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Booklet No.

30505

*SAMPLE
DIRE-2013*

QUESTION BOOKLET

PHARMACOLOGY

Subject Code : 03

Booklet Series



Time Allowed : 2 Hours

Maximum Marks : 100

INSTRUCTIONS FOR CANDIDATES

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2. You have to enter your Roll Number on the Question Booklet in the Box provided alongside. **DO NOT** write anything else on the Question Booklet.

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3. Candidate must fill in the necessary information in the space provided on the supplied OMR (Optical Mark Recognition) Answer Sheet before commencement of the Examination. *See directions on the backside of the OMR Answer Sheet.*
4. For marking the correct answer, darken **one** circle by **black** or **blue** ballpoint pen only. **Do not mark on more than one circle.** Darkening more than one circle against an answer will be treated as wrong answer.
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7. Possession and **use of Calculator, Mobile Phone or similar Electronic Devices is prohibited** in the Examination Hall.
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9. Candidates appearing in the Examination will be allowed to leave the Examination Hall only after completion of the Examination.

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SEAL

1. What the body does to the drug is called as
 - (A) Pharmacodynamics
 - (B) Pharmacokinetics
 - (C) Pharmacogenomics
 - (D) Pharmacotherapeutics
2. The science of detection, diagnosis and treatment of poisoning is called as
 - (A) toxicology
 - (B) clinical toxicology
 - (C) toxicodynamics
 - (D) toxicokinetics
3. Nitroglycerine can be administered through the following route of drug administration to avoid its first pass metabolism
 - (A) Oral
 - (B) Rectal
 - (C) Sublingual
 - (D) Inhalation
4. Morphine bioavailability may be increased by its
 - (A) first pass elimination
 - (B) ionization
 - (C) enterohepatic cycling
 - (D) All of the above
5. Digoxin produces cardiac arrhythmias as a cardiac adverse effect which is due to
 - (A) disturbed impulse formation
 - (B) disturbed impulse conduction
 - (C) Both (A) and (B)
 - (D) None of the above
6. The term — is used clinically to describe a medical emergency caused by allergy to a variety of agents.
 - (A) prophylaxis
 - (B) anaphylaxis
 - (C) trauma
 - (D) proteolysis
7. A non-selective β -adrenoceptor antagonist with additional α_1 -blocking activity is
 - (A) carvedilol
 - (B) propranolol
 - (C) atenolol
 - (D) oxprenolol
8. Obesity is measured by BMI (Body Mass Index) and the following is the ideal range of it
 - (A) 25.0–29.9 kg/m^2
 - (B) 30.0–39.9 kg/m^2
 - (C) 18.5–24.9 kg/m^2
 - (D) 18.5–40.0 kg/m^2

9. GABA_B subtype receptor belongs to the following receptor type
 - (A) Ligand-gated channel
 - (B) Voltage-gated channel
 - (C) Calcium-release channel
 - (D) G-Protein-coupled receptor
10. Which of the following oral hypoglycemic agents will reduce carbohydrate absorption and cause flatulence?
 - (A) Tolbutamide
 - (B) Glibenclamide
 - (C) Rosiglitazone
 - (D) Acarbose
11. Ketamine, a non-barbiturate general anaesthetic agent, induces complete analgesia combined with amnesia is called as
 - (A) neuroleptanalgesia
 - (B) dissociative anaesthesia
 - (C) infiltration anaesthesia
 - (D) None of the above
12. The antibiotic ciprofloxacin causes
 - (A) inhibition of cell wall synthesis
 - (B) leakage of cell membranes
 - (C) inhibition of protein synthesis
 - (D) inhibition of DNA gyrase
13. Chloramphenicol was the drug of choice for typhoid fever, its major adverse effect is
 - (A) bone-marrow depression
 - (B) hypersensitivity reactions
 - (C) gray-baby syndrome
 - (D) All of the above
14. In chronic alcoholism, the antagonist used is
 - (A) N-acetylcysteine
 - (B) disulfiram
 - (C) aspirin
 - (D) phenobarbitone
15. 'Co-trimoxazole' is the combination of trimethoprim and sulfamethoxazole in the ratio of
 - (A) 2 : 3
 - (B) 5 : 1
 - (C) 1 : 5
 - (D) 3 : 2
16. The calcium channel blocker verapamil is a
 - (A) class IA antiarrhythmic drug
 - (B) class II antiarrhythmic drug
 - (C) class III antiarrhythmic drug
 - (D) class IV antiarrhythmic drug

17. The drug which will inhibit MAO-B irreversibly and used in Parkinson's disease is

- (A) selegiline
- (B) bromocriptine
- (C) pergolide
- (D) amantadine

18. The relative nephrotoxicity among NSAIDs is

- (A) indomethacin > fenoprofen > ibuprofen
- (B) fenoprofen > indomethacin > ibuprofen
- (C) ibuprofen > indomethacin > fenoprofen
- (D) mefenamic acid > fenoprofen > indomethacin

19. The main adverse effect of angiotensin converting enzyme inhibitor enalapril is

- (A) dry cough
- (B) bone-marrow depression
- (C) Both (A) and (B)
- (D) None of the above

20. Which of the H₂ receptor blockers, used as an anti-ulcer agent, has anti-androgenic action?

- (A) Famotidine
- (B) Roxatidine
- (C) Ranitidine
- (D) Cimetidine

21. Which of the following acts as an agonist on morphine k receptors and has weak antagonist activity at μ and δ receptors?

- (A) Buprenorphine
- (B) Pentazocine
- (C) Propoxyphene
- (D) Tramadol

22. A non-cardioselective beta adrenergic blocking agent with beta blocking potency similar to that of propranolol and which has no membrane stabilizing action is

- (A) atenolol
- (B) esmolol
- (C) sotalol
- (D) betaxolol

23. — is a symptom which arises when there is an imbalance between the demand for oxygen and its supply to the myocardium.

- (A) Hypertension
- (B) Angina pectoris
- (C) Neutropenia
- (D) Meningitis

24. Which of the following is a systemic antacid used in alkalosis condition?

- (A) Sodium bicarbonate
- (B) Aluminium hydroxide gel
- (C) Magnesium trisilicate
- (D) Calcium carbonate

25. Plantago seeds which are used in constipation belong to the class

- (A) stimulant laxatives
- (B) osmotic laxatives
- (C) bulk laxatives
- (D) irritant laxatives

26. Sildenafil is used in erectile dysfunction. It is an inhibitor of — enzyme.

- (A) phosphodiesterase 3
- (B) phosphodiesterase 4
- (C) phosphodiesterase 5
- (D) adenylyl cyclase

27. Anti-dopaminergic anti-emetic agent is

- (A) cyclizine
- (B) scopolamine
- (C) metoclopramide
- (D) ondansetron

28. The following is a drug which is an HMG-CoA-reductase inhibitor, used as lipid lowering drug

- (A) Cholestyramine
- (B) Gemfibrozil
- (C) Omega 3-PUFA
- (D) Rosuvastatin

29. — is a chronic disorder characterized by loss of appetite and self-induced weight loss, accompanied by psychological and physiological alterations in the body.

- (A) Pancreatitis
- (B) Anorexia nervosa
- (C) Hepatitis
- (D) Cirrhosis

30. A state in which the kidney's ability to maintain homeostasis has declined suddenly, with resultant retention of metabolic waste products as well as electrolytes, is

- (A) metabolic acidosis
- (B) metabolic alkalosis
- (C) acute renal failure
- (D) hypochloremic alkalosis

31. Treatment of hypoglycemia in unconscious patients can be achieved with

- (A) insulin
- (B) somatostatin
- (C) glucagon
- (D) octreotide

32. Irritable bowel disease (IBS) can be treated with

- (A) prednisolone
- (B) mesalazine
- (C) azathioprine
- (D) All of the above

33. Hyponatremia is a condition caused in the body due to

- (A) high plasma sodium concentration
- (B) low plasma sodium concentration
- (C) low plasma nitrogen concentration
- (D) low plasma potassium concentration

34. Tolvaptan used in the treatment of hyponatremia is an antagonist of

- (A) aldosterone
- (B) Na^+ / K^+ ATPase
- (C) anti-diuretic hormone
- (D) carbonic anhydrase

35. Aplastic anemia is caused due to

- (A) derangement of blood cells function
- (B) increased destruction of blood cells
- (C) impaired production of blood cells
- (D) None of the above

36. The common name of pteroyl-monoglutamic acid is

- (A) folic acid
- (B) paraaminobenzoic acid
- (C) acetylsalicylic acid
- (D) glutamic acid

37. Among the following, which one is a potent and specific chelator of iron used in the treatment of iron poisoning?

- (A) Desferrioxamine
- (B) Disulfiram
- (C) Erythropoietin
- (D) Ferric gluconate

38. In gastroesophageal reflux disease, which one of the following will be more effective?

- (A) Anti-secretory agent—cimetidine
- (B) Proton pump inhibitor—omeprazole
- (C) Mucosal protective agent—sucralfate
- (D) Prostaglandin E analogue—misoprostol

39. 'Zidovudine' anti-viral agent acts as

- (A) nucleoside reverse transcriptase inhibitor
- (B) DNA polymerase inhibitor
- (C) non-nucleoside reverse transcriptase inhibitor
- (D) protease inhibitor

40. A very insoluble fungistatic drug which can be used in the systemic treatment of dermatophyte infections of the skin and nails is

- (A) amphotericin A
- (B) fluconazole
- (C) terbinafine
- (D) griseofulvin

41. Dose-dependent nephrotoxicity is the major significant toxic reaction for the anti-fungal agent

- (A) flucytosine
- (B) clotrimazole
- (C) amphotericin B
- (D) ketoconazole

42. Which of the following combination of drugs is most active and effective in treating tuberculosis?

- (A) Isoniazid and pyrazinamide
- (B) Isoniazid and ethambutol
- (C) Streptomycin and rifampicin
- (D) Isoniazid and rifampicin

43. Cefotaxime is a cephalosporin belongs to
- (A) first-generation cephalosporins
 - (B) second-generation cephalosporins
 - (C) third-generation cephalosporins
 - (D) fourth-generation cephalosporins
44. Identify the synthetic lipoglycopeptide antibiotic that is effective against methicillin resistant *S. aureus* (MRSA).
- (A) Daptomycin
 - (B) Telavancin
 - (C) Cycloserine
 - (D) Meropenem
45. Gliptins are synthetic blood glucose lowering agents, which are known to inhibit
- (A) GLP-1
 - (B) dipeptidylpeptidase
 - (C) alpha glucosidase
 - (D) PPAR_γ
46. Any abnormality in glucose levels noted for the first time during pregnancy is called as
- (A) type 1 diabetes mellitus
 - (B) type 2 diabetes mellitus
 - (C) type 3 diabetes mellitus
 - (D) gestational diabetes mellitus
47. Conversion of protein to glucose is called as
- (A) glucogenesis
 - (B) glycosuria
 - (C) gluconeogenesis
 - (D) glycogenolysis
48. Propylthiouracil is used in
- (A) hypothyroidism
 - (B) hyperthyroidism
 - (C) cretinism
 - (D) myxedema
49. A loop diuretic can be used in the treatment of
- (A) acute pulmonary oedema
 - (B) chronic heart failure
 - (C) renal failure
 - (D) All of the above

50. An anabolic agent, which increases bone formation, is

- (A) strontium ranelate
- (B) teriparatide
- (C) etidronate
- (D) calcitonin

51. Among the clotting factors, which one is called as Stuart power factor?

- (A) Factor V
- (B) Factor XI
- (C) Factor IX
- (D) Factor X

52. The mechanism of action of digitalis glycosides is inhibition of

- (A) Ca-dependent Na^+/K^+ ATPase enzyme activity
- (B) Mg-dependent Na^+/K^+ ATPase enzyme activity
- (C) K^+ -dependent Na^+/K^+ ATPase enzyme activity
- (D) Na^+ -dependent Na^+/K^+ ATPase enzyme activity

53. Edrophonium, which is an important agent, is used in the diagnosis of myasthenia gravis. This drug is

- (A) a short-acting cholinesterase inhibitor
- (B) an ultra-short-acting cholinesterase inhibitor
- (C) a long-acting cholinesterase inhibitor
- (D) a non-cholinesterase inhibitor

54. The triad of coma, pinpoint pupils and depressed respiration are the symptoms and signs of

- (A) acute opioid poisoning
- (B) organophosphorus poisoning
- (C) benzodiazepine poisoning
- (D) None of the above

55. Identify the opioid antagonist.

- (A) Tapentadol
- (B) Hydrocodone
- (C) Naltrexone
- (D) Meperidine

56. The drug of choice for the treatment of absence seizures is

- (A) ethosuximide
- (B) valproic acid
- (C) phenytoin
- (D) phenobarbitone

57. An anti-histamine that exhibits a mild CNS-depressant action and has wider margin of safety, also used in psychoneurotic states, is
- chlorpromazine
 - hydroxyzine
 - cetirizine
 - chlorpheniramine maleate
58. Which of the following drugs is an odourless gas used as anaesthetic agent?
- Nitric oxide
 - Nitrous oxide
 - Thiopental
 - Propofol
59. — is a disease which is an inherited disorder resulting in progressive brain degeneration, starting in adulthood and causing rapid deterioration and death.
- Parkinson's disease
 - Huntington's disease
 - Alzheimer's disease
 - Ischaemic brain disease
60. Among the following, which drug is not suitable for the treatment of Parkinson's disease?
- MAO-B inhibitor
 - Drug that releases dopamine
 - Cholinesterase inhibitor
 - Muscarinic acetylcholine receptor antagonist
61. The route of administration used to administer diazepam to children who are in status epilepticus, in whom it is difficult to establish intravenous access, is
- sublingual route
 - rectal route
 - oral route
 - inhalational route
62. — is a special type of bioassay done to compare the clinical efficacy of a new drug or procedure with that of a known drug or procedure (or a placebo).
- Graded bioassay
 - Quantal bioassay
 - Clinical trial
 - None of the above
63. A cell suicide by a built-in self-destruct mechanism consisting of a genetically programmed sequence of biochemical events is called as
- angiogenesis
 - apoptosis
 - necrosis
 - None of the above

64. Many diuretics predispose to digoxin toxicity due to
- (A) lower plasma K^+ levels
 - (B) lower plasma Na^+ levels
 - (C) lower plasma Ca^{+2} levels
 - (D) lower plasma Mg^{+2} levels
65. Aminoglycoside's main adverse drug reaction is
- (A) hepatotoxicity
 - (B) tinnitus
 - (C) teratogenicity
 - (D) ototoxicity
66. Platelet anti-aggregatory action is produced by aspirin, but not to a significant extent by other salicylates. This is due to its
- (A) amino group
 - (B) acetyl group
 - (C) nitro group
 - (D) None of the above
67. Fludrocortisone is used in the treatment of
- (A) Addison's disease
 - (B) peptic ulcer disease
 - (C) tuberculosis
 - (D) diabetes mellitus
68. Which of the following causes drug-induced hyperglycemia?
- (A) Disopyramide
 - (B) Alcohol
 - (C) Phenytoin
 - (D) Pentamidine
69. A serious complication of long standing untreated hypothyroidism is
- (A) myxedema coma
 - (B) endemic goitre
 - (C) dwarfism
 - (D) thyroid carcinoma
70. From the following drugs, which one is most effective in treatment of breast cancer?
- (A) Flutamide
 - (B) Progestin
 - (C) Tamoxifen
 - (D) Baclofen
71. An antibiotic with anti-cancer properties is
- (A) doxorubicin
 - (B) azithromycin
 - (C) erythromycin
 - (D) clarithromycin

- 72.** The folic acid antagonistic, anti-cancer agent which is also used in rheumatoid arthritis is
- (A) azathioprine
 - (B) busulfan
 - (C) methotrexate
 - (D) fluorouracil
- 73.** Filarial infections caused by parasites that lead to elephantiasis are treated with
- (A) albendazole and mebendazole
 - (B) diethylcarbamazine and ivermectin
 - (C) albendazole and ivermectin
 - (D) ivermectin and mebendazole
- 74.** The drug of choice in round-worm infections that is widely used as a single dose deworming agent is
- (A) mebendazole
 - (B) albendazole
 - (C) ivermectin
 - (D) praziquantel
- 75.** An anthelmintic agent which affects the worm in such a way that it is easily expelled from the body is known as
- (A) fungicidal
 - (B) fungistatic
 - (C) vermifuge
 - (D) vermicide
- 76.** A specific cellular glycoproteins, produced naturally by virus-infected cells, and have anti-viral actions. They are known as
- (A) prostaglandins
 - (B) leucocytes
 - (C) gamma globulins
 - (D) interferons
- 77.** Identify the teratogenic drug.
- (A) Gentamicin
 - (B) Etretinate
 - (C) Chloramphenicol
 - (D) Methyldopa
- 78.** Drug miltefosine is highly effective in the treatment of
- (A) tuberculosis
 - (B) leishmaniasis
 - (C) leprosy
 - (D) AIDS
- 79.** The triple response observed upon intradermal injection is the characteristic nature of
- (A) histamine
 - (B) dopamine
 - (C) adrenaline
 - (D) ketamine

- 80.** Catecholamines are synthesized from the amino acid
- (A) cystine
 - (B) phenylalanine
 - (C) proline
 - (D) glycine
- 81.** A muscarinic blocker used as a bronchodilator is
- (A) tolterodine
 - (B) scopolamine
 - (C) ipratropium
 - (D) cyclopentolate
- 82.** A diuretic agent widely used in closed angle glaucoma is
- (A) acetazolamide
 - (B) furosemide
 - (C) chlorothiazide
 - (D) spironolactone
- 83.** A β_1 -selective blocker which is having less bronchopulmonary and cardiac side effects, also used in glaucoma, is
- (A) timolol
 - (B) propranolol
 - (C) betaxolol
 - (D) esmolol
- 84.** Myasthenia gravis is an autoimmune disorder, caused due to development of antibodies which are known to destroy the
- (A) muscarinic receptors
 - (B) nicotinic receptors
 - (C) Both (A) and (B)
 - (D) None of the above
- 85.** The process of a tissue-damaging immune response directed specifically and inappropriately against one or more self-antigen(s) is/are called as
- (A) immunity
 - (B) autoimmunity
 - (C) tachyphylaxis
 - (D) prophylaxis
- 86.** Penicillin half-life can be increased by decreasing the rate of excretion (by active tubular secretion), using a weak acidic agent
- (A) paraaminohippurate
 - (B) paraaminobenzoic acid
 - (C) probenecid
 - (D) acetylsalicylic acid

87. The primary hormone responsible for controlling breast milk production is prolactin and the drug that decreases serum prolactin level is
- (A) metoclopramide
 - (B) sulpiride
 - (C) bromocriptine
 - (D) haloperidol
88. Binding to the peroxisome proliferator-activated receptor γ in muscle, fat and liver to decrease insulin resistance is the main mechanism of action of
- (A) acarbose
 - (B) metformin
 - (C) glimepiride
 - (D) rosiglitazone
89. Emesis associated with cancer is treated with
- (A) granisetron
 - (B) ondansetron
 - (C) metoclopramide
 - (D) All of the above
90. Aztreonam is a
- (A) carbapenem
 - (B) monobactam
 - (C) macrolide
 - (D) ketolide
91. Drug that used to treat migraine headache is
- (A) sumatriptan
 - (B) misoprostol
 - (C) cyclizine
 - (D) doxepin
92. The antidotes for organo-phosphate poisoning are
- (A) atropine and pralidoxime
 - (B) atropine and physostigmine
 - (C) atropine and *N*-acetylcysteine
 - (D) atropine and dimercaprol
93. The main mechanism of action of lamivudine is
- (A) inhibition of viral DNA polymerase
 - (B) inhibition of viral neuraminidase
 - (C) inhibition of viral DNA polymerase and reverse transcriptase
 - (D) interference with viral protease

94. Among the following, which one is immunosuppressive anti-metabolite?
- (A) Cyclosporin
 - (B) Azathioprine
 - (C) Prednisolone
 - (D) Tacrolimus
95. A $\text{PGF}_{2\alpha}$ analogue used in the treatment of elevated intra-ocular pressure is
- (A) iloprost
 - (B) alprostadil
 - (C) latanoprost
 - (D) misoprostol
96. Acetaminophen has less or weak anti-inflammatory activity which is due to
- (A) less effect on prostaglandins
 - (B) less effect on cyclooxygenase
 - (C) less effect on pain receptors
 - (D) less effect on cytokines
97. The specific antidote for paracetamol poisoning is
- (A) flumazenil
 - (B) misoprostol
 - (C) *N*-acetylcysteine
 - (D) physostigmine
98. An angiotensin receptor blocker is
- (A) captopril
 - (B) ramipril
 - (C) telmisartan
 - (D) minoxidil
99. Among the following drugs, which one belongs to class III, K^+ channel blocking anti-arrhythmic agents?
- (A) Diltiazem
 - (B) Verapamil
 - (C) Amiodarone
 - (D) Propranolol
100. An aldosterone antagonist used in heart failure and Conn's syndrome is
- (A) diazoxide
 - (B) bumetanide
 - (C) eplerenone
 - (D) furosemide

SPACE FOR ROUGH WORK

SEAL

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