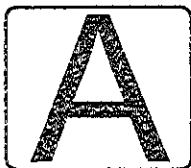


DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

Test Booklet Series

T. B. C. : AP – 12 – 17/18



TEST BOOKLET

ASSISTANT PROFESSOR IN O.M.E.S. Sl. No. **1621**

(PHARMACOLOGY)

Time Allowed : 3 Hours

Maximum Marks : 200

: INSTRUCTIONS TO CANDIDATES :

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET OF THE SAME SERIES ISSUED TO YOU.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES A, B, C OR D, AS THE CASE MAY BE, IN THE APPROPRIATE PLACE IN THE ANSWER SHEET USING BALL POINT PEN (BLUE OR BLACK).
3. You have to enter your **Roll No.** on the Test Booklet in the Box provided alongside. **DO NOT** write *anything else* on the Test Booklet.
4. YOU ARE REQUIRED TO FILL UP & DARKEN ROLL NO., TEST BOOKLET / QUESTION BOOKLET SERIES IN THE ANSWER SHEET AS WELL AS FILL UP TEST BOOKLET / QUESTION BOOKLET SERIES AND SERIAL NO. AND ANSWER SHEET SERIAL NO. IN THE ATTENDANCE SHEET CAREFULLY. WRONGLY FILLED UP ANSWER SHEETS ARE LIABLE FOR REJECTION AT THE RISK OF THE CANDIDATE.
5. This Test Booklet contains **200** items (questions). Each item (question) comprises four responses (answers). You have to select the correct response (answer) which you want to mark (darken) on the Answer Sheet. In case, you feel that there is more than one correct response (answer), you should mark (darken) the response (answer) which you consider the best. In any case, choose **ONLY ONE** response (answer) for each item (question).
6. You have to mark (darken) all your responses (answers) **ONLY** on the **separate Answer Sheet** provided by using **BALL POINT PEN (BLUE OR BLACK)**. See instructions in the Answer Sheet.
7. All items (questions) carry equal marks. All items (questions) are compulsory. Your total marks will depend only on the number of correct responses (answers) marked by you in the Answer Sheet. **There will be no negative markings for wrong answers.**
8. Before you proceed to mark (darken) in the Answer Sheet the responses to various items (questions) in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per the instructions sent to you with your **Admission Certificate**.
9. After you have completed filling in all your responses (answers) on the Answer Sheet and after conclusion of the examination, you should hand over to the Invigilator the *Answer Sheet* issued to you. You are allowed to take with you the candidate's copy / second page of the Answer Sheet along with the **Test Booklet**, after completion of the examination, for your reference.
10. Sheets for rough work are appended in the Test Booklet at the end.

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SEAL

1. What kind of substances can't permeate membranes by passive diffusion ?
 - (A) Lipid-soluble
 - (B) Non-ionized substances
 - (C) Hydrophobic substances
 - (D) Hydrophilic substances
2. Potential outcomes of pharmacogenetic research include all the following except :
 - (A) New drug development
 - (B) Higher health care costs
 - (C) Improved treatment outcomes
 - (D) Pretreatment screening for genetic polymorphisms
3. An obstacle to successful gene therapy is :
 - (A) An inability to identify genetic defect
 - (B) Inefficient gene delivery
 - (C) Difficulty in identifying eligible patients
 - (D) Lack of research efforts
4. What is implied by <<active transport>> ?
 - (A) Transport of drugs through a membrane by means of diffusion
 - (B) Transport without energy consumption
 - (C) Engulf of drug by a cell membrane with a new vesicle formation
 - (D) Transport against concentration gradient
5. The reasons determining bioavailability are :
 - (A) Rheological parameters of blood
 - (B) Amount of a substance obtained orally and quantity of intakes
 - (C) Extent of absorption and hepatic first-pass effect
 - (D) Glomerular filtration rate
6. When most genes have more than one effect on the phenotype of an organism it is termed as :
 - (A) Pleiotropy
 - (B) Epistasis
 - (C) Polymorphism
 - (D) None of the above
7. Which of the following are the important tools of pharmacoinformatics ?
 - (A) Bioinformatics
 - (B) Metabolomics
 - (C) Genome informatics
 - (D) All of the above
8. Swiss prot is a :
 - (A) Nucleotide Sequence Database
 - (B) Protein Sequence Database
 - (C) Human Genome Database
 - (D) All of the above

9. Prodrug is a :
 - (A) Medication administered in active form
 - (B) Medication administered in inactive form
 - (C) Placebo
 - (D) None of the above
10. A partition coefficient is the :
 - (A) Ratio of concentrations of a compound in a mixture of two immiscible phases at equilibrium
 - (B) Ratio of concentrations of a compound in a mixture of two miscible phases at equilibrium
 - (C) Ratio of concentrations of a compound in a mixture of two immiscible phases which is not at equilibrium
 - (D) None of the above
11. The term that indicates fraction of a dose of drug reaches to its size of action :
 - (A) Bioavailability
 - (B) Bioequivalence
 - (C) Both of the above
 - (D) None of the above
12. What kind of substances can't permeate membranes by passive diffusion ?
 - (A) Lipid-soluble
 - (B) None-ionized substances
 - (C) Hydrophobic substances
 - (D) Hydrophilic substances
13. Which of these restriction enzymes produce blunt ends ?
 - (A) Sall
 - (B) EcoRV
 - (C) XhoI
 - (D) Hind III
14. An expression vector :
 - (A) Always contains an origin of replication
 - (B) Usually contains a gene that confers antibiotic resistance to the bacterial host
 - (C) Always contains DNA segments for the regulation of mRNA production
 - (D) All of the above
15. How many different codons are possible ?
 - (A) 3
 - (B) 20
 - (C) 64
 - (D) An infinite number
16. Cleavage of DNA of *EcoRI* endonuclease results in the formation of :
 - (A) Two 3'-OH ends and one 5'-phosphate ends
 - (B) One 3'-phosphate and one 5'-phosphate end
 - (C) Two 3'-phosphate ends and two 3'-OH ends
 - (D) One 3'-OH end and two 5'-phosphate end

17. In a fetus, where are lymphocytes produced ?
 (A) In the spleen
 (B) In the bone marrow
 (C) In the liver
 (D) In the heart
18. Transmission of a gene from male parent to female child to male grand child is known as :
 (A) Holandric inheritance
 (B) Quantitative inheritance
 (C) Criss-cross inheritance
 (D) Maternal inheritance
19. A micro array is an ordered array of microscopic elements on a planer substrate that allows the specific binding of :
 (A) Gene or gene products
 (B) Whole genome
 (C) Both (A) and (B)
 (D) None of these
20. Production of transgenic animals require transfections of :
 (A) Eggs or embryos
 (B) Stem cells
 (C) Red blood cells
 (D) All of these
21. A molecular techniques in which DNA sequences between two oligonucleotide primers can be amplified is known as :
 (A) Southern blotting
 (B) Northern blotting
 (C) Polymerase chain reaction
 (D) DNA replication
22. Which of the following enzyme is used to covalently bond foreign DNA to a vector plasmid ?
 (A) DNA polymerase
 (B) Restriction endonuclease
 (C) DNA ligase
 (D) DNA helicase
23. Which of the following does not have good activity against anerobic bacteria ?
 (A) Metronidazole
 (B) Vancomycin
 (C) Imipenem
 (D) Gentamicin
24. Which of the following is true regarding drug clearance of the body ?
 (A) Only refers to drug clearance by the kidney
 (B) Refers to volume of plasma cleared of the drug
 (C) Cannot exceed femevular filtration rate
 (D) Is dependent on volume of distribution

25. Which of the following is not true regarding Adenosine ?
- (A) It is an endogenous nucleoside and is a metabolite of ATP
 - (B) Can cause severe bradycardia
 - (C) It has a half life of less than one minutes
 - (D) It has half life 1 hour
26. Cycloserine inhibits :
- (A) Alanine racemase
 - (B) D-alanyl-D-alanine synthetase
 - (C) Amidase
 - (D) Both (A) and (B)
27. More promising chemotherapeutic agents for treating viral diseases is :
- (A) Leukocytic Interferon
 - (B) Fibroblast Interferon
 - (C) Interferon
 - (D) Nystatin
28. Cross resistance of isoniazid is seen with :
- (A) Rifampicin
 - (B) Ethionamide
 - (C) Cycloserine
 - (D) Ethambutol
29. Which are the fastest acting schizonticidal drug among the following ?
- (A) Mefloquine
 - (B) Artemether
 - (C) Chloroquine
 - (D) Proguanil
30. Jarish-Herxheimer reaction is seen in Syphilis with :
- (A) Penicillins
 - (B) Tetracycline
 - (C) Co-trimoxazole
 - (D) Sulfonamide
31. Which are the bone marrow depressive drugs in the treatment of AIDS patients, EXCEPT ?
- (A) Zalcitabine
 - (B) Dapsone
 - (C) Ganciclovir
 - (D) Cotrimoxazole
32. All the statement of the doxycycline is true, EXCEPT :
- (A) It is bacteriostatic
 - (B) It is mainly excreted from the feces
 - (C) It is more active than tetracycline against *H. Pylori*
 - (D) It is used in Lyme's disease
33. Who developed the concept of specific toxicity ?
- (A) Pasteur
 - (B) Flemming
 - (C) Ehrlich
 - (D) Watson
34. Vancomycin inhibits peptidoglycan synthesis by binding :
- (A) Alanineracemase
 - (B) D-alanyl-D-alanine synthetase
 - (C) D-alanyl-D-alanine
 - (D) Amidase

35. The treatment of herpes simplex viral encephalitis should include :
- (A) Zidovudine
 - (B) Acyclovir
 - (C) Didanosine
 - (D) Ritonavir
36. Which one of the following statements regarding the standard deviation is true ?
- (A) Mean \pm one SD includes 50% of values
 - (B) Mean \pm one SD includes 66.7% of values
 - (C) Mean \pm two SDs include 99%
 - (D) Mean \pm three SDs include 99.73%
37. Biotransformation of the drugs is to render them :
- (A) Less ionized
 - (B) More pharmacologically active
 - (C) More lipid soluble
 - (D) Less lipid soluble
38. The drug of choice for mushroom poisoning is :
- (A) Physostigmine
 - (B) Adrenaline
 - (C) Atropine
 - (D) Carbachol
39. Barbiturates is metabolized by :
- (A) Sulphate conjugation
 - (B) Oxidation; dealkylation
 - (C) Acetylation
 - (D) All of the above
40. What does "affinity" mean ?
- (A) A measure of how tightly a drug binds to plasma proteins
 - (B) A measure of how tightly a drug binds to a receptor
 - (C) A measure of inhibiting potency of a drug
 - (D) A measure of bioavailability of a drug
41. Which of the following is a structural, fibrous protein found in the dermis ?
- (A) Melanin
 - (B) Heparin
 - (C) Collagen
 - (D) Lipocyte
42. Skeletal muscle relaxation and paralysis can occur from interruption of functions at several sites, including all of the following EXCEPT :
- (A) Nicotinic acetylcholine receptors
 - (B) Muscarinic acetylcholine receptors
 - (C) The motor end plate
 - (D) Contractile apparatus
43. The immunosuppressive agent is :
- (A) Corticosteroids
 - (B) Cyclosporine
 - (C) Tacrolimus
 - (D) All of the above

44. Immunomodulating agents are the following EXCEPT :
- (A) Cytokines
 - (B) Levamosole
 - (C) BCG (Bacille Calmette-Guerin)
 - (D) Tacrolimus
45. All of these drugs are antiplatelet agents EXCEPT :
- (A) Aspirin
 - (B) Urokinase
 - (C) Ticlopidine
 - (D) Clopidogrel
46. Which of the following crosses the blood-brain barrier ?
- (A) GABA
 - (B) Propranolol
 - (C) Suxamethonium
 - (D) Edrophonium
47. Metabolites of diazepam, all EXCEPT :
- (A) Temazepam
 - (B) Oxazepam
 - (C) Desmethyldiazepam
 - (D) Lorazepam
48. Deferoxamine is a known chelator which has selectively high affinity for :
- (A) Lead
 - (B) Iron
 - (C) Mercury
 - (D) Aluminium
49. Which one of the following drug is a renin inhibitor ?
- (A) Zankiren
 - (B) Fenoldopam
 - (C) Losartan
 - (D) Diazoxide
50. Holoenzyme is :
- (A) Functional unit
 - (B) Apo enzyme
 - (C) Coenzyme
 - (D) All of these
51. Conceptualization and development of clinical research and development plans (CRDPs) include following except :
- (A) Preparing the clinical section of IND/CTX submission
 - (B) Clinical research and scientific methodology
 - (C) Phase I to Phase IV studies
 - (D) Non-registration studies
52. All of the following are drugs of first choice for treating cardiac arrhythmias EXCEPT :
- (A) Adenosine (Adenocard) for terminating supraventricular tachycardias
 - (B) Lidocaine (Xylocaine) for terminating ventricular fibrillation
 - (C) Magnesium for terminating torsades de pointes
 - (D) Flecainide (Tambocor) for suppressing nonsustained ventricular tachycardias

53. Which one of the following drug is associated with torsades de pointes ?
- (A) Flecainide
 - (B) Sotalol
 - (C) Lidocaine
 - (D) Verapamil
54. Mexiletine is an orally active congener of which drug ?
- (A) Flecainide
 - (B) Sotalol
 - (C) Lidocaine
 - (D) Verapamil
55. All of the following statements concerning the angiotensin converting enzyme (ACE) inhibitors are true EXCEPT :
- (A) They act by inhibiting the ability of renin to convert angiotensinogen to angiotensin I
 - (B) Enalapril is a prodrug that is converted to an active metabolite
 - (C) They reduce secretion of aldosterone
 - (D) They can produce hyperkalemia in combination with a potassium-sparing diuretic
56. All of the following statements concerning clonidine (Catapres) are true EXCEPT :
- (A) It acts by stimulating alpha-2 adrenergic receptors in cardiovascular centers in the CNS
 - (B) It lowers blood pressure and heart rate
 - (C) It produces a high incidence of sedation
 - (D) It produces a high incidence of orthostatic hypotension
57. Which one of the following drug is available in a once-a-week dosage form ?
- (A) Labetalol
 - (B) Clonidine
 - (C) Enalapril
 - (D) Nifedipine
58. All of the following statements regarding prazosin are true EXCEPT :
- (A) It can cause a precipitous fall in blood pressure
 - (B) It does not impair exercise tolerance
 - (C) It adversely affects serum lipid levels
 - (D) It acts at vascular post-synaptic alpha-1 adrenergic receptors
59. All of the following statements regarding beta-adrenergic antagonists are true EXCEPT :
- (A) Propranolol can mask insulin-induced hypoglycemia
 - (B) Nadolol has intrinsic sympathomimetic activity
 - (C) Metoprolol is preferred over propranolol in treating asthmatics
 - (D) Labetolol has alpha-adrenergic antagonist activity

60. Which one of the following is a B cell neoplasm ?
- (A) None-Hodgkin's lymphoma
 - (B) Acute lymphoblastic leukemia
 - (C) Burkitt's lymphoma
 - (D) Hodgkin's diseases
61. Which drug is a potassium channel activator ?
- (A) Zankiren
 - (B) Fenoldopam
 - (C) Losartan
 - (D) Diazoxide
62. Which drug has the dual activity in Alzheimer and Parkinson's disease induced dementia except ?
- (A) Donepezil
 - (B) Rivastigmine
 - (C) Galantamine
 - (D) Vinpocetine
63. Which drug have high bioavailability ?
- (A) Donepezil
 - (B) Memantine
 - (C) Galantamine
 - (D) Artemisinin
64. Following antiepileptics increases the growth hormone secretion except :
- (A) Carbamazepine
 - (B) Phenobarbital
 - (C) Valproate
 - (D) Locasamide
65. Following statement are true regarding Alprazolam Except :
- (A) Alprazolam, a triazolobenzodiazepine, has been marketed as an anxiolytic with additional antidepressant properties
 - (B) Its analogue, adinazolam, also has partial antidepressant activity
 - (C) It is also useful in panic disorder, like other benzodiazepines, alprazolam is effective in acute and generalized anxiety
 - (D) High-dose alprazolam is useful and well tolerated in the treatment of anxiety associated with schizophrenia
66. The following anti-tubercular drug is considered safest for during lactation Except :
- (A) Isoniazid
 - (B) Rifampicin
 - (C) Ethambutol
 - (D) Pyrazinamide
67. Tighter limit for permissible difference in bioavailability may be required for drugs that have following Except :
- (A) A narrow therapeutic index
 - (B) A serious dose related toxicity
 - (C) A steep dose/effect curve
 - (D) A linear pharmacokinetic within the therapeutic dose range

68. Which of the following is not a second messenger ?
- (A) NO
 - (B) Cyclic-ADP ribose
 - (C) Diacylglycerol
 - (D) Beta-catenin
69. Which of the following β blocker has no additional α 1 receptor antagonistic action ?
- (A) Carvedilol
 - (B) Nebivolol
 - (C) Labetalol
 - (D) Atenolol
70. Following drugs has novel, dual mode of action-enhancement of sodium channel slow inactivation and modulation of collapsing response mediator protein 2 (CRMP 2) :
- (A) Locasamide
 - (B) Diacerein
 - (C) Pentobarbitone
 - (D) Vinpocetine
71. Which of the following statements are correct ?
- (A) Lidocaine can induce seizures by its metabolites
 - (B) Cocaine primarily used as topical anaesthesia
 - (C) Bupivacaine induced cardiac toxicity is difficult to treat
 - (D) Ropivacaine has cardiotoxic potential
72. Which of the following regarding lithium is correct except :
- (A) Optimal concentration is 0.2 to 0.6 meq/L
 - (B) Can cause Ebstein's anomaly in fetus
 - (C) Can cause neutropenia
 - (D) Lithium level can have seasonal variation
73. The most common side effect of Zoledronic acid is :
- (A) Flu like symptoms
 - (B) Viral infection
 - (C) Renal dysfunction
 - (D) Hypocalcemia
74. Benefit of spontaneous adverse reaction of pharmacovigilance :
- (A) Early reorganization of actual and potential problem
 - (B) Provide continuous monitoring
 - (C) Unable to compare all the adverse effect of drug the market
 - (D) Identify predisposing factor

75. Information needed to calculate a study's sample size for cohort studies are following except :
- (A) Type 1 error considered tolerable and whether it is one-tailed or two-tailed or type II error considered tolerable
 - (B) Maximum relative risk to be detected
 - (C) Incidence of the disease in the unexposed control group
 - (D) Ratio of unexposed controls to exposed study subjects
76. The Fixed Dose Combinations (FDCs) are rational if it has following except :
- (A) Well defined
 - (B) Well documented
 - (C) If specific mechanism exists to justify the combination
 - (D) If titration of doses for individual drugs is not possible
77. A 20-months old infant is brought to the emergency room with fever, vomiting, stupor and hyperpnea of 12 hours' duration. His leukocyte count is 6,000/cu. mm. The chest roentgenogram is clear. Urinalysis shows albuminuria, a positive test for reducing substance, and acetonuria. Ferric chloride added to the boiled acidified urine shows a persistent purple color. The most-likely diagnosis is :
- (A) Acute glomerulonephritis
 - (B) Diabetic acidosis
 - (C) Salicylate poisoning
 - (D) Phenothiazine poisoning
78. The pharmacologic effects of morphine include all EXCEPT :
- (A) Behavioral changes
 - (B) Miosis
 - (C) Respiratory depression
 - (D) Diarrhea
79. FALSE statement regarding ketamine as an anesthetic :
- (A) Contraindicated in a patient with asthma because it may cause bronchoconstriction
 - (B) Recovery from anesthesia associated with emergence phenomenon of hallucinations and vivid dreams
 - (C) Produces dissociative anesthetic state, whereby patient appears awake but is unconscious
 - (D) Produces analgesia
80. The antithrombotic drug which inhibits cyclooxygenase enzymes is :
- (A) Prednisone
 - (B) Dipyridamole
 - (C) Tranexamic acid
 - (D) Aspirin

81. Phenytoin may have adverse effects on the hematopoietic system. All of the following have been reported EXCEPT :
- (A) Macrocytic anemia
 - (B) Folic acid deficiency
 - (C) Lymphadenopathy
 - (D) Leukemia
82. Visual disturbances (such as "halos" on objects) are a side effect of which of the following anticonvulsants ?
- (A) Trimethadione
 - (B) Phenytoin
 - (C) Phenacemide
 - (D) Phenobarbital
83. The liver function test most frequently elevated in patients taking phenytoin is :
- (A) Gamma-glutamyl transpeptidase (GGTP)
 - (B) Serum glutamic oxaloacetic transaminase (SGOT)
 - (C) Serum glutamic pyruvic transaminase (SGPT)
 - (D) Lactic acid dehydrogenase (LDH)
84. A new compound for screening was found to cause tachycardia, mydriasis, urinary retention and cycloplegia. You would classify this agent as a (an) :
- (A) Alpha agonist
 - (B) Ganglionic blocker
 - (C) Beta-1 agonist
 - (D) Nicotinic agonist
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86. Following drugs has novel, dual mode of action-enhancement of sodium channel slow inactivation and modulation of collapsing response mediator protein 2 (CRMP-2) :
- (A) Locasamide
 - (B) Diacerein
 - (C) Pentobarbitone
 - (D) Phenobarbitone
87. Following drug more selectivity act on PDE-5 for example 700-fold more potent for PDE-5 than for PDE-6 and 14-fold more potent for PDE-5 than for PDE11A1 (in skeletal muscle) :
- (A) Tadalafil
 - (B) Alprostadil
 - (C) Vardenafil
 - (D) Sildenafil

88. Which one of the following drug can have interaction if concomitantly prescribed with artemisinin compound :
- (A) Acetaminophen
 - (B) Phenytoin
 - (C) Carbamazepine
 - (D) Mefloquine
89. The most common side effect of Zoledronic acid is :
- (A) Flu like symptoms
 - (B) Renal dysfunction
 - (C) Hypocalcemia
 - (D) Atrial Fibrillation
90. Denosumab is used in the treatment of :
- (A) Postmenopausal osteoporosis
 - (B) Osteoarthritis
 - (C) Rheumatoid arthritis
 - (D) Ankylosing Spondylitis
91. Elderly patients are vulnerable groups and prone to toxicity induced by drugs, which reasons are true, EXCEPT :
- (A) Decreased renal excretion
 - (B) Decreased hepatic metabolism
 - (C) Decreased volume of distribution
 - (D) Increased receptor sensitivity to targeted organ
92. Therapeutic index is an assessment of :
- (A) Potency of a drug
 - (B) Margin of safety
 - (C) Onset of action
 - (D) Duration of action
93. Apparent volume of distribution (V_d) of a drug exceeds total body fluid volume, if a drug is :
- (A) Slowly eliminated from the body
 - (B) Poorly soluble in blood
 - (C) Sequestered in body tissues
 - (D) Poorly bound to plasma protein
94. Urinary alkalinizing agents are administered in case of poisoning due to drugs which are :
- (A) Strong bases
 - (B) Strong acids
 - (C) Weak bases
 - (D) Weak acids
95. All of the following factors tend to increase the volume of distribution of a drug, EXCEPT :
- (A) Low ionization at physiological pH value
 - (B) High lipid solubility
 - (C) High plasma protein binding
 - (D) High tissue binding

96. Secondary messenger i.e. cAMP is for all, EXCEPT :
- (A) TSH
 - (B) LH
 - (C) FSH
 - (D) Insulin
97. Which drugs show zero order kinetics at its increased dose ?
- (A) Digoxin and propranolol
 - (B) Amiloride and probencid
 - (C) Lithium and theophylline
 - (D) Phenytoin and propranolol
98. Fastest acting receptor / transduction mechanism is :
- (A) Adenyl cyclase-cAMP pathway
 - (B) Intrinsic ion channel operation
 - (C) Phospholipase C-IP₃ : DAG pathway
 - (D) Nuclear receptor
99. Which of the following drugs is commonly administered by intranasal route ?
- (A) Adrenaline
 - (B) Granirelix
 - (C) Insuline
 - (D) Desmopressine
100. Which of the following drugs have central activity, EXCEPT ?
- (A) Propanolol
 - (B) Prazosin
 - (C) Methyldopa
 - (D) Clonidine
101. All of the following are drugs of first choice for treating cardiac arrhythmias EXCEPT :
- (A) Adenosine (Adenocard) for terminating supraventricular tachycardias
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104. All of the following statements concerning the angiotensin converting enzyme (ACE) inhibitors are true EXCEPT :
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111. A 20-months old infant is brought to the emergency room with fever, vomiting, stupor and hyperpnea of 12 hours duration. His leukocyte count is 6,000/cu mm. The chest roentgenogram is clear. Urinalysis shows albuminuria, a positive test for reducing substance and acetonuria. Ferric chloride added to the boiled acidified urine shows a persistent purple color. The most likely diagnosis is :
- (A) Acute glomerulonephritis
 - (B) Diabetic acidosis
 - (C) Salicylate poisoning
 - (D) Phenothiazine poisoning
112. Many stimuli may cause vomiting. The chemoreceptor trigger zone of the central nervous system is :
- (A) Located in the cerebral cortex
 - (B) Stimulated in all forms of vomiting
 - (C) Stimulated by morphine and its congeners
 - (D) All of the above
113. The pharmacologic effects of morphine include all EXCEPT :
- (A) Behavioral changes
 - (B) Miosis
 - (C) Respiratory depression
 - (D) Diarrhea
114. FALSE statement regarding ketamine as an anesthetic :
- (A) Contraindicated in a patient with asthma because it may cause bronchoconstriction
 - (B) Recovery from anesthesia associated with emergence phenomenon of hallucinations and vivid dreams
 - (C) Produces dissociative anesthetic state, whereby patient appears awake but is unconscious
 - (D) Produces analgesia
115. The antithrombotic drug which inhibits cyclooxygenase enzymes is :
- (A) Prednisone
 - (B) Dipyridamole
 - (C) Tranexamic acid
 - (D) Aspirine
116. Phenytoin may have adverse effects on the hematopoietic system. All of the following have been reported EXCEPT :
- (A) Macrocytic anemia
 - (B) Folic acid deficiency
 - (C) Lymphadenopathy
 - (D) Leukemia
117. Visual disturbances (such as "halos" on objects) are a side effect of which of the following anticonvulsants ?
- (A) Trimethadione
 - (B) Phenytoin
 - (C) Phenacemide
 - (D) Phenobarbital

118. The liver function test most frequently elevated in patients taking phenytoin is :
- (A) Gamma-glutamyl transpeptidase (GGTP)
 - (B) Serum glutamic oxaloacetic transaminase (SGOT)
 - (C) Serum glutamic pyruvic transaminase (SGPT)
 - (D) Lactic acid dehydrogenase (LDH)
119. A new compound for screening was found to cause tachycardia, mydriasis, urinary retention and cycloplegia. You would classify this agent as a (an) :
- (A) Alpha agonist
 - (B) Ganglionic blocker
 - (C) Beta-1 agonist
 - (D) Nicotinic agonist
120. Gastrointestinal hormones which are responsible for greater insulin activity after an oral glucose load than an intravenous glucose load include :
- (A) GIP
 - (B) Gastrin
 - (C) Pancreozymin-cholecystokinin
 - (D) All of the above
121. Which is the safeguard of human subject/volunteers protection during a clinical trial, except :
- (A) Monitoring of adverse drug reaction
 - (B) Informed consent form
 - (C) Interim analysis
 - (D) Per protocol analysis
122. Which is not among the ethical principles of Belmont Report (1979) ?
- (A) Respect for persons
 - (B) Beneficence
 - (C) Protection of subject
 - (D) Justice
123. External DSMBs, generally not needed for, EXCEPT :
- (A) Early phase trials
 - (B) Short term trials for treatments to relieve common symptoms
 - (C) Post-marketing surveillance
 - (D) Single arm study
124. Which is not true regarding the Kaplan-Meier (KM) survival analysis ?
- (A) Can add stratification factors
 - (B) No sensible interpretation for competing risks
 - (C) One way to estimate survival
 - (D) Can evaluate covariates like Cox Model
125. What is not a function of Ethics Committees ?
- (A) Protection
 - (B) Advice
 - (C) Education
 - (D) None of the above

126. Informed consent refers to :

- (A) Principle of autonomy
- (B) Voluntary but uninformed decision-making
- (C) A voluntary decision to participate in research, by a competent individual who has received and understood the necessary information :
- (D) Permission to participate in research

127. All of the following must be determined prior to initiating a clinical trial EXCEPT :

- (A) The number of patients needed to evaluate protocol sample size
- (B) The study design, i.e. randomized or single-arm trial
- (C) The degree to which the trial outcomes are met
- (D) The eligibility criteria

128. The following must be done prior to the first patient being entered on a clinical trial EXCEPT :

- (A) Approval by an Institutional Review Board (IRB)
- (B) A written consent
- (C) Pharmacy process to obtain drug supplies
- (D) Data analysis

129. Which of the following is a required element of an informed consent ?

- (A) Clearly defined potential toxicities
- (B) A statement that participation is required after consent is signed
- (C) Guarantee of clinical improvement
- (D) Guarantee of health care at no cost for the disease under study

130. For what purpose does the IRB review the informed consent ?

- (A) Protect the Institution
- (B) Protect the Subject
- (C) Provide the Institution with information about proposed research trials
- (D) Protect the Sponsor

131. What is the definition of an Adverse Event ?

- (A) Any sign or symptom during the course of a clinical trial
- (B) Any event which the PI decides to report during the course of a clinical trial
- (C) Administration of the wrong dose of study agent
- (D) Patient participating in a clinical trial withdraw from study

132. Which one of the following characterizes phase I drug testing ?
- (A) It may involve patients with different kinds of cancer
 - (B) It is limited to patients who have highly effective treatment alternatives
 - (C) It uses a single dose level to ascertain response rates
 - (D) It always involves completely predictable toxicities
133. Human most easily tolerate a lack of which of the following nutrients ?
- (A) Protein
 - (B) Iodine
 - (C) Carbohydrate
 - (D) Lipid
134. What is a sampling distribution ?
- (A) It describes all the non-sampling errors that occur when sampling from a population
 - (B) They provide a major simplification on the route to statistical inference
 - (C) It describes how randomization is used to guarantee unbiased estimates
 - (D) It summarize all sources of variability not explained by a least-squares regression model
135. Which of the following is an advantages of a case-control study design over a cohort study design ?
- (A) A cohort study design is more efficient for investigating rare outcomes
 - (B) It is not subject to recall bias
 - (C) Exposures can be assessed prospectively in a cohort study design
 - (D) Possibility of confounding is eliminated in a cohort study design
136. Which one of the following statement about randomized controlled trials of screening is TRUE ?
- (A) Ascertainment bias in determining the cause of death does not affect the estimation of the screening effect
 - (B) Lack of compliance in the screened group results in an overestimation of the screening effect
 - (C) Lack of compliance in the control group results in an overestimation of the screening effect
 - (D) The major purpose of randomization is to minimize the differences between subjects in the screened group and those in the control group

137. A meta-analysis refers to, except :

- (A) Methods focused on contrasting and combining results from different studies
- (B) In the hope of identifying patterns among study results
- (C) Sources of disagreement among those results
- (D) Comparison of open and randomized trial

138. Randomization refers to all, except :

- (A) Generating a random permutation of a sequence
- (B) Non-probability sampling
- (C) Allocating experimental units via random assignment to a treatment
- (D) Selecting a random sample of a population

139. Microdosing refers to :

- (A) To predict pharmacodynamic of test drug
- (B) Aim to reduce the resources spent on non-viable drugs and the amount of testing done on animals
- (C) Refer to precise dispensing of small amounts of a drug substance
- (D) Refer to microdispensing

140. What is not referred to quasi-experiment ?

- (A) Is an empirical study used to

estimate the causal impact of an intervention on its target population

- (B) Quasi-experimental research designs share many similarities with the traditional experimental design or randomized controlled trial
- (C) The element of random assignment to treatment or control
- (D) May not be possible to convincingly demonstrate a causal link between the treatment condition and observed outcomes

141. Elderly patients are vulnerable groups and prone to toxicity induced by drugs. Which reasons are true, EXCEPT :

- (A) Decreased renal excretion
- (B) Decreased hepatic metabolism
- (C) Decreased volume of distribution
- (D) Increased receptor sensitivity to targeted organ

142. Therapeutic index is an assessment of :

- (A) Potency of a drug
- (B) Margin of safety
- (C) Onset of action
- (D) Duration of action

143. Apparent volume of distribution (V_d) of a drug exceeds total body fluid volume, if a drug is :
- (A) Slowly eliminated from the body
 - (B) Poorly soluble in blood
 - (C) Sequestered in body tissues
 - (D) Poorly bound to plasma protein
144. Urinary alkalinizing agents are administered in case of poisoning due to drugs which are :
- (A) Strong bases
 - (B) Strong acids
 - (C) Weak bases
 - (D) Weak acids
145. All of the following factors tend to increase the volume of distribution of a drug, EXCEPT :
- (A) Low ionization at physiological pH value
 - (B) High lipid solubility
 - (C) High plasma protein binding
 - (D) High tissue binding
146. Secondary messenger i.e. cAMP is for all, EXCEPT :
- (A) TSH
 - (B) LH
 - (C) FSH
 - (D) Insulin
147. Which drugs show zero order kinetics at increased dose ?
- (A) Digoxin and propranolol
 - (B) Amiloride and probencid
 - (C) Lithium and theophylline
 - (D) Phenytoin and propranolol
148. Fastest acting receptor / transduction mechanism is :
- (A) Adenyl cyclase-cAMP pathway
 - (B) Intrinsic ion channel operation
 - (C) Phospholipase C- IP_3 : DAG pathway
 - (D) Nuclear receptor
149. Which of the following drugs is commonly administered by intranasal route ?
- (A) Adrenaline
 - (B) Granirelix
 - (C) Insulin
 - (D) Desmopressine
150. Which of the following drugs have central activity, EXCEPT ?
- (A) Propranolol
 - (B) Prazosin
 - (C) Methyldopa
 - (D) Clonidine
151. Regarding adverse reaction, all are correct, except :
- (A) Methysergide-Retroperitoneal fibrosis
 - (B) Saralasin-AT₂ receptor antagonist
 - (C) Ethambutol-Retrobulbar neuritis
 - (D) Rifampicin-Optic neuritis

152. In hyperthyroidism lugol's iodine acts mainly by blocking the :
- Uptake of iodine by the gland step-5
 - Oxidation of iodine in step-2
 - Release of thyroid hormone from the gland step-5
 - Coupling of iodotyrosyl residues step-2
153. Which of the following is given to a patient suffering with glaucoma, oedema and epilepsy is ?
- Acetazolamide
 - Carbamazepine
 - Thiazide
 - Phenobarbitone
154. Loading dose depends on :
- Clearance
 - Half life
 - Rate of administration
 - Volume of distribution
155. All are pharmacogenetic conditions, except :
- Malignant hyperpyrexia
 - Coumarin insensitivity
 - Adenosine deaminase deficiency
 - G6PD deficiency
156. Which of the following can be given with dose adjustment ?
- Levodopa + metoclopramide
 - Gentamicin + Furosemide
 - Ferrous sulphate + Tetracycline
 - Clonidine + chlorpromazine
157. Drug which cause fetal renal anomalies ?
- Enalapril
 - Furosemide
 - Amlodipine
 - Phenytoin
158. True statement regarding first order kinetics is :
- A constant proportion of plasma concentration
 - Independent of plasma concentration
 - Half life increases with dose
 - Clearance decreases with dose
159. Which of the following is not a dose related reaction ?
- Myocardial irritation of quinidine
 - Hypoglycemia of tolbutamide
 - Digitalis induced arrhythmia
 - Drug fever of sulpha
160. Most commonly postural hypotension is seen with :
- Nifedipine
 - Atenolol
 - Prazosin
 - ACE inhibitor
161. Beta-blocker with intrinsic sympathomimetic properties are :
- Propranolol
 - Practolol
 - Oxprenolol
 - Esmolol

162. Which NSAIDs should not be used with methotrexate ?
 (A) Diclofenac
 (B) Aspirin
 (C) Paracetamol
 (D) Indomethacine
163. Interdose interval depends upon :
 (A) Binding to plasma protein
 (B) Elimination half life
 (C) Absorption half life
 (D) Volume of distribution
164. Erythromycin is the drug of choice for all except :
 (A) Pneumocystitis carinii
 (B) Whooping cough
 (C) Chlamydia trachomatis
 (D) (A) and (C) both
165. Which is the protease inhibitor ?
 (A) Nivirapine
 (B) Nelfinavir
 (C) Abacavir
 (D) Efavirenz
166. Which hypertensive is contraindicated in pregnancy ?
 (A) Beta-blocker
 (B) ACE inhibitor
 (C) Alpha and beta blocker
 (D) Methyldopa
167. Bisphosphonates are not used in :
 (A) Hypercalcemia
 (B) Osteoporosis
 (C) Cancer
 (D) Vitamin D intoxication
168. Therapeutic level of phenytoin is :
 (A) 0.9 µg/ml
 (B) 10-29 µg/ml
 (C) 20-29 µg/ml
 (D) 30-39 µg/ml
169. Short half life of thiopentone is due to :
 (A) Rapid redistribution
 (B) Rapid excretion
 (C) Rapid metabolism
 (D) All of the above
170. The primary mechanism of action of fluoride on topical application is :
 (A) Conversion of hydroxyapatite to fluoroapatite by replacing the OH ions
 (B) Inhibition of plaque bacteria
 (C) From a reservoir in saliva
 (D) Improvement in tooth morphology
171. Drugs causing Addison's disease is :
 (A) Ketoconazole
 (B) Aminoglycosides
 (C) Cyclosporine
 (D) Glucocorticoids
172. Alpha 2 agonist can be used in all of the following except :
 (A) Hypertension
 (B) Glaucoma
 (C) Opiate withdrawal
 (D) Stroke

173. Which of the following is not given in a patient with pheochromocytoma ?
- (A) Atenolol
 - (B) Prazosin
 - (C) Metyrosine
 - (D) Nitroprusside
174. Thromboxane A_2 synthase inhibition is by :
- (A) Aspirin
 - (B) Dazoxiben
 - (C) Prednisolone
 - (D) Naproxen
175. Local anesthetic act by inhibiting :
- (A) Influx of K^+
 - (B) Efflux of K^+
 - (C) Influx of Na^+
 - (D) Efflux of Na^+
176. Patient with hypotension and cardiac disease best anti-depressant is :
- (A) Venlafaxine
 - (B) Mirtazapine
 - (C) Duloxetine
 - (D) Citalopram
177. Heroin differs from morphine in all respects except :
- (A) Causes more euphoria
 - (B) More constipation
 - (C) Slowly metabolised to morphine
 - (D) (A) and (B) both
178. All are the essential R's of ethics of animal use except :
- (A) Replacement
 - (B) Reallocation
 - (C) Refinement
 - (D) Rehabilitation
179. The physiological salt solution (PSS) used for the bioassay of guinea pig ileum is :
- (A) Ringer's solution
 - (B) Tyrode solution
 - (C) Modified Ringer's solution
 - (D) Krebs's solution
180. Most potent cardiac stimulant is :
- (A) Adrenaline
 - (B) Propranolol
 - (C) Dobutamine
 - (D) Salbutamol
181. Regarding Zolpidem which of the following is not true ?
- (A) Act on benzodiazepine receptor type 1
 - (B) Duration of action is less than diazepam
 - (C) Good muscle relaxant
 - (D) Has sedative and hypnotic effect
182. Prolonged allopurinol therapy in a patient with gout is not indicated for :
- (A) Acute gouty arthritis
 - (B) Tophi
 - (C) Urate nephropathy
 - (D) Evidence of bone/joint damage

183. Which one of the following drug is not useful for MRSA ?
- (A) Cefaclor
 - (B) Cotrimoxazole
 - (C) Ciprofloxacin
 - (D) Vancomycin
184. The most effective drug against *M. leprae* is :
- (A) Dapsone
 - (B) Clofazimine
 - (C) Rifampicin
 - (D) Ethionamide
185. Drug used to prevent renal toxicity in case of alcoholic hepatitis is :
- (A) Silymarin
 - (B) S adenosyl methionine
 - (C) Thalidomide
 - (D) Pentoxifylline
186. Which one of the following statements regarding clinical therapeutic index is true ?
- (A) Drugs require to produce side effect compared to the concentration require to produce therapeutic effect
 - (B) Drugs require to produce toxic effect compared to the concentration require to produce therapeutic effect
 - (C) Drugs require to produce lethal effect compared to the concentration require to produce therapeutic effect
 - (D) Drugs require to produce lethal effect compared to the concentration require to produce side effect
187. The function of nitrate are all, except :
- (A) Decrease total peripheral resistance
 - (B) Act on both preload and after-load
 - (C) Increase coronary blood flow
 - (D) Useful in angina
188. Rutin is a/an :
- (A) Antiplatelet
 - (B) Antifibrinolytic
 - (C) Anticoagulant
 - (D) Hemostatic
189. The following drugs helping in induction of ovulation are all except :
- (A) Tamoxifen
 - (B) Gonadotropines
 - (C) Clomiphene
 - (D) Progesterone
190. Tianeptine is :
- (A) 5HT antagonist
 - (B) Noradrenaline uptake inhibitor
 - (C) 5HT reuptake enhancer
 - (D) Dopamine antagonist

191. The human clinical trials, what initial doses are used ?
- (A) 1/100 – 1/10 NED
 - (B) 1/100 – 1/100 NED
 - (C) 1/2 – 1 NED
 - (D) 1/10 – 1 NED
192. Drugs are active in their _____ form and inactive in their _____ form.
- (A) Polar ; Non-polar
 - (B) Non-polar ; Polar
 - (C) Water-soluble ; Lipid-soluble
 - (D) Neutral ; Neutral
193. What is the correct order of bond strength, from strongest to weakest ?
- (A) Covalent > Ionic > Hydrogen > van der Waals
 - (B) Ionic > Covalent > Hydrogen > van der Waals
 - (C) Covalent > Hydrogen > Ionic > van der Waals
 - (D) van der Waals > Hydrogen > Covalent > Ionic
194. Which of the following is the equilibrium dissociation constant, where the concentration of free drug is at half-maximal binding ?
- (A) EC₅₀
 - (B) E_{max}
 - (C) K_d
 - (D) B_{max}
195. A decrease in renal and liver function, as seen in the elderly, would prolong drug half-life, _____ plasma protein binding, and _____ volume of distribution.
- (A) Increase ; Increase
 - (B) Decrease ; Decrease
 - (C) Increase ; Decrease
 - (D) Decrease ; Increase
196. Generic drug to be bioequivalent to an innovator drug as per FDA, it must be measured in _____ of subjects to fall within _____ of the mean of the test population bioavailability.
- (A) 95 ; 5
 - (B) 5 ; 95
 - (C) 80 ; 20
 - (D) 20 ; 80
197. The FDA bioequivalence rule, "how much variation could a generic drug potentially have from an innovator and still be considered equivalent" ?
- (A) 80%
 - (B) 60%
 - (C) 40%
 - (D) 20%

198. Why is vitamin B6 usually prescribed with isoniazid (INH) ?

- (A) It acts as a cofactor for INH
- (B) It prevents some adverse effects of INH therapy
- (C) Like INH, it has tuberculosic activity
- (D) It prevents metabolism of INH

199. Which of the following receptor subtypes relaxes smooth muscle and causes liver glycogenolysis and gluconeogenesis ?

- (A) α_1 (Gq/Gi/Go)

- (B) α_2 (Gi/Go)

- (C) β_1 (Gs)

- (D) β_2 (Gs)

200. Nicotinic N2 receptors are the _____ subtype and nicotinic N1 receptors are the _____ subtype.

- (A) Sympathetic ; Parasympathetic

- (B) Neuronal ; Muscular

- (C) Muscular ; Neuronal

- (D) Nodal ; Neuronal

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