUG INSPECTOR 2023

1. An example of heteroaromatic compound:
   (a) Tetrahydrofuran (b) Pyrrole
   (c) Pyrrolidine (d) Piperidine
2. Find the odd pair:
   (a) Topioisomerase II - Etoposide
   (b) Topioisomerase II-Teniposide
   (c) Topioisomerase I-Irinotecan
   (d) Topioisomerase III- Topotecan
3. Cellular mechanism of resistance to methotrexate is by:
   (a) Reduced drug transport
   (b) Increased polyglutamate formation
   (c) Increased level of dihydrofolate reductase
   (d) Both (a) and (c)
4. Most intravenous general anaesthetic agents act predominantly through:
   (a) 5-HT receptor (b) Dopamine receptor
   (c) GABAA receptor (d) Receptor
5. Ingestion of organophosphates can cause salivation, lacrimation and diarrhoea due to inhibition of:
   (a) Butyrylcholinesterase
   (b) Acetylcholinesterase
   (c) Tryosine hydroxylase
   (d) Monoamine oxidase
6. Octreotide is a:
   (a) Somatostatin analogue
   (b) Dopamine receptor antagonist
   (c) Growth hormone antagonist
   (d) Gonadotrophin releasing hormone agonist
7. A transesterification reaction is:
   (a) Exchange of alkyl group of alcohol with organic group of an ester
   (b) Exchange of alkyl group of ester with organic group of an ester
   (c) Exchange of alkyl group of ester with organic group of an alcohol
   (d) Exchange of alkyl group of ester with organic group of an alkane
8. Reduction of nitroalkanes yield:
   (a) Amines (b) Carboxylic acids
   (c) Diazo compounds (d) Alcohols
9. Which of the following is neither an acid nor a base?
   (a) KCI (b) CH_3OH
   (c) CH_3COOH (d) CH_3OCH_3
10. Correct order of nucleophilicity:
    (a) $Cl^- < Br^- < I^-$ (b) $Br^- < Cl^- < I^-$
    (c) $I^- < Br^- > Cl^-$ (d) $I^- < Cl^- < Br^-$
11. Which of the following pairs of receptors are likely to show the greatest structural similarity?
    (a) The dopamine receptor sub- types of D3 and D5
    (b) The M2 muscarinic receptor and the B2-adrenergic receptor
    (c) The H2 histamine receptor and the x1-adrenoceptor
    (d) The H1 histamine receptor and the 32-adrenoceptor
12. What are the two main targets currently used in anti-HIV therapy?
    (a) Reverse transcriptase and protease
    (b) Reverse transcriptase and integrase
    (c) Protease and integrase
    (d) he viral glycoproteins gp120 and gp41
13. Which of the following Fermentation Processes is used in the production of Penicillin?
    (a) Aerobic fermentation followed by anaerobic fermentation
    (b) Anaerobic fermentation
    (c) Aerobic fermentation
    (d) Anaerobic followed fermentation by aerobic
14. The following drug causes yellow discolouration of teeth
    (a) Nalidixic acid (b) Mefenamic acid
    (c) Isoniazid (d) Tetracycline
15. What plays a major role in extra- hepatic metabolism and contains isozyme and P-glycoprotein?
    (a) Kidney (b) Intestine
    (c) Pancreas (d) Liver
16. Which of the following is an antiarrhythmic drug that is a calcium channel blocker?
    (a) Lidocaine (b) Nitroglycerin
    (c) Nifedipine (d) Diltiazem
17. Atropine can be synthesized from:
    (a) Tropine (b) Tropic acid
    (c) Both (a) and (c) (d) None of these
18. 2-hydroxy-5, 9-dimethyl-6, 7-benzomorphane derivative is:
    (a) Pentazocine (b) Hydrocodone
    (c) Codeine (d) Buprenorphine
19. A prodrug of terbutaline is:
    (a) Zafirlukast (b) Fexofenadine
    (c) Bambuterol (d) Nedocromil sodium
20. The selective COX-2 inhibitor is:
    (a) Ketorolac (b) Rofecoxib
    (c) Indomethacin (d) Naproxen
21. Sumatriptan contains all but
    (a) Indole
    (b) Sulfonamide
    (c) Tertiary amine
    (d) Alcohol functional group

22. One of the following is not a systemic corticosteroid
(a) Budesonide (b) Dexamethasone
(c) Methylprednisolone (d) Triamcinolone
23. Diazonium ions are:
(a) Weakly electrophile
(b) Strongly electrophile
(c) Weakly nucleophilic
(d) Strongly nucleophilic
24. A MAO-B inhibitor is
(a) Selegiline (b) Dopamine
(c) Adrenaline (d) Isoprenaline
25. A drug which undergoes significant first pass metabolism is:
(a) Propranolol (b) Mercaptopurine
(c) Nitroglycerin (d) All of these
26. Gelatin used in the manufacture of capsules is obtained from collagen by:
(a) Hydrolysis (b) Decarboxylation
(c) Acetylation (d) Conjugation
27. Select the equation that gives the rate of drug dissolution from a tablet:
(a) Fick's law
(b) Henderson Hasselbalch equation
(c) Noyes Whitney equation
(d) Michelis Menten equation
28. A drug solution of 300 µg/ml was stored in a shelf and after 30 days its concentration was assayed to be 100 µg/ml. The half life of degradation of the drugs is:
(a) 25 days (b) 19 days
(c) 15 days (d) 3 days
29. One of the following does not improve the solubility of a drug:
(a) Complexation (b) Addition of surfactant
(c) Micronization (d) Addition of anti-solvent
30. If the Carr's index of a power is 10% then the type of power flow is:
(a) Poor (b) Excellent
(c) Very poor (d) Good
31. In the preparation of small pox vaccine the drying process used is:
(a) Spray drying (b) Vacuum drying
(c) Drum drying (d) Freeze drying
32. The phenomenon of increasing the solubility of weak electrolytes and non-polar molecules by the addition of a water miscible solvent in which the drug has good solubility is called:
(a) Complexation (b) Cosolvency
(c) Solubilization (d) Hydrotrophy
33. Viscosity of liquid _____ with rise in temperature
(a) Increases (b) Decreases
(c) Remains constant (d) Is independent
34. Semisolid preparations for external application that differ from similar products in containing a high proportion of finely powdered medicaments:
(a) Ointment (b) Paste
(c) Gel (d) Cream
35. Which base is likely to be most occlusive on the skin?
(a) Hydrocarbon base (b) Absorption base
(c) Emulsion base (d) Water-soluble base
36. Specific gravity of syrup is:
(a) 1.8 (b) 1.3 (c) 1.5 (d) 3.1
37. Which of the following polyols used as humectants in creams?
(a) Glycerine (b) Propylene glycol
(c) Sorbitol 70% (d) All of these
38. Which of the following is most commonly used suppository base?
(a) Cocoa butter (b) PEG 1000
(c) PEG+Hexanetriol (d) None of these
39. If the urine pH increases then
(a) Excretion of weakly basic drugs increase
(b) Excretion of weakly acidic drugs increase
(c) Excretion of non-polar drugs increase
(d) Excretion of any type of drugs remain unaffected
40. What is true about intramuscular route of administration?
(a) Only aqueous solutions can be injected
(b) Volumes in the range of 2-3 ml are generally administered
(c) The formulations need not be completely sterilized
(d) Hypertonic and not hypotonic solutions can be administered
41. While developing a new formulation excipient should be selected from:
(a) Cambridge crystallographic database
(b) Spectroscopy databases
(c) Inactive ingredients database
(d) Pharmacopoeial databases
42. The following methods are used for evaluation of suspension except:
(a) Sedimentation (b) Electrokinetic
(c) Micromeritic (d) Sterilization
43. USP type I glass is
(a) Highly resistant borosilicate glass
(b) Treated soda lime glass
(c) Soda lime glass
(d) Potassium-lithium augmented glass

6. ASSISTANT COMMISSIONER DRUGS MPSC 2023

1. The substance involved in in the control of platelet production is
   (a) Plasminogen (b) Thrombopoietin
   (c) Fibrinogen (d) Erythropoietin
2. Plasma from which the clotting factor are removed is known as
   (a) Lymph (b) Serum
   (c) Plasmin (d) Platelet
3. Vitamin K is essential for the synthesis of the following factors except:
   (a) Factor IX (b) Factor X
   (c) Factor III (d) Factor II
4. The shape of erythrocyte disc is
   (a) Biconvex (b) Concave
   (c) Convex (d) Biconcave
5. Neutrophils squeeze through the capillary walls in the area of infection through a process called
   (a) Decussation (b) Dysplasia
   (c) Deglutition (d) Diapedesis
6. The clotting factor, Factor IX is otherwise known as
   (a) Christmas Factor (b) Hageman Factor
   (c) Labile Factor (d) Stuart Power Factor
7. AIDS is a immunodeficiency disease,
   (a) Secondary (b) Primary
   (c) Tertiary (d) Quaternary
8. Trichomonas vaginalis is a
   (a) Fungi (b) Bacteria
   (c) Protozoa (d) Virus
9. The type of spirochaete bacteria responsible for producing syphilis is
   (a) Leptospira (b) Helicobacter
   (c) Borrelia (d) Treponema
10. The gene for reverse transcriptase which act as marker for laboratory diagnosis of HIV infection is
    (a) Gag (b) Tat
    (c) Pol (d) Env
11. Type I hypersensitivity reaction is mediated by
    (a) IgM (b) IgA
    (c) IgG (d) IgE
12. Which drug among the following antifungals act by inhibiting the formation of glucan in fungal cell wall?
    (a) Allylamines (b) Polyenes
    (c) Echinocandins (d) Azoles
13. _____ is the main mineralocorticoid in humans?
    (a) Serotonin (b) Aldosterone
    (c) Cortisol (d) Androgen
14. One among the following drug is a Vitamin K antagonist anticoagulant.
    (a) Enoxaparin (b) Dalteparin
    (c) Warfarin (d) Heparin
15. A drug with high affinity for receptor and intrinsic activity is a/an
    (a) Agonist (b) Antagonist
    (c) Partial agonist (d) Inverse agonist
16. The major carrier protein of acidic drugs in the blood stream is
    (a) Globulin (b) Keratin
    (c) Ferritin (d) Albumin
17. Which among the following drug is a reversible carbamate inhibitor used for the treatment of Alzheimer disease?
    (a) Tacrine (b) Galantamine
    (c) Rivastigmine (d) Donepezil
18. The enteral route of administration depicts one among the following route
    (a) Intrathecal (b) Buccal
    (c) Transdermal (d) Inhalation
19. Dipeptidyl peptidase IV is a protease.
    (a) Threonine (b) Aspartic
    (c) Cysteine (d) Serine
20. Drugs having hydrazine residues are metabolized by getting conjugated through
    (a) Acetylation (b) Methylation
    (c) Glucuronidation (d) Oxidation
21. One among the following drug is a direct renin inhibitor
    (a) Trandolapril (b) Irbesartan
    (c) Aliskiren (d) Fosinopril
22. The drug which is contraindicated due to the possible association with reye syndrome is
    (a) Aspirin (b) Sulindac
    (c) Indomethacin (d) Ketorolac
23. The non-opioid analgesic which is a synthetic copy of neuro active con snail toxin is
    (a) Ziconotide (b) Fentanyl
    (c) Diflunisal (d) Etodolac
24. Receptor macromolecular perturbation theory fails in substantiating the concept of
    (a) Agonism (b) Antagonism
    (c) Partial agonism (d) Inverse agonism
25. Which among the following is a respiratory irritant type of asphyxiant poison?
    (a) Carbon monoxide (b) Carbon dioxide
    (c) Hydrogen sulfide (d) Helium
26. Poisoning decreases haeme synthesis by inactivating ferrochelatase enzyme.
    (a) Lead (b) Arsenic
    (c) Copper (d) Sodium
27. Which drug among the following is known to cause respiratory depression?
    (a) Phenothiazine (b) Levodopa

(c) Strychnine (d) Clonidine

28. The synonym 'Angel Dust' is referred by addicts for drug.
(a) Phencyclidine (b) Dimethyltryptamine
(c) Mescaline (d) Tacrine

29. During the chemical inactivation of formaldehyde poisoning treatment with ammonia produces
(a) Pentaethylene hexamine
(b) Hexamethylene tetramine
(c) Tetraethylene triamine
(d) Diethylene triamine

30. The ingestion of insecticides causes lethal action by inhibition of GABA mediated inhibitory chloride channel.
(a) Carbamate (b) Glyphosate
(c) Organophosphorus (d) Pyrethroid

31. The inorganic energy source used by Nitrosomonas:
(a) Alcohol (b) Succinate
(c) Ammonia (d) Fumarate

32. Growth of lactobacilli within the vaginal vault reduces the pH to approximately and prevents the growth of many opportunist pathogens:
(a) 4.5 (b) 8.5
(c) 9.3 (d) 11.5

33. In bacterial growth curve the lag phase represents:
(a) Levelling off (b) Increase in cell size
(c) Growth rate (d) Death

34. Unstained bacteria can be counted using
(a) Phase-contrast microscope
(b) Epifluorescence
(c) Compound light microscope
(d) Turbidimeter

35. Is an example of Positive single-stranded RNA?
(a) Rhabdovirus (b) Paramyxovirus
(c) Orthomyxovirus (d) Poliovirus

36. Chlamydospores are formed from cells of
(a) Sporangia (b) Parent nuclei
(c) Vegetative hypha (d) Haploid nuclei

37. Ziehl-Neelsen stain is used to identify
(a) E. Coli (b) Mycobacteria
(c) Salmonella (d) Pseudomonas

38. Crystal violet (CV) dissociates in aqueous solutions to form CV+ and
(a) Chloride ion (b) Iodide ion
(c) Fluoride ion (d) Bromide ion

39. To avoid spoilage insulin injection should be stored at
(a)15°C to 25°C (b) 2°C to 8°C
(c) -20°C (d) -80°C

40. The terminal methyl group of alkyl benzene sulphonates are metabolized by
(a) Degradation of the cyclic nuclei
(b) α-oxidation
(c) β-oxidation
(d) ω-Oxidation

41. One among the following spores resist boiling.
(a) Streptococcus (b) Pseudomonas
(c) Bacillus (d) Escherichia coli

42. Syringes are commonly sterilized by employing
(a) Cosmic rays (b) Alpha rays
(c) Beta rays (d) Gamma rays

43. One among the following sterilization parameter is monitored in dry heat sterilization
(a) Gas concentration (b) Temperature
(c) Exposure to radiation (d) Radiation doses

44. Steam-sterilization temperature employed in moist heat sterilization of pharmaceutical and medical products.
(a) 121°C (b) 160°C
(c) 450°C (d) 600°C

45. One among the following is absent in eukaryotes.
(a) Circular chromosome
(b) Golgi apparatus
(c) Endoplasmic reticulum
(d) Mitochondria

46. Is an inherited disorder of galactose metabolism?
(a) Anaemia (b) Galactosaemia
(c) Thalassemia (d) Sickle cell anaemia

47. NADPH is produced in pentose-phosphate pathway is used in
(a) Purine synthesis (b) DNA synthesis
(c) RNA synthesis (d) Fatty acid synthesis

48. Multiple form of an enzyme catalyzing the same reaction is termed as
(a) Co-enzyme (b) Isoenzyme
(c) Diagnostic enzyme (d) Allosteric enzyme

49. The functional enzyme is referred to as
(a) Apoenzyme (b) Coenzyme
(c) Holoenzyme (d) Proenzymes

50. Translocation brought about by elongation
(a) Factor A (b) Factor C
(c) Factor E (d) Factor G

51. _____ is the starting material for I for ketogenesis.
(a) Acetyl CoA (b) 24 Acetoacetate
(c) Aceto-acetyl CoA (d) Acetophenone

52. Alpha amino beta phenyl propionic acid is
(a) Tyrosine (b) Phenylalanine
(c) Alanine (d) Glycine

7. GUJARAT DRUG INSPECTOR 2022

1. Which of the following is a physiological buffer?
   (a) Phosphate (b) Bicarbonate
   (c) Sodium Chloride (d) Both A&B
2. Replacement therapy may be needed in
   (a) Heavy loss of water (b) Prolonged fever
   (c) Diarrhoea (d) All of the above
3. Which of the following is a systemic alkalizer?
   (a) Sodium Chloride (b) Sodium Bicarbonate
   (c) Sodium Sulphate (d) None of the above
4. Calcium gluconate is used as
   (a) Antacid (b) Antioxidant
   (c) Calcium replenisher (d) None of the above
5. Which of the following is a non-systemic antacid?
   (a) Magnesium trisilicate (b) Sodium carbonate
   (c) Sodium bicarbonate (d) None of the above
6. Which of the following is an anticaries agent?
   (a) Sodium fluoride (b) Zinc oxide
   (c) Sodium alginate (d) Sodium benzoate
7. Which of the following is also used in sunscreen formulations?
   (a) Stannous fluoride (b) Amino benzoic acid
   (c) Sodium chloride (d) None of the above
8. Zinc oxide is used as
   (a) Astringent (b) Protective
   (c) Antiseptic (d) All of the above
9. Which of the following is a natural laxative?
   (a) Senna (b) Charcoal
   (c) Kaolin (d) Pectin
10. Barium sulphate is used as
    (a) Radioactive agent (b) Anti-caries agent
    (c) Radiopaque agent (d) None of the above
11. Which of the following is a source of impurity?
    (a) Raw material
    (b) Method of manufacturing
    (c) Cross contamination
    (d) All of the above
12. Which of the following is/are reactive particle/s?
    (a) Free radical (b) Carbocation
    (c) Carbanion (d) All of the above
13. Shape of methane is
    (a) Tetrahedral (b) Trigonal
    (c) Dihedral (d) Linear
14. In methyl radicalization, hybridization state is
    (a) Sp3 (b) Sp2
    (c) Sp (d) None of the above
15. Which of the following shows the greenhouse effect?
    (a) Methane (b) Propane
    (c) Nitrogen (d) Oxygen
16. Carboxylic acids can be reduced by
    (a) Lithium aluminum hydroxide
    (b) Aluminium chloride
    (c) Magnesium oxide
    (d) None of the above
17. Which of the following takes place in bimolecular nucleophilic substitution?
    (a) Retention of configuration
    (b) Inversion of configuration
    (c) No effect on configuration
    (d) None of the above
18. Pyridine is basic, because of
    (a) Aromatic sextet
    (b) Heterocyclic ring
    (c) Pair of electrons on nitrogen
    (d) None of the above
19. The correct base pair in DNA is
    (a) Adenine-Thymine (b) Guanine-Cytosine
    (c) Adenine-Uracil (d) Both A&B
20. Number of rings in cholesterol is
    (a) 2 (b) 3 (c) 4 (d) 5
21. Which of the following is a drying oil?
    (a) Linseed oil (b) Coconut oil
    (c) Soybean oil (d) All of the above
22. Nitration of benzene takes place in the presence of
    (a) Nitric acid
    (b) Nitrous acid
    (c) Mixture of sulphuric & nitric acid
    (d) None of the above
23. Sandmeyer reaction is used to prepare
    (a) Alkyl halides (b) Aryl halides
    (c) Both A&B (d) None of the above
24. Which of the following is not a non-glyceride lipid?
    (a) Sphingolipids (b) Gangliosides
    (c) Sulfatides (d) Oleic acid
25. Which of the following is/are human plasma lipoprotein(s)?
    (a) Chylomicrons
    (b) Low density lipoprotein
    (c) High density lipoprotein
    (d) All of the above
26. Which amino acid contains sulphur?
    (a) Leucine (b) Methionine
    (c) Tyrosine (d) Lysine
27. Tertiary structure of proteins is maintained by
    (a) Vander Waals' forces
    (b) Hydrogen bonds
    (c) Ionic bonds
    (d) All of the above
28. Which of the following is not a cofactor in enzyme action?
    (a) Biotin (b) Niacin

(c) Folic acid (d) All of the above

29. Which of the following is not a pyridine base?
(a) Thymine (b) Uracil
(c) Guanine (d) Cytosine

30. The major product/s of glycolysis is/are:
(a) ATP (b) NADH
(c) Pyruvate (d) All of the above

31. What is/are the main function/s of dietary fat?
(a) Cell signalling
(b) Providing energy
(c) Forming cell membrane
(d) All of the above

32. 5ø7ß-oxidation of fatty acids occurs in
(a) Peroxisome
(b) Mitochondria
(c) Endothelial reticulum
(d) None of these

33. Base pairs in DNA maintain their structural integrity by
(a) Hydrogen Bonds
(b) Hydrophobic Interactions
(c) Van der Waals' forces
(d) None of the above

34. Penicillamine is used as an antidote for
(a) Copper poisoning (b) Mercury poisoning
(c) Lead poisoning (d) All of the above

35. Absorption of alkaloids takes place in
(a) Stomach (b) Intestine
(c) Rectum (d) None of these

36. Which of the following does not undergo intra molecular hydrogen bonding?
(a) Salicylic Acid
(b) Methyl Salicylate
(c) Methyl p-hydroxybenzoate
(d) o-nitrophenol

37. Which of the following is NOT a chelating agent?
(a) Ethylene diamine tetra acetic acid
(b) Deferoxamine
(c) Penicillamine
(d) Histamine

38. Which of the following is NOT a Phase-I metabolic pathway?
(a) Oxidation (b) Hydrolysis
(c) Methylation (d) Reduction

39. Gray baby syndrome is caused by
(a) Chloramphenicol (b) Chlortetracycline
(c) Chloroquine (d) None of these

40. Which of the following is a fungicidal?
(a) Erythromycin (b) Polymyxin
(c) Nystatin (d) Rifampicin

41. Chelate formation with calcium & magnesium is exhibited by
(a) Tetracycline (b) Aminoglycosides
(c) Macrolides (d) None of the above

42. Which of the following is a monoamine oxidase inhibitor?
(a) Tranylcypromine (b) Isocarboxazid
(c) Phenelzine (d) All of the above

43. Which of the following is a cholinergic receptor?
(a) Muscarinic (b) α-receptor
(c) β-receptor (d) None of the above

44. Carbonic anhydrase is NOT inhibited by
(a) Acetazolamide (b) Methazolamide
(c) Dichlorphenamide (d) Theophylline

45. Which of the following is NOT a prodrug?
(a) Chloramphenicol palmitate
(b) Artemether
(c) Ibuprofen
(d) Haloperidol decanoate

46. Doxycycline is used to treat
(a) Chest infection (b) Skin infection
(c) Dental infection (d) All of the above

47. Which of the following is a folate reductase inhibitor?
(a) Trimethoprim (b) Sulfanilamide
(c) Sulfathiazole (d) All of the above

48. Ivermectin is a
(a) Antifungal (b) Antiparasitic agent
(c) Antitubercular (d) Antiseptic

49. Which of the following is an anti-neoplastic plant product?
(a) 5-fluorouracil (b) Vincristine
(c) Busulfan (d) Methotrexate

50. Which of the following is a natural local anesthetic compound?
(a) Cocaine (b) Hesylcaine
(c) Isobucaine (d) Piperocaine

51. Histamine is biosynthesized from histidine by
(a) Oxidation (b) Reduction
(c) Decarboxylation (d) None of the above

52. Which of the following propylamine derivative/s is/are used as antihistaminic(s)?
(a) Chlorpheniramine (b) Pyrrobutamine
(c) Brompheniramine (d) All of the above

53. Which of the following is NOT an oral anticoagulant?
(a) Warfarin (b) Heparin
(c) Phenindione (d) Anisindione

54. Which of the following does NOT inhibit platelet aggregation?

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