A
SET

Booklet No. :

PY - 15

Pharmacy

Duration of Test : 2 Hours **Max. Marks : 120**

Hall Ticket No. | | | | | | | | |

Name of the Candidate : _____

Date of Examination : _____ **OMR Answer Sheet No. :** _____

_____ _____

Signature of the Candidate **Signature of the Invigilator**

INSTRUCTIONS

1. This Question Booklet consists of **120** multiple choice objective type questions to be answered in **120** minutes.
2. Every question in this booklet has 4 choices marked (A), (B), (C) and (D) for its answer.
3. Each question carries **one** mark. There are no negative marks for wrong answers.
4. This Booklet consists of **16** pages. Any discrepancy or any defect is found, the same may be informed to the Invigilator for replacement of Booklet.
5. Answer all the questions on the OMR Answer Sheet using **Blue/Black ball point pen only.**
6. Before answering the questions on the OMR Answer Sheet, please read the instructions printed on the OMR sheet carefully.
7. OMR Answer Sheet should be handed over to the Invigilator before leaving the Examination Hall.
8. Calculators, Pagers, Mobile Phones, etc., are not allowed into the Examination Hall.
9. No part of the Booklet should be detached under any circumstances.
10. The seal of the Booklet should be opened only after signal/bell is given.

PHARMACY (PY)

1. One of the following groups is an example of morphological classification of crude drugs:

(A) Senna, Kurchi, Ephedra (B) Fennel, Cinchona, Ergot

(C) Gelatin, Catechu, Agar (D) Quassia, Ginger, Belladonna

2. Flannel bandage is made up of

(A) Wool (B) Silk (C) Cotton wool (D) Nylon

3. One of the following is a naturally occurring cytokinin :

(A) Kinetin (B) Zeatin (C) Adenine (D) Ethephon

4. Adulteration by substitution with an exhausted drug is more common in case of

(A) Nux-vomica (B) Senna (C) Fennel (D) Vasaka

5. The percentage yield of the extract with ethyl alcohol is more for

(A) Benzoin (B) Asafoetida (C) Aloe (D) Guggul

6. Aconitine is a

(A) Proto alkaloid (B) True alkaloid

(C) Simple alkaloid (D) Pseudoalkaloid

7. The bark of *Cinnamomum burmanii* is found in the form of

(A) Quills (B) Compound quills

(C) Double quills (D) Flats

8. Glandular trichome consists of a unicellular stalk and a head consisting of 2, 4, or 8 cells with a cuticular sac is found in

(A) *Crocus sativus* (B) *Mentha piperita*

(C) *Citrus amara* (D) *Citrus limon*

9. Blue fluorescence in water is given by

(A) Ergometrine (B) Reserpine (C) Brucine (D) Vincristine

10. Is a quinoline alkaloid, which exhibits anticancer activity :

(A) Taxol (B) Camphothecin (C) Vinblastine (D) Podophylotoxin

11. The induction of meristem as well as the organogenesis are achieved with the plant tissue culture medium containing appropriate levels of

(A) Sugars and vitamins (B) Vitamins and micronutrients

(C) Auxins and cytokinins (D) Micro and macronutrients

12. Is used in the concentration of 10-12% for surface sterilization of plant materials :

(A) Mercuric chloride (B) Sodium hypochloride

(C) Silver nitrate (D) Hydrogen peroxide

13. The fibers, soluble in concentrated hydrochloric acid are

(A) Silk (B) Cotton wool (C) Wool (D) Asbestis

14. Gaultherin yields on hydrolysis by Gaultherase and water

(A) Methyl benzoate (B) Acetyl salicylic acid

(C) Methyl salicylate (D) Methyl salicylic acid

15. Papillose cells are present in lower epidermis of

(A) Palthe senna (B) Dog senna (C) Bombay senna (D) Mecca senna

16. Rb series of Ginsenosides are

(A) N-glycosides (B) Monodesmosidic-c-glycosides

(C) Bisdesmosidic-o-glycosides (D) Bisdesmosidic-c-glycosides

17. _____is used as substitute for spermaceti.

(A) Olive oil (B) Dehydrated castor oil

(C) Hydrogenated castor oil (D) Neem oil

18. When triturated with water, it forms a coloured emulsion

(A) Colophony (B) Myrrh

(C) Balsam of Tolu (D) Benzoin

19. Papain shows maximum proteolytic activity between pH

(A) 5 and 6 (B) 7 and 8 (C) 3 and 4 (D) 8 and 9

20. The active ingredients of Triphala, an Ayurvedic preparation are

(A) Myrobalan, Arjuna and Amla (B) Arjuna, Amla and Gambier

(C) Amla, Arjuna and Bahera (D) Myrobalam, Bahera and Amla

21. The following barbituric acid are inactive as sedatives and hypnotics

(A) 5-Mono substituted barbituric acids

(B) 1, 3-disubstituted barbituric acids

(C) 1, 3, 5, 5-Tetra substituted barbituric acids

(D) All the above

22. A fused triazole ring containing benzodiazepines such as alprazolam are
(A) long acting because they are not rapidly metabolized
(B) short acting because they are metabolized
(C) short acting because rapidly metabolized by conjugation of the 3-OH group
(D) short acting because it is rapidly N-demethylated to a polar metabolite

23. The dimethylcarbamyl group present in neostigmine confers the following property when compared to a methyl carbamyl group present in physostigmine :
(A) Greater potency and long duration of action
(B) Greater metabolite stability
(C) Greater chemical stability toward hydrolysis
(D) (B) & (C)

24. Choose the correct statement :
(A) Simvastatin has greater bioavailability due to its lower protein binding.
(B) Atorvastatin is a lacone and prodrug, activated in the liner by hydrolysis.
(C) Atorvastatin should not be given along with amlodipine due to drug interaction.
(D) Lovastatin and Simvastatin are lactones and prodrugs.

25. In case of malarial parasite, pyrimethamine inhibits
(A) Thymidylate synthase and dihydofolate reductase
(B) Thymidylate synthase only
(C) Dihydofolate reductase only
(D) Dihydofolate synthase

26. The chemical name of diphenhydramine is
(A) 2-(diphenyl ethoxy)-N, N-dimethyl propanamine
(B) 2-(diphenyl methoxy)-N, N-dimethyl ethanamine
(C) 2-(diphenyl methoxy)-N, N-diethyl ethanamine
(D) 2-(diphenyl ethoxy)-N, N-methyl ethanamine

27. Nifedipine can be synthesized from
(A) p-nitrobenzaldehyde, ammonia and methyl acetoacetate
(B) p-nitrobenzaldehyde, ammonia and ethyl acetoacetate
(C) o-nitrobenzaldehyde, ammonia and methyl acetoacetate
(D) o-nitrobenzaldehyde, methylamine and methyl acetoacetate

28. The following chemicals are required for the synthesis of propranolol :
(A) 1-naphthol, epichlorhydrine and iso-propylamine
(B) 2-naphthol, epichlorhydrine and iso-propylamine
(C) 1-naphthol, epichlorhydrine and t-butylamine
(D) 1-naphthol, chlorobutylene oxide and iso-propylamine

29. The intermediate used for the synthesis of acetazolamide is

(A) 5-amino-2-mercapto-1, 3, 4-tetrazole
(B) 5-amino-2-mercapto-1, 3, 4-thiazole
(C) 5-amino-2-mercapto-1, 3, 4-thiadiazole
(D) 5-amino-2-hydroxy-1, 3, 4-thiadiazole

30. Amoxycillin has the following advantages, when compared benylpenicillin :

(i) Benylpenicillin is effective orally only when administered with antacids, where as amoxycillin is orally effective alone.
(ii) Amino group of amoxycillin reduces it resistant to alkaline hydrolysis
(iii) Amino group of amoxycillin reduces it resistant to hydrolysis by β-lactamase
(iv) Spectrum of activity is broadened in case of amoxycillin

(A) i & ii (B) i & iii (C) i & iv (D) i, ii, iii, iv

31. Benimidazole ring is present in the following drug :

(A) Metronidazole (B) Omeprazole (C) Cimetidine (D) Sulfamethizole

32. The minor metabolite of cyclophosphamide, which is both neurotoxuc and neohrotoxic

(A) Phosphoramide mustard (B) Acrolein
(C) Chloroacetaldehyde (D) Carbinolamine

33. Doxorubicin is

(A) Anthracycline antibiotic useful in treatment of various cancers
(B) Actinomycin antibiotic
(C) A phodophylotoxin
(D) Antometabolite anticancer agent

34. Levofloxacin is

(A) Cephalosporin antibiotic (B) Fluoroquinolone antibiotic
(C) 3 S (-) isomer (D) (B) & (C)

35. The apparent difference between clonidine (α_2 – adrenergic agonist) and α_1 agonists (eg. xylometazoline)

(A) CH_2 bridge on C1 of imidazoline (of α_1 agonist) is replaced by an amine NH in clonidine
(B) CH_2 bridge on C1 of imidazoline (of α_1 agonist) is replaced by carbonyl (C = O) group in clonidine
(C) CH_2 bridge on C1 of imidazoline (of α_1 agonist) is replaced by ester (COO) group in clonidine
(D) CH_2 bridge on C1 of imidazoline (of α_1 agonist) is replaced by ether (C = O) group in clonidine

36. Choose the **incorrect** statement from the following :

(A) Warfarin is coumarin derivative.

(B) Heparin is also known as heparinic acid.

(C) Heparin can be administered orally.

(D) Phenindione acts by a similar mechanism of action to that of coumarin derivatives.

37. Major problem associated with formulation of antianginal organic nitrates is

(A) Volatility can lead to loss of active principle from the dosage form

(B) Low bioavailability due to greater liphophilicity

(C) Poor absorption

(D) Low water solubility makes them unsuitable for making liquid oral dosage forms

38. The local anesthetic useful for the treatment of ventricular arrhythmias

(A) Cocaine (B) Procaine (C) Xylocaine (D) Lidocaine

39. One of the following is a long acting neuroleptic used as IM depot injection

(A) Chlorpromazine HCl (B) Fluphenazine decanoate

(C) Thioridazine HCl (D) Haloperidol

40. In phenyl ethanolamine adrenergic agonists, the activity changes as follows : as the size of the substituent increased from hydrogen to methy/isopropyl –

(A) activity at β-receptors decreases

(B) activity at β-receptors remains unchanged

(C) activity at α-receptors increases

(D) activity at α-receptors decreases and at β receptors increases

41. The principle in the limit test for arsenic is based on the yellow stain produced by the reaction of

(A) Arsine gas with mercuric acetate paper

(B) Arsine gas with mercuric chloride paper

(C) Arsenious acid with mercuric acetate paper

(D) Arsenious acid with mercuric chloride paper

42. Calamine is _____

(A) an antacid, containing Zinc chloride with small proportion of ferric oxide

(B) a topical protective, containing Zinc acetate with small proportion of ferric oxide

(C) a topical protective, containing Zinc oxide with small proportion of ferric oxide

(D) a lubricant containing Zinc stearate

43. Choose the correct statement :

(A) Zinc chloride is astringent & dentin sensitizer.

(B) Stannous fluoride is adentifrice.

(C) Sodium fluoride should not be used in dental products.

(D) Sodium carbonate is widely used as anticaries agent.

44. In the preparation of ferric ammonium citrate, the first step involves

(A) reaction of ferric sulphate with sodium hydroxide

(B) reaction of ferric sulphate with citric acid

(C) reaction of ferric sulphate with ammonia

(D) reaction of ferric hydroxide with ammonia

45. One of the followings is haematinic :

(A) Magnesium sulphate (B) Calcium glucanate

(C) Ferric ammonium citrate (D) Potassium iodide

46. Van der Waals force does not include

(A) Keesom forces (B) Debye forces

(C) London forces (D) Hydrogen bond

47. Lowest bond energy is associated with

(A) Hydrogen bond (B) Covalent bond

(C) Ionic bond (D) Coordinate covalent bond

48. Meosphase is nothing but

(A) Crystalline state (B) Amorphous state

(C) Liquid state (D) Liquid crystalline state

49. Which of the following systems show both upper and lower consolute temperature ?

(A) Triethylamine-Water (B) Nicotine-Water

(C) Phenol-Water (D) Benzene-Water

50. Porosity is

(A) void volume

(B) true volume

(C) ratio of void volume to bulk volume

(D) ratio of true volume to bulk volume

51. Andreasan apparatus is used to measure mainly

(A) Suspension particle size (B) Suspension volume

(C) Suspension weight (D) Suspension particle morphology

52. Kinematic viscosity is the ratio of

(A) Viscosity and density (B) Density to viscosity

(C) Shear stress and rate of shear (D) Rate of shear and shear stress

53. Unit of viscosity

(A) Stoke (B) Poise (C) Torque (D) Creep

54. Thixotrophy in suspension is

(A) Shear thinning (B) Shear thickening

(C) Dilantancy (D) Rheophoxy

55. Suspension solubility due to decomposition of drug is related to

(A) Zero order kinetics (B) First order kinetics

(C) Second order kinetics (D) Mixed order kinetics

56. HLB value of sodium lauryl sulphate is

(A) 10 (B) 40 (C) 20 (D) 30

57. Ostwald ripening is involved in these formulations :

(A) Suspensions (B) Tablets (C) Solutions (D) Syrups

58. Volume changes due to thermal or chemical effect can be measured by

(A) Differential scanning calorimetry (B) Dilatometry

(C) Microscopy (D) X-Ray diffractometry

59. Enteric coated tablets are tested for drug dissolution in

(A) Simulated gastric medium

(B) Simulated gastric medium followed by simulated intestinal fluid

(C) Simulated intestinal fluid

(D) Mixture consists of simulated gastric and intestinal fluid

60. Identify drug delivery system which maintains constant drug levels in blood or at target Tissue.

(A) Sustained release system (B) Prolonged release system

(C) Delayed release system (D) Controlled release system

61. In metered dose inhalers, for achieving the therapeutic response particle size should be

(A) <10 μm (B) > 10 μm (C) <20 μm (D) >20 μm

62. Plasma substitute provides

(A) Colloidal osmotic pressure (B) Transport of O_2

(C) Transport of CO_2 (D) Immunity

63. In parentral injections, LAL test is to know the presence of

(A) Particles (B) Exotoxins (C) Pyrogens (D) Allergens

64. Lipstick renders lips

(A) Coloured (B) Antiseptic (C) Tasty (D) Swollen

65. Identify the suppository base material from following :

(A) Theobroma oil (B) Coconut oil (C) Soft paraffin (D) Arachis oil

66. Loading dose is to give

(A) sufficient initial drug to get the steady state concentration

(B) maintaining the steady state concentration

(C) needed daily dose

(D) repetitive dosing

67. Mean residence time indicates

(A) Time required to eliminate 50% of drug

(B) Time required to eliminate 63.5% of drug

(C) Average Time required to eliminate 40% of drug

(D) Time required to eliminate 75% of drug

68. If an organ does not eliminate the drug, then the extraction ratio could be

(A) 1 (B) 0 (C) <1 (D) >1

69. Glucose transport across GIT is

(A) Active transport (B) Passive transport

(C) Pore diffusion (D) Passive diffusion

70. Basic pH partition theory is an

(A) Interrelation of dissociation constant and lipid solubility

(B) Interrelation of lipid solubility and pH at the absorption site

(C) Interrelationship among pH at absorption site, lipid solubility and dissociation constant of drug

(D) Interrelationship of surface area, pH of absorption site

71. Deviations of pH partition hypothesis can be explained by taking the account of

(A) Association of ionized form of drug alone

(B) Existence of unstirred layer alone

(C) Combination of microclimate pH, mucosal unstirred layer and absorption of ionized drug

(D) Microclimate pH alone

72. Bioavailability of tetracycline when administered with milk

(A) Increased (B) Unaffected (C) Decreased (D) Very much increased

73. Bioavailability indicates

(A) rate of drug absorption alone (B) extent of drug absorption alone

(C) rate and extent of drug absorption (D) rate of drug metabolism

74. First pass metabolism

(A) Drug metabolism after drug reaching the systemic blood circulation

(B) Drug metabolism before drug reaching the systemic blood circulation

(C) Drug metabolism taking place in liver not immediate to absorption

(D) Drug metabolism taking place in kidney

75. Bioequivalent dosage forms indicate

(A) both produce same AUCs (B) both produce same t_{max}

(C) both produce same C_{max} (D) both produce same t_{max}, C_{max} and AUCs

76. An indirect acting cholinomimetic that redialy enters the CNS is

(A) Bethanchol (B) Muscarine (C) Neostigmine (D) Phytostigmine

77. Phenylephrine is

(A) a nasal decongestant (B) Vasopresso

(C) Mydriatic (D) All of the above

78. Verapamil is not associated with

(A) Bradycardia (B) Constipation (C) Hyperglycemia (D) Increased PR interval

79. A drug that has its major effect in the distal convoluted tubules

(A) Acetzolamide (B) Amiloride (C) Furosemide (D) Metolazone

80. Which of the following is the most effective in the treatment of peptic ulcer disease ?

(A) Sumatriptan (B) Nitropruside (C) Cimetidine (D) Ondansetron

81. Which of the following is an irreversible inhibitor of platelet cyclooxygenase ?

(A) Aspirin (B) Zafirlukast (C) Misoprostol (D) Ibuprofen

82. Mechanism of antiseizure activity of carbamazepine is

(A) Blocking of sodium ion channels (B) Blocking of calcium ion channels

(C) Glutamate receptor antagonism (D) Inhibition of GABA transaminase

83. Which of the following drugs is protective against the selective neurotoxicity of MPTP ?

(A) Benztropine (B) Levodopa (C) Ropinirole (D) Selegiline

84. Haloperidol would not be an appropriate drug for management of

(A) Acute mania (B) The amenorrhea-galactorrhea syndrome

(C) Schizoaffective disorders (D) Tourerre's syndrome

85. Which one of the following is a beta lactamase inhibitor ?

(A) Penicillanic acid (B) Embonic acid

(C) Clavulanic acid (D) Cephalosporanic acid

86. Increased serum levels of which of the following is associated with a decreased risk of atherosclerosis ?

(A) LDL (B) TG (C) HDL (D) TC

87. Which one of the following drugs promotes the release of endogenous insulin ?

(A) Acarbose (B) Glipizide (C) Metformin (D) Pioglitazone

88. Isoniazid is a primary antitubercular agent that

(A) requires pyridoxine supplementation

(B) causes ocular complications that are reversible if the drug is discontinued

(C) is ototoxic and nephrotoxic

(D) should never be used due to hepatotoxic potential

89. Mechanism of action of the etoposide is

(A) Topoisomerase II inhibition (B) Topoisomerase I inhibition

(C) Folic acid inhibition (D) Purine inhibition

90. Which of the following is used in the treatment of Cushing's syndrome ?

(A) CRH (B) GnRH (C) TRH (D) Octreotide

91. One of the following drug having narrow therapeutic index ?

(A) Olmesartan (B) Genatamycin (C) Paracetamol (D) Diclofenac

92. Which of the following drug is used for pulmonary arterial hypertension ?

(A) Atorovastatin (B) Sitagliptin (C) Bosentan (D) Acetazolamide

93. Which of the following drugs increases digoxin plasma concentration by a pharmacokinetic Mechanism ?

(A) Captopril (B) Lidocaine (C) Quinidine (D) Sulfasalazine

94. Which of the following drug is a immunosuppressant ?

(A) Bumetanide (B) Finasteride (C) Tacrolimus (D) Trazodone

95. Which of following drug is a protein kinase inhibitor used in cancer ?

(A) Imatinib (B) Carmustine (C) Vincristine (D) Tamoxifen

96. For titrating a weak and less reactive acidic compound, which one of the following method is used ?

(A) Direct titration with a weak base (B) Direct titration with a strong base

(C) Back titration by taking excess base (D) (B) and (C)

97. A primary standard preferably should have high molecular weight to avoid

(A) calculation errors (B) weighing errors

(C) random errors (D) determinate errors

98. Silicotugistic acid is a reagent used to estimate vitamin B1 using

(A) Precipitation titration (B) Redox titration

(C) Nitrite titration (D) Gravimetric method

99. A pH meter can be calibrated using

(A) Standard bases (B) Standard acids

(C) Standard buffers (D) Any standard solution

100. I.R spectra appear as dips in the curve rather than maxima as in the UV-Visible spectra because it is a plot of_____

(A) % Transmittance against concentration

(B) % Absorbance against concentration

(C) % Transmittance against wave number

(D) % Absorbance against wave number

101. Accuracy differs from precision in

(A) Degree of closeness of repeated data

(B) Degree of closeness between successive readings

(C) Degree of closeness with true value

(D) Degree of closeness with theoretical value

102. Fluorimetric method is essentially

(A) A modified colourimetry (B) An absorption method

(C) A transmittance method (D) An emission method

103. The Units of measurement of conductance is

(A) Ohms (B) Millivolts (C) Mhos (D) Amperes

104. HPTLC differs from TLC in the following (with respect to)

(A) Sampling, particle size of the adsorbant and development of chromatogram

(B) Sampling, particle size and detection methods

(C) Plate size, loading of the amount of the sample and development of chromatogram

(D) Rapidity of development, ease of sampling and detection

105. Descending paper chromatography is generally useful for identification of

(A) Polar molecules which move slowly

(B) Nonpolar molecules which move slowly

(C) Polar molecules which are coloured

(D) Nonpolar molecules which are colourless

106. Refractive index detectors have the following advantage /disadvantage :

(A) They are not temperature dependent

(B) They are compatible with gradient elution methods

(C) They respond to nearly all solutes

(D) They are affected by flow rate

107. Silylation is one of the common derivatization techniques in GC since

(A) It can be easily performed.

(B) The products are usually volatile in nature.

(C) Most functional groups can be easily derivatized.

(D) The products formed can be detected easily.

108. GC and LC techniques can be hyphenated with mass spectroscopic methods because

(A) In both of them samples can be volatile in nature.

(B) In both of them samples are recovered easily.

(C) Both the techniques are sophisticated and hyphenated easily.

(D) Both can give qualitative information of the samples.

109. Theoretical plates in a HPLC column are

(A) real and can be easily observed

(B) hypothetical in nature and they form the basis of separation

(C) although hypothetical, they can be observed on the column

(D) they are more in number and height is low

110. GMP and GLP are

(A) Mandatory regulations (B) Legally valid regulations

(C) FDA guidelines (D) Recommendatory guidelines

111. Ruggedness of an analytical method indicates its suitability in

(A) Different conditions (B) In a variety of applications

(C) Different temperatures (D) Different reagents

112. Mohr's method for chloride determination is an example of _____.

(A) Redox titration (B) Conductometric titration

(C) Acid-base titration (D) Precipitation titration

113. Atomizer is an important component of

(A) Conductometer (B) Flame photometer

(C) Polarograph (D) Voltameter

114. Half wave potential is a

(A) Qualitative parameter (B) Quantitative parameter

(C) Acidity / alkalinity indicator (D) Polarity indicator

115. One of the following is not a primary standard substance :

(A) Benzoic acid (B) Potassium permanganate

(C) Silver nitrate (D) Osmium tetroxide

116. Schedule M of DCA (Drugs and Cosmetics Act) is related to

(A) Cosmetic regulations

(B) Regulations of ophthalmic products

(C) Regulations for manufacturing premises and layout etc

(D) Regulations on restricted drugs like narcotics

117. The Pharmacy Act and Narcotic and Psychotropic Substances Act were enacted in the respective years :

(A) 1945 & 1987 (B) 1946 & 1985

(C) 1948 & 1985 (D) 1947 & 1986

118. One of the following is not a psychotropic substance :

(A) amphetamine (B) flurazepam

(C) diphenyl hydantoin (D) pentazocine

119. In case of recognition and declaration of equivalency with Indian qualification in pharmaceutical sciences is the duty of

(A) Union Ministry of Health and Family Welfare

(B) Union Ministry of External Affairs

(C) Union Ministry of Human Resources Development

(D) Pharmacy Council of India

120. The term of president of Pharmacy Council of India shall be for a period of

(A) 3 years (B) 5 years (C) 4 years (D) 2 years

SPACE FOR ROUGH WORK