

BOOKLET NO.

099

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

TBC : AKG-AP-PHARMACOLOGY-17

Time Allowed : 2 Hours]

[Maximum Marks : 100

INSTRUCTIONS

1. 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.
2. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. **DO NOT** write anything else on the Test Booklet.
3. This Test Booklet contains 100 items (questions). You will select the response which you want to mark on the 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.
4. You have to mark all your responses **ONLY** on the separate Answer Sheet provided. No erasing/correction fluid is allowed.
5. All items carry equal marks.
6. Before you proceed to mark in the Answer Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
7. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer Sheet**. You are permitted to take away with you the Test Booklet.
8. Sheets for rough work are appended in the Test Booklet at the end.
9. **Penalty for wrong answers :**
THERE WILL BE PENALTY (NEGATIVE MARKING) FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.
 - (i) There are four alternatives for the answers to every question. For each question for which a wrong answer has been given by the candidate, **one-fourth (0.25)** of the marks assigned to that 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 answer happen to be correct and there will be same penalty as above for that 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.
10. Use and carrying of Mobile Phone and Electronic Gadget is prohibited in the Examination Hall.

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1. Most Precise Feature of Face Validity of an Animal Model is :
- (A) Sound theoretical rationale
 - (B) Performance in test predicts the performance in modeled condition
 - (C) Animal model should be able to fulfil desired conditions
 - (D) Phenomenological analogy with the modeled condition
2. Two sample t-test is a test that is used to check the hypothesis of :
- (A) Two unrelated groups having same means
 - (B) Two related groups having same means
 - (C) Two unrelated groups having different means
 - (D) Two related groups having different means
3. Which of the following studies can be categorized under Metanalysis :
- (A) Investigation of effectiveness of catheters by doing a Randomized Trials
 - (B) Investigation of effectiveness of catheters utilizing the results of a Randomized Trials
 - (C) Investigation of effectiveness of catheters by taking average of review papers about the subject
 - (D) All the above methods are correct
4. Which of the following problems is taken care of by a Biological Scientist in IAEC ?
- (A) Reducing the number of animals to be used
 - (B) Explanation of animal house specifications
 - (C) To take care of social relevance of an animal experiments
 - (D) To check the use of relevant animal model and methods



5. The minimum number of animals is utilized in the following scientific setting :

- (A) Experiments utilized paired groups of animals
- (B) Experiments utilized unpaired groups of animals
- (C) Number of animals depend on IAEC approval
- (D) All settings have same scientific possibility.

6. A Nocebo is administered :

- (A) When a placebo is gradually reduced
- (B) When a placebo administration is to be started
- (C) When a placebo is withdrawn
- (D) Time of administration of Nocebo does not depend on placebo

7. If an investigator wants to verify the effect of a nitriergic substance, then it should administer the following :

- (A) Another nitriergic substance to check the enhancement
- (B) An antagonist to explore the diminution of the nitriergic effect
- (C) Both (A) and (B) can be trialed
- (D) Only antagonism should be trialed

8. When an Institutional Animal Ethics Committee approves the experimentation protocol, then the Dissection Part of the Protocol is to be presented in one of the following committees :

- (A) IBSC
- (B) DMC
- (C) CPCSEA
- (D) All the irrelevant



9. The Organization for Economic Cooperation and Development framed the guidelines for the following purpose :
- (A) Safety testing of medicines
 - (B) Safety testing of chemicals
 - (C) Toxicity testing of chemicals
 - (D) Toxicity testing of medicines
10. Three R's are recommended for prevention of cruelty to animals i.e. :
- (A) Refinement, reduction, replacement and rehabilitation
 - (B) Refinement, reduction, replacement and randomization
 - (C) Refinement, reduction, replacement and rationalization
 - (D) Refinement, reduction, replacement and reconsideration
11. Following is *true* about biological standardization :
- (A) It measures the efficiency
 - (B) It measures the toxicity
 - (C) It measures the potency
 - (D) Only (C) and (B) are true
12. In a pharmacological experiment, results are compared with standard, *except* :
- (A) In controlled experiments
 - (B) In uncontrolled experiments
 - (C) In randomized controlled experiments
 - (D) In non-randomized experiments
13. In longitudinal experiments, studies are conducted :
- (A) Over short periods
 - (B) Over long periods
 - (C) Over medicine use in lower to higher therapeutic regimen
 - (D) There is no such study in medicine



14. The best suited definition of Evidence-based medicine is :
- (A) Patient treatment based on evidence of therapeutic outcome of previously treated patients
 - (B) Patient treatment based on evidence of clinical trials and clinical expertise
 - (C) Patient treatment based on globally accepted therapies
 - (D) All evidences may be utilized
15. Pharmacogenomics is application of :
- (A) Genetic variations to explore drug response
 - (B) Genomic technology to drug discovery
 - (C) Genetic similarity between humans to drug response
 - (D) Genomic changes between humans for drug development
16. The following is *not* a branch of pharmacology :
- (A) Pharmacognosy
 - (B) Posology
 - (C) Theoretical pharmacology
 - (D) Homology
17. Three critical pillars of Translational medicine are :
- (A) Bedside, benchside, community
 - (B) Bedside, community, pharmacy
 - (C) Physician, evidence, patient
 - (D) Evidence, medicine, outcome
18. Murine testing in pharmacology is limited to :
- (A) rats and mice
 - (B) rats
 - (C) mice
 - (D) dogs



19. IUPHAR is :

- (A) International Union of Basic and Clinical Pharmacology
- (B) International Union of Pharmacology
- (C) International Union of Pharmacological sciences
- (D) Indian Union of Pharmacists

20. Essential feature of an adverse drug reaction is :

- (A) It is associated with drug administration method
- (B) It is drug-related
- (C) It is adverse drug effect
- (D) All are true

21. The following is medical advantage of essential medicine list :

- (A) Discouraged marketing of non-essential medicines
- (B) Improved possibility of ADR monitoring
- (C) It responds to real health care needs of community
- (D) All of the above purposes are fulfilled

22. The following is one of important principle of antimicrobial use :

- (A) Never use drug combinations
- (B) Prefer less use of drug combinations
- (C) Rationalize the combinations before use
- (D) All approaches may be utilized



23. Allosteric modulator is an agent, which :

- (A) Binds to active site of receptor
- (B) Binds to inactive site of receptor
- (C) Binds to site, other than active site
- (D) May bind to both sites

24. *Ex-vivo* experiments differ from *in vitro* experiments in the following sense :

- (A) They are short period exercises
- (B) They are conducted on tissues, completely isolated from the organism
- (C) They are operated in test tubes
- (D) They are conducted over long periods on isolated tissues

25. Occupancy is :

- (A) Proportion of drug bound to receptor
- (B) Proportion of receptors, to which drug is bound
- (C) Proportion of total number of bound drugs to receptor.
- (D) None of the above

26. Dose duration curve describes :

- (A) Dose and duration of the inhibition of drug effect
- (B) Dose and duration of drug toxicity
- (C) Dose and duration of drug effect
- (D) Relationship of dose and duration of drug effect



27. Habituation of a drug means :

- (A) Tendency to increase the dose of drug
- (B) Physical dependence on drug
- (C) Desire, but not compulsion for drug consumption
- (D) Desire and compulsion for drug consumption

28. A positive control serves the purpose of :

- (A) Production of positive activity among presence of test and standard drugs
- (B) Prevention of erroneous conclusions about the inactivity of test preparation
- (C) Controlling the inherent extent of drug activity
- (D) Controlling the possible exertion of drug effect

29. If patient experience emergent ailment, then it is advised to put the patient on :

- (A) Palliative therapy
- (B) Restorative therapy
- (C) Substitutive therapy
- (D) Supportive therapy

30. First Dose Effect is seen, if there is sudden fall in blood pressure after administration of the following :

- (A) Alpha blocker drugs
- (B) Beta blocker drugs
- (C) Nitrates
- (D) Vasodilators

31. Rebound phenomena is observed with the following categories :

- (A) Analgesics
- (B) Antidiabetics
- (C) Anticancer
- (D) Both (A) and (B)



32. A professional is engaged in generating knowledge about marketed drugs in actual use by consumers. This professional may be best called as :

- (A) Pharmacovigilance professional
- (B) Social Pharmacologist
- (C) ADR monitoring professional
- (D) Post-marketing surveillance

professional

33. Which behavior in your opinion shall be utilized in the behavioral research on effects of drugs ?

- (A) Respondent behavior
- (B) Reflexive stimulus behavior
- (C) Autonomous animal behavior
- (D) All may serve the purpose

34. In your opinion, which category of immunosuppressant act by utilizing maximum mechanisms of actions out of the following :

- (A) Glucocorticoids
- (B) Alkylating agents
- (C) Interferons
- (D) Antibodies

35. Best definition of Mode of Action

is :

- (A) Functional change at cellular level
- (B) Biochemical change at tissue level
- (C) Anatomical change at tissue level
- (D) Biochemical change at tissue level



36. The following is the most popular comprehensive system of drug classification :

- (A) SNOMED
- (B) PUBMED
- (C) MEDPLUS
- (D) ATC

37. Amylin analogs :

- (A) help in insulin action and treat diabetes
- (B) help in cytoprotection and treat ulcers
- (C) help in cholesterol absorption and treat atherosclerosis
- (D) help in salivary secretion and treat dry mouth

38. Choose your best opinion :

- (A) Glycylcyclines treat penicillin resistance
- (B) Glycylcyclines are best agents to treat tetracycline resistance
- (C) Glycylcyclines treat resistance to tigecycline
- (D) Glycylcyclines may be utilized as ADD ON therapy to tetracyclines

39. Which is best suited choice ?

- (A) Diuretics can be used to invalidate drug tests
- (B) Diuretics can be increase fat ration so that drug cannot move free in blood circulation
- (C) Diuretics can be used to validate the protein tests in sports
- (D) Diuretics can be used to increase the validity of DOPE test



40. Benign Prostatic hyperplasia needs treatment with :
- (A) Glucoreductase inhibitors
 - (B) 5-alpha reductase inhibitors
 - (C) Any pro androgenic agent
 - (D) All may be utilized
41. When we say "Class of Drugs", we mean the one of the following :
- (A) Group of medicines having similar chemical structure, same mode of action and they treat same diseases
 - (B) Group of medicines having different chemical structure, related mode of action and they treat different diseases
 - (C) Group of medicines having similar chemical structure, related mode of action and they treat same diseases
 - (D) Group of medicines having same chemical structure, same mode of action and they may not treat same diseases
42. If a patient suffers from type—2 diabetes, she/he may be put on :
- (A) Agents that act like incretin
 - (B) Thiazolidinedione antagonists
 - (C) Incretin antagonists
 - (D) Patients may benefit from all the above agents
43. A person may be designated as Drug Utilization Researcher, if person is engaged in :
- (A) Marketing, distribution, prescription and use of drugs in society and their consequences
 - (B) Marketing, distribution, prescription and use of drugs in society
 - (C) Marketing, distribution, prescription and use of drugs in patients and their consequences
 - (D) Prescription and use of drugs in society and their consequences



44. The best suited statement of Inverse Benefit Law in your opinion is :
- (A) Ratio of Benefit to Harm among patients is inversely proportional to drug marketing
- (B) Ratio of Benefit to Harm among patients is directly proportional to drug marketing
- (C) Ratio of Benefit to Harm among patients depends on drug consumption
- (D) Ratio of Benefit to Harm among patients is inversely proportional to drug marketing
45. Which of the following categories may be utilized for angina treatment ?
- (A) Autonomic drugs
- (B) Carcinogenic modifiers
- (C) Immunomodifiers
- (D) Two of above categories may be effective as symptomatic treatment
46. If a person is suffering from ulcers due to weak defense of stomach layers, which categories may be best suited for treatment ?
- (A) Cytoprotectives
- (B) Agents to suppress acid secretion
- (C) Antacids
- (D) All may help completely
47. The following is the Amalgamated class of drugs :
- (A) NSAIDs
- (B) DMARDs
- (C) Both
- (D) None



48. The following aspects of drug indicate their Mode of Action :

- (A) Drugs reducing blood triglycerides
- (B) Drugs having PPAR agonism in their action
- (C) Drugs preventing atherosclerosis
- (D) All indicate Mode of Action

49. A person has a tendency to eat huge amounts of food. What do you think, that person should be prescribed ?

- (A) Anorectal agents
- (B) Bulimic agents
- (C) Anorexiant
- (D) Nothing. The problem subsides with time

50. The following condition may be best suited to be described as Pemphigus :

- (A) Ulcerative condition of skin
- (B) Ulcerative condition of finger skin
- (C) Ulcerative condition of mucous membrane
- (D) Autoantibodies form against desmoglein

51. Uveitis is the condition that may benefit from Methotrexate and can be best described as :

- (A) Inflammation of a layer between sclera and lens
- (B) Inflammation of a layer between sclera and retina
- (C) Inflammation of a layer between uterus and rest of abdomen
- (D) Inflammation of a layer between uterus and peritoneal cavity



52. The following condition requires treatment with BCR ABL tyrosine kinase inhibitors :

- (A) A condition due to abnormality in Philadelphia chromosome
- (B) A condition due to abnormality in chiron chromosome
- (C) A condition due to abnormality in centron chromosome
- (D) A condition due to abnormality in deron chromosome

53. Ceruminolytics may be prescribed for the following conditions :

- (A) Eye discomfort
- (B) Nose discomfort
- (C) Ear discomfort
- (D) Throat discomfort

54. Ketolides act by binding at :

- (A) bacterial 30S ribosomal subunit and inhibit RNA-dependent protein synthesis
- (B) bacterial 50S ribosomal subunit and inhibit RNA-dependent protein synthesis
- (C) bacterial 50S ribosomal subunit and inhibit DNA-dependent protein synthesis
- (D) bacterial 30S ribosomal subunit and inhibit DNA-dependent protein synthesis

55. A person is experiencing the condition of gram positive infection. The person should be treated with :

- (A) Oxazolidinedione antibiotics
- (B) Thiazolodinedione antibiotics
- (C) Thiazolodinediones
- (D) Cephrodione antibiotics



56. The best site of administration for an Otic agent is :
- (A) Eye dermatitis
 - (B) Nose infection
 - (C) Ear infection
 - (D) Throat inflammation
57. The following agents is well prescribed for condition, that is characterized by change in amounts of porphyrins :
- (A) Hemoglobin
 - (B) Thiamine
 - (C) Biotin
 - (D) Hemin
58. mTOR inhibitors are well suited for one of the following conditions :
- (A) Renal cancers
 - (B) Renal cirrhosis
 - (C) Renal porphyria
 - (D) Renal inflammation
59. Neprilysin inhibition is best recommended for one of the following conditions :
- (A) Atheroderma
 - (B) Hypotension
 - (C) Heart failure
 - (D) Hyperuricemia
60. Anti-PD 1 monoclonal antibody is suited to :
- (A) Boost B cells activity
 - (B) Prevent inactivity of T cells
 - (C) Boost activity of interferons
 - (D) Prevent hypermegalia



61. Aromatase inhibitors :

- (A) Increase testosterone levels
- (B) Reduce testosterone levels
- (C) Increase estrogen levels
- (D) Reduce estrogen levels

62. Histone deacetylase inhibitors :

- (A) Inactivate bacteria
- (B) Inactivate viruses
- (C) Reactivate viruses
- (D) Activate bacteria

63. Debriding agents should be brought in therapy, when the following condition is experienced :

- (A) Surgical complications
- (B) Dead tissue or debris in a wound
- (C) Peripheral debris deposition
- (D) Degranulation

64. VMAT2 inhibitors :

- (A) Boost release of neurotransmitters
- (B) Boost release of monoamines
- (C) Release neurotransmitters
- (D) Prevent release of monoamines

65. Viscosupplementation agents :

- (A) Contain hyaluronic acid and treat a symptom of osteoarthritis
- (B) Contain hyaluronic acid and treat osteoarthritis
- (C) Does not contain hyaluronic acid and treat osteoarthritis
- (D) Contain uronic acid and treat gingivitis



66. The technique of Challenge-dechallenge-rechallenge is utilized to establish the following :
- (A) Casualty assessment
 - (B) Causality assessment
 - (C) ADR prevention
 - (D) ADE monitoring
67. The following agencies are engaged in drug safety monitoring globally :
- (A) TGA
 - (B) EMEA
 - (C) UMC
 - (D) TGA
68. In references of global history of pharmacology, who took the first chair of pharmacology :
- (A) William Witherspoon
 - (B) Oswald Schmiedeberg
 - (C) Henry Dale
 - (D) Rudolph Buchheim
69. Who elaborated the concept of Chemical neurotransmission ?
- (A) Sam E
 - (B) Singh M
 - (C) Langley R
 - (D) Thomas Renton Elliott
70. The contribution to New Drugs by an Indian agency can be named as :
- (A) Alpha beta arteether
 - (B) Beta artemether
 - (C) Alpha arteether
 - (D) Arteether
71. The following is an example of Orphan receptor :
- (A) GABA binding site in chloride-GABA channel complex
 - (B) PCP binding site in NMDA receptor
 - (C) Receptor for unknown endogenous ligand
 - (D) Binding site for orphan drugs



72. Prokineticin receptor responds to :

- (A) Agents that help in genetic expression
- (B) Local debriding agents
- (C) Agents that help in muscle constriction
- (D) Agents that help in angiogenesis

73. A person may be treated with mometosone, if a person experiences :

- (A) Leukemia
- (B) Chronic myelogenic leukemia
- (C) Fibromyalgia
- (D) Cystic fibrosis

74. Methyltestosterone is a drug for :

- (A) Menopause
- (B) Erectile dysfunction
- (C) To counterexcess testosterone levels
- (D) To replace endogenous testosterone

75. If a person feels that whole world is revolving around, then person may immediately be given :

- (A) Cyproheptidine
- (B) Baclofen
- (C) Metoprozole
- (D) Macizine

76. Verruca requires treatment with :

- (A) Verapamil
- (B) Valproic acid
- (C) Fluorouracil
- (D) Flurocymrone



77. Paget's disease may require treatment with :

- (A) Alandronate
- (B) Theonate
- (C) Chlorotheonate
- (D) Oxizolidionate

78. A person has acute spasms of diaphragm, she/he may be prescribed :

- (A) Genobioside
- (B) Baclofen
- (C) Metothionate
- (D) Cenomionate

79. Dale's Principle may best be stated as following :

- (A) Alpha adrenergic neurons are more sensitive to beta adrenergic neurons
- (B) At all the axonal branches of a neurone, there was liberation of the same transmitter substance or substances
- (C) Adrenaline increases blood pressure, when given by intravenous route
- (D) There is decrease in blood pressure, when adrenaline is given by slow infusion



80. Psoralens is a :

- (A) Light repulsing drug
- (B) Contact lens applied in conditions of light sensitivity
- (C) Light sensitive drug that absorbs ultraviolet light
- (D) A cream applied to eye to be absorbed later by lens

81. Which of the following economists propagated the pure monetary theory of trade cycle ?

- (A) Adam Smith
- (B) R. G. Hawtrey
- (C) Keynes
- (D) Joan Robinson

82. Which one of the following is *not* a Project Tiger Reserve in India ?

- (A) Ranthambore
- (B) Kanha
- (C) Manas
- (D) Chilka

83. The partition of Bengal was annulled in :

- (A) 1911
- (B) 1907

(C) 1915

(D) 1930

84. Which of the following periods represents the "First Five Year Plan" in India ?

- (A) 1950-1955
- (B) 1953-1958
- (C) 1951-1956
- (D) 1948-1953



85. Which country was the first to launch artificial satellite ?
- (A) Germany
(B) France
(C) USA
(D) Russia
86. Dyarchy was introduced in India by :
- (A) The Act of 1919
(B) The Act of 1892
(C) The Act of 1935
(D) The Act of 1909
87. Which one of the following jurists is associated with the term "Rule of Law" ?
- (A) Bentham
(B) J. J. Rousseau
(C) A. V. Dicey
(D) Montesquieu
88. Who of the following is the new Chief Justice of India ?
- (A) T. S. Thakur
(B) J. S. Khehar
(C) H. L. Dattu
(D) Dipak Misra
89. Which of the following places of Sikh religion heritage is *not* in India ?
- (A) Paonta Sahib
(B) Keshgarh Sahib
(C) Nanded
(D) Nankana Sahib
90. Raja Ravi Verma of Kerala was a distinguished :
- (A) Poet
(B) Singer
(C) Painter
(D) Dancer



91. Mahima Library is situated at :

- (A) Chamba
- (B) Solan
- (C) Shimla
- (D) Nahan

92. Who was the last ruler of Bilaspur State ?

- (A) Vijay Chand
- (B) Anand Chand
- (C) Amar Chand
- (D) Hira Chand

93. Which of the following statements is correct ?

- (A) PEPSU State was created by uniting eight princely states between 1948-1956
- (B) PEPSU State capital was at Patiala
- (C) Shimla, Kasauli, Kandaghat, Dharampur and Chail also became part of PEPSU
- (D) All the above statements are correct

94. Kamrau and Sataun in Sirmaur district are famous for :

- (A) Coal
- (B) Apple production
- (C) Ginger production
- (D) Lime stone mines

95. Mahasuvi dialect is widely spoken in districts of :

- (A) Shimla and Solan
- (B) Sirmour and Solan
- (C) Solan and Bilaspur
- (D) Shimla and Kinnaur

96. Saach and Chobia passes are located in district :

- (A) Kinnaur
- (B) Shimla
- (C) Chamba
- (D) Sirmour



97. What was the original name of underground hydel project "Sanjay Vidyut Pariyojna" ?

- (A) Bhaba Project
- (B) Deendayal Project
- (C) Swaminathan Project
- (D) None of the above

98. The Pasture Institute founded in 1900 A.D. is the oldest in India, is located at :

- (A) Rajban
- (B) Shimla
- (C) Junga
- (D) Kasauli

99. The original name of "Khaingarhi Rani" a prominent revolutionary of Mandi was :

- (A) Giano Devi
- (B) Lalita Kumari
- (C) Sukanya Kumari
- (D) Sulakhana Devi

100. How many total seats were there in Himachal Vidhan in 1952 ?

- (A) 30
- (B) 36
- (C) 40
- (D) 48

