

RAJASTHAN UNIVERSITY OF HEALTH SCIENCES, JAIPUR
DRUG CONTROL OFFICER RECRUITMENT EXAMINATION 2018

Date of Exam: 18th May 2018 [09:00 AM to 11:00 AM]

Multiple Choice Question paper & Answer Key

Correct Answer is mentioned in Square Brackets.

1. Nernst equation is generally practice in
- a. Complexometric titration
 - b. Potentiometry
 - c. Polarimetry
 - d. Non Aqueous titration [b]
2. Match the following term used for explanation
- | | |
|----------------|---|
| P. Red Shift | 1. Carbonyl group |
| Q. Auxochrome | 2. Increase in wavelength of Absorption |
| R. Chromophore | 3. Amino Group |
| S. Blue shift | 4. Decrease in wavelength of Absorption |
- a. P-2, Q-1, R-4, S-3
 - b. P-4, Q-2, R-3, S-1
 - c. P-3, Q-1, R-2, S-4
 - d. P-2, Q-3, R-1, S-4 [d]
3. The molar absorptivities for peak associated with excitation to the $\pi \rightarrow \pi^*$ state generally ranged from
- a. 1000 to 10000 L cm⁻¹ mol⁻¹
 - b. 1000 to 500 L cm⁻¹ mol⁻¹
 - c. 100 to 10 L cm⁻¹ mol⁻¹
 - d. 200 to 400 L cm⁻¹ mol⁻¹ [a]

4. Which is the correct order of increasing wave number of the stretching vibrations of (1) C-H (alkane), (2) O-H (alcohol), (3) C=O (ketone), and (4) C≡C (alkyne)?
- a. (4) < (3) < (1) < (2)
 - b. (4) < (3) < (2) < (1)
 - c. (3) < (4) < (2) < (1)
 - d. (3) < (4) < (1) < (2) [d]
5. Solochrome black indicator used in which type of titration
- a. Non aqueous titration
 - b. Acid base titration
 - c. Complexometric titration
 - d. Gravimetric analysis [c]
6. Aprotic solvents have
- a. Basic
 - b. Acidic
 - c. No Acidic or Basic
 - d. Both Acidic and Basic properties [c]
7. In Gas Chromatography, Which detector is preferred when analysis of drugs contain halogens?
- a. FID
 - b. TCD
 - c. ECD
 - d. PID [c]
8. The glass electrode used in pH measurement is
- a. a metal metaloxide electrode
 - b. Ion selective electrode
 - c. A membrane electrode
 - d. Plastic Electrode [b]

9. In size exclusion chromatography of a mixture of molecules, which one will elute first?
- a. The largest molecule
 - b. The smallest molecule
 - c. The most polar molecule
 - d. The most non polar molecule [a]
10. Iodine vapours for TLC are used to detect the
- a. Steroids
 - b. Carboxylic acids
 - c. Volatile compound
 - d. Unsaturated compound [d]
11. The drug Bisacodyl is assayed titrant
- a. 0.1 N NaOH
 - b. 0.1 N HCl
 - c. 0.1 M $N(C_4H_9)_4 OH$
 - d. 0.1 N $HClO_4$ [d]
12. An example of strongly acidic cation exchange resin is
- a. Quartery polymethacrylate
 - b. Phenol formaldehyde
 - c. Quaterly Polystrene
 - d. Sulphonated polystyrene [d]
13. Which method cannot useful for the bacterial endotoxin test
- a. Gel Clot test method
 - b. Kinetic Turbidimetric method
 - c. Titrimetric method
 - d. End point Chromogenic method [c]

14. Which type of bioassay method are not type of Graded response
- a. Matching point method
 - b. End point method
 - c. Bracketing Method
 - d. Multiple point method [b]
15. If the drug is unretained by the stationary phase and elute with the solvent front then Retention factor (k) is
- a. $K = 0$
 - b. $K > 20$
 - c. K is between 1 and 20
 - d. $K > 01$ [a]
16. According to pharmacopeia, which microorganism used for Vitamin B12 activity assay?
- a. Pseudomonas Aeruginosa
 - b. Lactobacillus leichmannii
 - c. Staphylococcus cerevisies
 - d. Bacillus subtilis [b]
17. Which test organism is used to microbial assay of Tetracycline
- a. Bacillus cereus
 - b. Bacillus Pumilus
 - c. Bacillus subtilis
 - d. Micrococcus luteus [a]
18. The guasian peak having Tailing factor (T_f) of
- a. $T_f = 0$
 - b. $T_f = 0.5$
 - c. $T_f = 1$
 - d. $T_f = 2$ [c]

19. Densitometric detection of components can be done in
- HPTLC
 - HPLC
 - UV spectrometry
 - IR Spectroscopy [a]
20. For detection of spots of amino acids on a paper chromatogram, the most widely used method is
- U.V. Light
 - Spray with ceric sulphate
 - Spray with ninhydrin
 - Use of radioisotope technique [c]
21. Which of the following is opium?
- The dried latex exudates of the unripe incised capsules
 - The dried aqueous extract of the ripe capsules
 - The dried alcoholic extract of the unripe capsules
 - concentrated alcoholic extract of the poppy straw [a]
22. Atropine is a 1:1 mixture of D and L...
- Scopoletin
 - Scopolamine
 - Hyoscyamine
 - Belladonnin [c]
23. Which of the following is the common skeleton of physiologically active ergoline alkaloids?
- Clavorubine
 - Isolysergic acid
 - 2-Phenylbenzopyran
 - Lysergic acid [d]

24. Which of the following is the reagent for alkaloids?
- a. 2,4-Dinitrophenylhydrazine
 - b. Iron(III)chloride
 - c. Antimony(III)chloride
 - d. Potassium tetra iodomercurate [d]
25. Ergotoxine is a mixture of
- a. 2 alkaloids
 - b. 3 alkaloids
 - c. 4 alkaloids
 - d. 6 alkaloids [b]
26. Ergot powder gives blue color with
- a. Benzaldehyde
 - b. P-dimethyl aminobenzaldehyde
 - c. Cinnamaldehyde
 - d. Formaldehyde [b]
27. Which is not the chemical constituent naturally obtained from Opium?
- a. Morphine
 - b. Codeine
 - c. Narcotine
 - d. Heroine [d]
28. Palthe senna is identified with...
- a. Absence of anthraquinone glycoside
 - b. Lamina is denser
 - c. Presence of anthraquinone glycoside
 - d. with tapering apex [a]

29. Which is not the biological source of Cinchona?
- a. *Cinchona calisaya*
 - b. *Cinchona officinalis*
 - c. *Cinchona succirubra*
 - d. *Cinchona indica* [d]
30. Clove belongs to following family
- a. Rubiaceae
 - b. Myrtaceae
 - c. Liliaceae
 - d. Rutaceae [b]
31. The vitamin essential in tissue culture medium is
- a. Pyridoxine
 - b. Thiamine
 - c. Nicotinic acid
 - d. Inositol [b]
32. Trukish opium is commonly known as
- a. Chemist opium
 - b. Druggist opium
 - c. Chinese opium
 - d. Chemist and druggist [b]
33. Bara Chandrika is synonym of
- a. *Rauwolfia tetraphylla*
 - b. *Rauwolfia vomitoria*
 - c. *Rauwolfia serpentina*
 - d. *Rauwolfia canacens* [a]

34. Which drug is under the chemical class of indole?
- a. Senna
 - b. Cinnamon
 - c. Rauwolfia
 - d. Belladona [c]
35. Vincristine act by which mechanism?
- a. Inhibition of microtubule formation in mitotic spindle
 - b. suppresses the denovo biosynthesis of purines
 - c. inhibiting the production of THF
 - d. Immuno suppressant [a]
36. Match the mode of action with antihypertensive drug
- | | |
|--------------------------------------|---------------|
| P. Block of β - adrenoceptors | 1. Lisinopril |
| Q. ACE inhibition | 2. Metoprolol |
| R. Arteriolar vasodilation | 3. Amlodipine |
| S. Block of α_1 adrenoceptors | 4. Doxazocin |
- a. P-2, Q-3, R-4, S-1
 - b. P-1, Q-2, R-3, S-4
 - c. P-2, Q-1, R-3, S-4
 - d. P-4, Q-1, R-2, S-3 [c]
37. Adulterants of Rauwolfia serpentine are distinguished on the basis of:
- a. Presence of sclerenchyma
 - b. Absence of sclerenchyma
 - c. Presence of parenchyma
 - d. Absence of parenchyma [a]

38. Certain of the cells of the spongy Mesophyll are filled with microphenoidal (sandy) Crystals of calcium oxalate is characteristic of
- a. Rauwolfia serpentina
 - b. Cinchona calisaya
 - c. Cassia acutifolia
 - d. Atropa belladonna [d]
39. Which is not the use of Datura?
- a. Anticholinergic
 - b. Mydriatic
 - c. Antiadrenergic
 - d. Control of Motion sickness [c]
40. Entire parts of the following drugs are effective, except:
- a. Ergot
 - b. Belladonna
 - c. Clove
 - d. Datura [c]
41. If an agonist can produce maximal effects and has high efficacy it's called:
- a. Partial agonist
 - b. Antagonist
 - c. Agonist – Antagonist
 - d. Full agonist [d]
42. Which is not the use of ergot?
- a. Oxytocin
 - b. Prevent bb
 - c. Migraine
 - d. Laxative [d]

43. Indicate the local anaesthetic, which is ester of para amino benzoic acid:
- a. Procaine
 - b. Cocaine
 - c. Lidocaine
 - d. Mepivacaine [a]
44. Which antiepileptic drug acts by inhibiting central effects of excitatory amino acids?
- a. Diazepam
 - b. Lamotrigine
 - c. Ethosuximide
 - d. Topiramate [b]
45. Which consideration is not true for phenytoin?
- a. It inhibit calcium channel
 - b. Structurally related to the barbiturates
 - c. Effective against partial seizure
 - d. Effective against generalized seizure [a]
46. Which of the following insulin preparation has longest duration of action?
- a. Semilente
 - b. Protamine zinc
 - c. Lente
 - d. Isophane [b]
47. Anti-microbial action of penicillin is due to its effect on
- a. Protein synthesis
 - b. Cell membrane
 - c. Cell wall synthesis
 - d. DNA synthesis [c]

48. Aminoglycoside inhibit bacterial protein synthesis by binding to
- a. 30s ribosomal particles
 - b. Peptidoglycans in cell wall
 - c. DNA
 - d. m-RNA [a]
49. The drug which is potent vanilloid receptor agonist that selectively stimulates nociceptive nerve endings
- a. Icatibant
 - b. Papaverine
 - c. Capsaicin
 - d. Methadone [c]
50. Which enzyme is a constitutive enzyme in most tissue and having a house keeping role in the body?
- a. COX – 1
 - b. COX – 2
 - c. 5 – HT
 - d. 15 – HT [a]
51. Which anti-inflammatory drug having most common side effect of skin reaction?
- a. Aspirin
 - b. Acetaminophen
 - c. Ibuprofen
 - d. Mefenamic acid [d]

52. Match the antiasthmatic drug with their mechanism of action
- | | | | |
|----|-------------|----|---|
| P. | Salbutamol | 1. | Bronchodilator |
| Q. | Oxitropium | 2. | Muscarinic receptor agonist |
| R. | Zafirlukast | 3. | The cysteinyl – leukotriene receptor antagonist |
| S. | Loratidine | 4. | Histamine H ₁ – receptor agonist |
- a. P-1, Q-2, R-3, S-4
- b. P-2, Q-3, R-4, S-1
- c. P-3, Q-4, R-1, S-2
- d. P-4, Q-1, R-2, S-3 [a]

53. Which drug is non analgesic opiate and used as a cough suppressant?
- a. Dextromethorphan
- b. Cromoglicate
- c. Pholcodine
- d. Glucocorticoids [c]

54. Antileprotic action of Dapsone is due to mainly effect on
- a. Inhibition of folate synthesis
- b. Calcium channel blocker
- c. Phagocytosis
- d. DNA synthesis [a]

55. Which of the following statement is not true for Isoniazide
- a. It inhibit synthesis of mycolic acid
- b. Metabolism involves Acetylation
- c. Used to prevent bronchospasm
- d. It may cuase haemolytic anaemia [c]

56. The cefuroxime drug comes under
- 1st Generation compound
 - 2nd Generation compound
 - 3rd Generation compound
 - 4th Generation compound [b]
57. Which antimalarial drug is not a blood schizonticidal drug?
- Halofantrine
 - Mefloquine
 - Primaquine
 - Chloroquine [c]
58. The absorption of water is under the control of _____ hormone.
- vasopressin
 - Aldosterone
 - Androgen
 - glucocorticoid [a]
59. Match the mechanism of action of respective vasodilator drug
- | | |
|-------------------------------|------------------|
| P. Calcium antagonist | 1. Enalkiren |
| Q. Activate Potassium channel | 2. Nitroprusside |
| R. Act via cyclic nucleotides | 3. Minoxidil |
| S. Renin inhibitor | 4. Verapamil |
- P-4, Q-1, R-2, S-3
 - P-2, Q-3, R-4, S-1
 - P-4, Q-3, R-2, S-1
 - P-1, Q-2, R-3, S-4 [c]
60. Amoebiasis is an infection of
- E. Coli
 - Entamoeba histolytica
 - Leishmania
 - Trypanosoma gambiense [b]

61. All of the following statements about the extrapyramidal effect of neuroleptics are correct except
- a. They are caused by blockage of dopamine receptor
 - b. They are less likely to be produce by clozapine than by fluphenazine
 - c. Neuroleptics may cause tardive dyskinesia
 - d. Haloperidol does not cause extrapyramidal disturbance [d]
62. In tablet manufacturing process, Mottling refers to...
- a. Unequal distribution of color on tablet surface
 - b. Tablet breaks into two layer
 - c. Development of cracks in tablet
 - d. Formation of wings [a]
63. Sterility test for molds and yeasts should be conducted with
- a. Thioglycollate medium
 - b. Agar plates
 - c. Honey media
 - d. Glucose broth [c]
64. The oral prolonged drug delivery system release depend upon physical processes EXCEPT
- a. Permeation of the matrix by water
 - b. Diffusion of drug from matrix
 - c. Erosion of matrix
 - d. Metabolism of drug [d]
65. Microencapsulation achieved by
- a. Membrane permeability
 - b. Co-acervation phase separation
 - c. Dissolution of coating
 - d. Sugar Coating [b]

66. Sildenafil is used for treatment of one of the following disorder
- a. Systolic Hypertension
 - b. Unstable angina
 - c. Pulmonary Hypertension
 - d. Hypertension due to eclampsia [c]
67. Cardiac glycosides have the following configuration in the aglycone part of the steroid nucleus:
- a. 5 α , 14 α
 - b. 5 α , 14 β
 - c. 5 β , 14 α
 - d. 5 β , 14 β [d]
68. The film type transdermal drug delivery system (TDDS) could have a polymer EXCEPT
- a. Ethylcellulose
 - b. Polyvinyl alcohol
 - c. Poly ethylene glycol
 - d. Glass substrate [d]
69. The size of small Unilamellar Vesicle (SUV) Liposomal spherical structure usually between...
- a. 20 nm – 100 nm
 - b. 100 nm – 400 nm
 - c. 1 μ m and larger
 - d. 200 nm – 3 μ m [a]
70. Removal and killing of all microorganism is known as
- a. Destruction
 - b. Sterilization
 - c. Pasteurization
 - d. Removal [b]

71. The efficiency of moist heat sterilization is tested with
- a. Clostridium botulinum
 - b. Spores of aerobic bacteria
 - c. Spores of bacillus stearothermophilus
 - d. Vegetative cells of Bacillus Stearothermophilus [c]
72. Which is called as cold sterilization?
- a. Autoclave
 - b. Gamma rays
 - c. Infrared rays
 - d. UV rays [b]
73. Schedule H of the Drug and Cosmetic Act, 1945 contains
- a. Antibiotics and Antihistaminic
 - b. Vaccine and sera
 - c. Biological and special product
 - d. Drugs to be sold only on the prescription of a registered medical practitioner [d]
74. Narcotic drug and Psychotropic Substance Act was passed in the year
- a. 1945
 - b. 1950
 - c. 1985
 - d. 1986 [c]
75. The Pharmacy Act was passed in the year
- a. 1945
 - b. 1948
 - c. 1954
 - d. 1985 [b]

76. The Essential Commodities Act is comes under which department?
- a. Department of External affairs
 - b. Department of Consumer affairs
 - c. Department of finance
 - d. Export import [b]
77. What is the full name of IPDMS?
- a. Indian Pharmaceutical Development monograph system
 - b. International pharmaceutical development management system
 - c. Integrated Pharmaceutical Database management system
 - d. Institute of Pharmaceutical development management system [c]
78. Which route of drug administration is most likely to lead to the first pass effect?
- a. Sublingual
 - b. Oral
 - c. Intravenous
 - d. Intramuscular [b]
79. What is characteristic of the intramuscular route of drug administration?
- a. Only water solution can be injected
 - b. Oily solution can be injected
 - c. Opportunity of hypertonic solution injections
 - d. The action develops slower, than at oral administration [b]
80. When Bioequivalence studies are necessary
- a. When the new drug is a gas
 - b. When new drug are to be administered parenterally as aqueous solutions and contain same active substance in the same concentration and the same excipient.
 - c. When the new drug is a powder for reconstitution as a solution
 - d. Fixed dose combination products with systemic action [d]

81. All the bacteria fix nitrogen except
- a. Cyanobacterial
 - b. E. Coli.
 - c. Azobacter
 - d. Rhizobium [b]
82. The principal structural component of the cell wall in bacteria is made up of
- a. Simple protein
 - b. Glycoprotein
 - c. Peptidoglycan polymer
 - d. Complex polysaccharide [c]
83. Infected blood products may produce serum hepatitis due to the presence of
- a. Hepatitis A Virus
 - b. Hepatitis B Virus
 - c. Hepatitis C Virus
 - d. Bacteriophage [b]
84. The microorganisms that can enter the body only through an injury is
- a. Salmonella typhi
 - b. Clostridium tetani
 - c. Clostridium botulinum
 - d. Streptococcus pyrogenes [b]
85. Class 1 MHC antigen are present on
- a. All cells of the body
 - b. Only cells of the immune system
 - c. Only on leukocyte
 - d. Only on skin cell [c]

86. The test which is useful for the identification of M. Tuberculosis
- a. Haemolysis
 - b. Fermentation with sugar
 - c. Gram staining
 - d. Zeihl-Neelson staining [d]
87. Humoral Immune system mediated by
- a. B-Cell of lymphocyte
 - b. T-Cell of lymphocyte
 - c. A-Cell of lymphocyte
 - d. D-Cell of lymphocyte [a]
88. The direct ELISA test requires
- a. Known Antibody
 - b. Known Antigen
 - c. Patient Antibody
 - d. Substrate [b]
89. Antibiotic therapy can cure which of the following forms of syphilis?
- a. Congenital syphilis
 - b. Secondary syphilis
 - c. Primary syphilis
 - d. Tertiary syphilis [d]
90. The single most important laboratory test for determining the virulence of staphylococci
- a. Mannitol fermentation
 - b. The catalase test
 - c. Detection of coagulase
 - d. Detection fo penicillinase [c]

91. Effective human vaccines have been produced against
- a. Staphylococcus esculin
 - b. Streptococcus agalactiae
 - c. Streptococcus pyrogenes
 - d. Streptococcus pneumoniae [d]
92. Which of the Crude drug is not under the class of organised drug
- a. Lectus
 - b. Flowers
 - c. Fruits
 - d. Gums [d]
93. The specific sites on antigen with which antibodies react are called
- a. Isotopes
 - b. Immunogens
 - c. Epitopes
 - d. Carriers [c]
94. All of the following enzyme can be seen in viruses EXCEPT
- a. Neuraminidase
 - b. RNA dependent RNA Polymerase
 - c. Collagenase
 - d. Protease [c]
95. Which technique currently is used for the sero diagnosis of AIDS?
- a. Radioimmunoassay
 - b. ELISA
 - c. Two dimensional immunoelectrophoresis
 - d. Polymerase chain reaction [b]

96. What form of plague is most likely to be transmitted from human to human?

- a. Pneumonic
- b. Typhoidal
- c. Catarrhal
- d. Sylvatic

[a]

97. Tetanus can be prevented by except

- a. Administration of hyperimmune globulin
- b. Transplacental passage of antitoxin
- c. Injection of tetanus toxoid
- d. Specific anti clostridial chemotherapy

[d]

98. Resistance to antibiotics is carried on

- a. R factor Plasmid
- b. Flagellum
- c. Slime layer
- d. Sex Pilli

[a]

99. N₂ fixing bacteria in soil were discovered by

- a. S.N. Winogradsky
- b. John Needham
- c. Waddington
- d. Walter Reed

[a]

100. Yeast is a

- a. Bacteria
- b. Virus
- c. Fungi
- d. Algae

[c]