

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

25-0002-AB

TEST BOOKLET

Time Allowed: 3:00 hrs

MAIN PAPER

Maximum Marks: 120

PHARMACIST

INSTRUCTIONS TO CANDIDATES

Read the instructions carefully before answering the questions: -

1. This Test Booklet consists of 12 (twelve) pages and has 72 (seventy two) items (questions).
2. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
3. Please note that it is the candidate's responsibility to fill in the Roll Number and other required details carefully and without any omission or discrepancy at the appropriate places in the OMR Answer Sheet and the Separate Answer Booklet. Any omission/discrepancy will render the OMR Answer Sheet and the Separate Answer Booklet liable for rejection.
4. Do not write anything else on the OMR Answer Sheet except the required information. Before you proceed to mark in the OMR Answer Sheet, please ensure that you have filled in the required particulars as per given instructions.
5. Use **only Black Ball Point Pen** to fill the OMR Answer Sheet.
6. This Test Booklet is divided into 4 (four) parts – **Part - I, Part - II and Part - III**
7. All **THREE** parts are **Compulsory**.
8. **Part-I consists of Multiple Choice-based Questions.** The answers to these questions have to be marked in the **OMR Answer Sheet** provided to you.
9. **Part - II and Part - III consists of Conventional Questions.** The answers to these questions have to be written in the **Separate Answer Booklet** provided to you.
10. In Part-I, each item (question) comprises of 04 (four) responses (answers). You are required to select the response which you want to mark on the OMR Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
11. After you have completed filling in all your responses on the OMR Answer Sheet and the Answer Booklet(s) and the examination has concluded, you should hand over to the Invigilator **only the OMR Answer Sheet and the Answer Booklet(s)**. You are permitted to take the Test Booklet with you.
12. **Penalty for wrong answers in Multiple Choice-based Questions:**
THERE WILL BE **PENALTY** FOR WRONG ANSWERS MARKED BY A CANDIDATE.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third** of the marks assigned to the question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above to the question.
 - (iii) If a question is left blank. i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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PART – I

MULTIPLE CHOICE BASED QUESTIONS

Instructions for Questions 1 to 60:

- Choose the correct answer for the following questions
- Each question carries 1 marks

(60 x 1 = 60 marks)

1. An ingredient used to improve the flow properties of granules into a die for compression during tablet formulation is a

- (A). Disintegrant
- (B). Glidant
- (C). Surfactant
- (D). Lubricant

2. Which mill is preferred for wet grinding?

- (A). Colloid mill
- (B). Hammer mill
- (C). Roller mill
- (D). Rotary cutter mill

3. Water attack test is performed to determine the leakage of alkali from.

- (A). Glass containers
- (B). Plastic containers
- (C). Rubber closer
- (D). Aluminium container

4. In cyclone separator, the collection efficiency will depend on the

- (A). Density and shape
- (B). Shape and surface area
- (C). Particle Size and density
- (D). Surface texture and size

5. Which one of the following dryers is known as lyophiliser?

- (A). Fluidised bed dryer
- (B). Freeze dryer
- (C). Spray dryer
- (D). Vacuum dryer

6. Which of the following drugs does not belong to the class of root under morphological classification?

- (A). Rauwolfia
- (B). Aconite
- (C). Ipecacuanha
- (D). Cinnamon

7. Indian senna substituted with Arabian Senna and Dog Senna, this type of adulteration is called as

- (A) Substitution with superficially similar inferior drug
- (B) Substitution with substandard commercial varieties
- (C) Substitution with exhausted drug
- (D) Substitution with artificially manufactured drug

8. What is the synonym of Vinca?

- (A) Catharanthus
- (B) Periwinkle
- (C) Phyllanthus
- (D) Both (A) and (B)

9. Reserpine is the active constituent of

- (A) Ergot
- (B) Nuxvomica
- (C) Physostigma
- (D) Rauwolfia

10. Which of the following is known as Wagner's reagent?

- (A) Potassium mercuric iodide
- (B) Potassium bismuth iodide
- (C) Iodine-Potassium iodide solution
- (D) Picric Acid

11. Which of the following is used in treating arthritic conditions of small joints?

- (A) Cobalt-57
- (B) Erbium-169
- (C) Fluorine -18
- (D) Iodine- 125

12. Antidote which converts haemoglobin into methaemoglobin in order to bind cyanide

- (A) Sodium chloride
- (B) Magnesium sulphate
- (C) Copper sulphate
- (D) Sodium nitrite

13. Which compound is utilised as a standard substance for the limit test of sulphate?

- (A) Potassium sulphate
- (B) Magnesium sulphate
- (C) Iron sulphate
- (D) Sodium sulphate

14. What kind of precipitation do astringents bring about?

- (A) Fat
- (B) Vitamins
- (C) Carbohydrate
- (D) Protein

15. What is the minimum total neutralizing capacity that an antacid should possess?

- (A) 3.5 mEq of HCl/dosage unit
- (B) 2.5 mEq of HCl/dosage unit
- (C) 5 mEq of HCl/dosage unit
- (D) 10 mEq of HCl/dosage unit

16. Which of the following tests is NOT used to identify the reducing action of sugars in the laboratory?

- A) Benedict's test
- B) Fehling's test
- C) Barfoed's test
- D) Molisch's test

17. Starch is composed of two polysaccharide components. Which of the following correctly describes these components?

- A) Amylose is water-insoluble and constitutes 80-85%, while amylopectin is water-soluble and constitutes 15-20%.
- B) Amylose is water-soluble and constitutes 15-20%, while amylopectin is water-insoluble and constitutes 80-85%.
- C) Both amylose and amylopectin are water-soluble, with amylose being 80-85% and amylopectin 15-20%.
- D) Both amylose and amylopectin are water-insoluble, with amylose being 15-20% and amylopectin 80-85%.

18. Which of the following statements best describes essential fatty acids (EFA)?

- A) Fatty acids that are synthesized by the body and do not need to be included in the diet.
- B) Fatty acids that the body cannot synthesize and must be obtained through the diet.
- C) Fatty acids that are stored in the body as an energy reserve.
- D) Fatty acids that are only required during periods of rapid growth or illness.

19. What does the saponification number represent?

- A) The number of fatty acids present in one gram of fat or oil.
- B) The amount of KOH in grams required to neutralize the fatty acids in one gram of fat or oil.
- C) The mg of KOH required to hydrolyze one gram of fat or oil.
- D) The percentage of unsaturated fatty acids in a given fat or oil.

20. How is a peptide bond formed between amino acids?

- A) By the combination of two carboxyl groups from two amino acids.
- B) By the reaction between the amino group of one amino acid and the carboxyl group of another amino acid.
- C) By the interaction of the side chains (R groups) of two amino acids.
- D) By the addition of a hydroxyl group to the amino group of an amino acid.

21. Which of the following best defines a coenzyme?

- A) A protein that directly catalyzes enzymatic reactions.
- B) A high molecular weight, non-dialysable substance involved in enzyme function.
- C) A non-protein, organic, low molecular weight, and dialysable substance associated with enzyme function.
- D) A non-organic metal ion is required for enzyme activity.

22. Which of the following vitamins is known as the anti-sterility vitamin?

- A) Vitamin A
- B) Vitamin C
- C) Vitamin E
- D) Vitamin K

23. Which of the following are primary functions of the cerebrum?

- (A) Advanced cognitive functions, including reasoning, memory and learning.
- (B) Sensory perception.
- (C) Controlling voluntary muscle movements.
- (D) All of the above.

24. Rickets in children occurs due to deficiency of which dietary vitamin:

- (A) Vitamin A
- (B) Vitamin C
- (C) Vitamin D
- (D) Vitamin K

25. What is the primary function of follicle-stimulating hormone (FSH) in the human body?

- (A) Facilitates the production of milk in the mammary glands.
- (B) Regulates the release of progesterone from the corpus luteum.
- (C) Promotes spermatogenesis in the testes.
- (D) Activates the adrenal cortex to release glucocorticoids.

26. Which neurotransmitter is primarily affected by benzodiazepines?

- (A) Dopamine
- (B) GABA
- (C) Serotonin
- (D) Acetylcholine

27. Which of the following β Adrenergic blocker is used to treat hypertension?

- (A) Arkamine
- (B) Ramipril
- (C) Atenolol
- (D) Salbutamol

28. Which of the following is an autacoid (amine)?

- (A) Histamine
- (B) Insulin
- (C) Cortisol
- (D) Thyroxine

29. Expectorants (Mucokinetics) are drugs believed to _____ bronchial secretion or _____ its viscosity, facilitating its removal by coughing.

- (A) Increase, reduce
- (B) Reduce, increase
- (C) Both
- (D) None

30. The most accurate indicator of a community's health status is:

- (A) Infant mortality rate
- (B) Crude death rate
- (C) Maternal mortality rate
- (D) Life expectancy

31. Which is the first country to initiate a National Family Planning Program in 1952?

- (A) China
- (B) India
- (C) Pakistan
- (D) America

32.means completely eliminating a disease from human population.

- (A) Control
- (B) Eradication
- (C) Prevention
- (D) Intervention

33. _____ is an art of systematically and correctly recording of all transactions which involve the transfer of money or money's worth in the books of original entry

- (A) Accountancy
- (B) Book Keeping
- (C) Ledger
- (D) Cost accounting

34. When some substances are exposed to air, they lose water of crystallization to the atmosphere, thereby reducing in weight.

- (A) Efflorescent Powders
- (B) Effervescent Powders
- (C) Eutectic Powders
- (D) Deliquescent Powders

35. Which one is not the identification test for o/w and w/o type of emulsions?

- (A) Dilution test
- (B) Ferric chloride test
- (C) Dye test
- (D) Conductivity test

36. As per the Bancroft Rule, the emulsifying agent being used in an emulsion should be

- (A) Favourable to the external phase of the emulsion
- (B) Favourable to the internal phase of the emulsion
- (C) Favourable to both external and internal phases of the emulsion
- (D) Favourable to the external phase of the emulsion

37. Theobroma oil belongs to which type of suppository bases?

- (A) Water miscible bases
- (B) Emulsifying bases
- (C) Water soluble bases
- (D) Fatty bases

38. Which preservative is most commonly used in eye drops?

- (A) Methyl Paraben
- (B) Benzalkonium Chloride
- (C) Phenol
- (D) Chlorobutanol

39. Schedule J comprises of

- (A) GMP requirements for factory premises, plants and equipment
- (B) Life period of drugs
- (C) Diseases for which drugs may not purport to cure
- (D) Standards for cosmetics

40. Which one of these is misbranded drug

- (A) Drug which is not commercialized yet
- (B) Concealing true identity
- (C) Fake manufacturer's name
- (D) Old drug for new indication

41. Ophthalmic products belong to

- (A) Schedule S
- (B) Schedule P
- (C) Schedule C
- (D) Schedule FF

42. NDA is applied after which Phase of clinical trial

- (A) Phase I
- (B) Phase II
- (C) Phase III
- (D) Phase IV

43. As per D&C Act which one of these are not coal tar colours?

- (A) Eosin G
- (B) Brilliant Blue
- (C) Titanium Dioxide
- (D) Indigo Carmine

44. Which of the following is an example of a heterocyclic compound?

- (A) Benzene
- (B) Pyridine
- (C) Cyclohexane
- (D) Acetylene

45. Drugs belonging to Antiarrhythmic drugs (Class I) form complexes with lipoproteins of cell membranes of the myocardia, thus blocking _____ channel conductivity and their flow into the cell, and facilitate the release of _____ from myocardial cells.

- (A) Na^+ & K^+
- (B) K^+ & Na^+
- (C) Both
- (D) Ca^+ & K^+

46. Antiseptics and disinfectants are acting by any one of the following processes:

- (A) Lysis and leakage of intracellular constituents
- (B) Perturbation of cell homeostasis
- (C) Effects on model membranes
- (D) All of the above

47. Sulphonamides act by:

- (A) Inhibiting protein synthesis
- (B) Inhibiting folic acid synthesis
- (C) Disrupting cell membrane integrity
- (D) Blocking DNA replication

48. Which of the following is a non-steroidal anti-inflammatory drug (NSAID)?

- (A) Morphine
- (B) Acetaminophen
- (C) Amoxicillin
- (D) Diazepam

49. Adrenergic blocking agents are drugs that produce their pharmacologic effects primarily by preventing the release of:

- (A) Noradrenaline from sympathetic nerve
- (B) Adrenaline from sympathetic nerve
- (C) Both
- (D) None

50. Drugs used for relieving anxiety, stress, worry, and fear that do not detract attention from or affect psychomotor activity of the patient are called

- (A) Anxiolytics
- (B) Minor tranquillizers
- (C) Major tranquillizers
- (D) Both A and B

51. When tetracycline is given with antacids, the absorption of tetracycline -----.

- (A). Increases
- (B). Decreases
- (C) Minimally altered
- (D) Not altered at all

52 Which of the following terms does not describe an Adverse Drug Reaction?

- (A) Idiosyncrasy
- (B) Anaphylaxis
- (C) Teratogenic effect
- (D) Placebo effect

53. Which of the following is a non-specific antidote?

- (A) Vitamin K
- (B) Activated charcoal
- (C) Acetylcholine
- (D) Adrenaline

54. Which of the following is an autoimmune disease?

- A) Rheumatoid arthritis
- B) Diabetes
- C) Hypertension
- D) Hyperthyroidism

55. Which of the following metal will not lead to heavy metal poisoning?

- A) Lead
- B) Mercury
- C) Zinc
- D) Arsenic

56. Bioavailability of a drug is not dependent on the....

- (A) Physiochemical factors
- (B) Patient related factor
- (C) Pharmaceutical factors
- (D) None of the above

57. Teratogens are the agents which-

- (A) Leads to birth-related defects
- (B) Leads to cancer
- (C) Leads to cardiovascular diseases
- (D) Leads to autoimmune disease

58. Pharmacovigilance is related to

- (A) OTC
- (B) ADR
- (C) MTM
- (D) WHO

59. Inulin clearance is used to assess

- (A) Diluting ability of tubules
- (B) Renal threshold
- (C) Concentrating ability of tubules
- (D) GFR

60. Which of the following is used for the assessment of lung function in COPD and asthma

- (A) Glucometer
- (B) Speedometer
- (C) Peak flow meter
- (D) Manometer

PART – II

SHORT ANSWER TYPE QUESTIONS

(Answer any 5 out of 8 questions) 5x 6 marks each = 30 marks

61. Give the different classification systems of crude drugs with examples.
62. Explain the preparation and assay procedure for stannous fluoride, emphasizing its significance in dental formulations.
63. Give the similarities and contrasts in how substances transverse cell membranes through passive transport and active transport?
64. Describe the sterility test methods for parenteral products.
65. What is immunization? Explain the difference between active and passive immunity with suitable examples.
66. Discuss the various offences and penalties described as per the Narcotic drug and Psychotropic Substance Act.
67. Discuss the manifestations and pathophysiology of tuberculosis.
68. Give the different channels of distribution and the importance of inventory management.

PART- III

LONG ANSWER TYPE QUESTIONS

(Answer any 2 out of 4 questions) 2 x 15 marks each = 30 marks

69. Discuss the classification and chemical properties and popular brand names of chemotherapeutic agents including details on stability, handling and storage conditions.
70. Discuss the code of ethics of pharmacists in relation to his job, trade and profession.
71. Describe the divisions of the autonomic nervous system, compare and contrast their structures and neurotransmitters, and explain the effects of their stimulation on various body systems?
72. Explain the various mechanisms of drug interactions citing examples.

.....X.....