

NIPER JEE 2012

1. Oral polio vaccine is ———.

- A) Live poliovirus
- B) Live attenuated poliovirus
- C) Dead poliovirus
- D) UV treated poliovirus

2. What is the meaning of Tachyphylaxis?

- A) Decrease in response of drug
- B) Opposite action agonist
- C) High resistance within short time
- D) Natural resistance

3. What is the MOA of sulphonamide?

- A) Inhibition absorption of amino acid
- B) Inhibition of folic acid synthesis
- C) Inhibition synthesis of folinic acid
- D) A & B both

4. Which of the aminoglycosidic antibiotics is used in treatment of leishmania?

- A) Neomycin
- B) Tobramycin
- C) Paromomycin
- D) Spectinomycin

5. Which of the following antibiotics acts by inhibiting RNA synthesis?

- A) Tetracycline
- B) Clindamycin
- C) Rifampicin
- D) Erythromycin

6. Father of Indian Green revolution is ———.

- A) M.K. Swaminathan
- B) Verghese Kurien
- C) Hiralal Chaudhuri
- D) Nitish Kumar

7. Chemically, Tween 40 is ———.

- A) Lauric acid
- B) Sorbitan palmitate
- C) Palmitic acid
- D) Sorbitanoleate

8. What is the smallest size of a hypodermic needle?

- A) 7 gauge
- B) 21 gauge
- C) 25 gauge
- D) 33 gauge

9. Crowfeet weed is a synonym of ———.

- A) Senna
- B) Vinca
- C) Nux-vomica
- D) Datura

10. Hydrolysis of Glycyrrhizic acid yields ———.

- A) Glycyrrhetic acid
- B) Glycyrrhizine
- C) Liquiritin
- D) Isoliquiritin

11. Which of the following produces nonlinear pharmacokinetics?

- A) High dose of drug
- B) Decrease rate of excretion

- C) Increased rate of excretion
- D) All of the above

12. Which of the following is used for the measurement of radioactivity?

- A) Curie meter
- B) Roentgen tube
- C) Luminescence detector
- D) Geiger-Muller counter

13. Which of the following drug is NOT a suitable candidate for the formulation of enteric coated tablet?

- A) Omeprazole
- B) Atenolol
- C) Erythromycin
- D) Caffeine

14. Which of the following is common component in glycolysis & TCA cycle?

- A) Acetoacetyl CoA
- B) Pyruvic acid
- C) Acetyl-CoA
- D) D-glyceraldehyde-3-phosphate

15. Vein-islet number of senna leaf is ———.

- A) 25-27
- B) 18-20
- C) 13-16
- D) 10-12

16. Ronald Ross was awarded Nobel Prize in recognition to his work in India related to:

- A) Malaria
- B) TB
- C) Leprosy
- D) Diabetes

17. Neral and geranial are examples of:

- A) Diastereoisomers
- B) Cis and Trans isomerism
- C) R and S isomerism
- D) A & B both

18. The range of IR absorption for carbonyl compound is ____ cm^{-1} :

- A) 1000-1500
- B) 1550-1850
- C) 2000-2300
- D) 3000-3500

19. Hepatic toxicity by paracetamol is caused due to an active metabolite. It is _____.

- A) Quinone
- B) Quinone-aminidine
- C) Quinone imine
- D) Quinamide

20. Which type of DNA contains left-handed double helix?

- A) A
- B) Z
- C) C
- D) B

21. Addition of alkyl group in a chromophore leads to ____ shift in UV spectra:

- A) Bathochromic
- B) Hypsochromic
- C) Hypochromic
- D) Hyperchromic

22. Roflumilast acts on ____:

- A) TNF-1

- B) IL-4
- C) GSk-1
- D) PDE4

23. Which of the following points is not included for calculating Human Development Index?

- A) Health
- B) Education
- C) Quality of life
- D) Human rights

24. Which of the following is a soft base?

- A) OH^-
- B) H_2O
- C) CO_3^{2-}
- D) RO^-

25. In the flip-flop pharmacokinetics phenomenon, what is the criteria?

- A) $k_e \gg k_a$
- B) $k_a = k_e$
- C) $k_e \ll k_a$
- D) $k_e = k_a = 0$

26. Latest edition of IP was published in:

- A) 2011
- B) 2010
- C) 2009
- D) 1996

27. Which of the following amino acids is recognized by only a single codon?

- A) Tryptophan
- B) Proline
- C) Tyrosine
- D) Leucine

28. What is Kraft point?

- A) Temperature at which the solubility of surfactant is equal to the critical micellar concentration
- B) Above which the surfactant remains in crystalline form, even in aqueous solution
- C) Below which the surfactants are soluble in aqueous solution
- D) Above which the surfactants are soluble in aqueous solution

29. Sitagliptins act on which of the following targets?

- A) PPAR
- B) Insulin receptor
- C) GLP
- D) DPP4

30. The Director General of World Health Organization is ———.

- A) Dr. Ala Alawan
- B) Dr. Mirta Roses
- C) Dr. Margaret Chan
- D) Dr. Shin Young-soo

31. Starting component of citric acid cycle is:

- A) Citric acid
- B) Succinic acid
- C) Oxaloacetate
- D) Aconitic acid

32. Which of the following is a poisonous substance with a bitter almond-like smell?

- A) Copper
- B) Iron
- C) Cyanide
- D) Organophosphorus

33. Nitrogen mustards act on:

- A) Nucleic acid

- B) Enzyme
- C) Folic acid
- D) Ion channel

34. Alkylating agent acts on nitrogens of nucleic acid bases, especially ____ of guanine moiety:

- A) N1
- B) N3
- C) N7
- D) N9

35. According to Nitrogen rule, in Mass spectrometry, even number of nitrogen should produce:

- A) m/z for M^+ is odd
- B) m/z for M^+ is even
- C) Normal spectra
- D) Both A & B

36. 20000 psi pressure is allowed in which chromatographic technique?

- A) HPLC
- B) UPLC
- C) TLC
- D) HPTLC

37. Pluronic F 127 is _____.

- A) Paste
- B) Liquid
- C) Solid
- D) Oil

38. Above what pH, the drug, phenethicillin, pK_a 2.7, will be completely ionized (99%) to its anionic form?

- A) 2.7
- B) 4.7
- C) 6.7

D) 7.7

39. Which of the following is not used as directly compressible material?

- A) Emdex
- B) Starch 1500
- C) Starch
- D) NuTab

40. Which emulsifier is not used in case of emulsion meant for external preparation?

- A) Acacia
- B) Tragacanth
- C) Gelatin
- D) Wool fat

41. Brahmi has ———.

- A) Pentacyclic triterpenoid saponin glycoside
- B) Diterpenoid saponin glycoside
- C) Steroidal non-saponin glycoside
- D) Tetracyclic triterpenoid saponin glycoside

42. A motivation is a(n):

- A) Internal state that suppresses our behaviors
- B) Internal state that gives direction to our thoughts
- C) Subconscious emotion
- D) Physiological manifestation of thought

43. Chymotrypsin, a protein hydrolyzing enzyme found in the intestine, is expected to cleave which one of the following peptide bonds?

- A) ...Ser-Val...
- B) ...Lys-Val...
- C) ...Ile-Leu...
- D) ...Tyr-Val...

44. The key distinction between malignant and benign tumors is that:

- A) Malignant tumors mostly appear within structures that are adjacent to large blood vessels
- B) A benign tumor is encapsulated by a distinct border
- C) Benign tumors are invariably larger than malignant tumors
- D) Malignant tumors arise from neurons rather than glia

45. Which of the following is an operational feasibility vital issue?

- A) Suppliers support
- B) Users training
- C) System hardware and software
- D) Cost reduction and avoidance

46. First gene therapy was carried out by replacing ____ amino acid at position 329 of the ADA protein, which has occurred due to C-to-T point mutation in exon 11:

- A) Valine
- B) Ornithine
- C) Alanine
- D) Lysine

47. Kollidon is used as a binder. It is polymer of ——— .

- A) Homopolymer of N-vinylpyrrolidone
- B) Homopolymer of vinyl acetate
- C) Homopolymer of vinyl acrylate
- D) Heteropolymer of N-vinylpyrrolidone

48. Excellent Carr's index is ———.

- A) 5-15
- B) 10-20
- C) 20-25
- D) 25-30

49. If the compressing material has a high percentage of fines it will cause ———.

- A) Capping

- B) Lamination
- C) Sticking
- D) Cracking

50. Bloom effect can be minimized by ———.

- A) Reducing viscosity
- B) Decreasing distance between spray nasal and powder bed
- C) Reducing temperature
- D) Increasing the plasticizer content

51. Carrier-mediated transport that follows order kinetics at saturation concentration is:

- A) Zero
- B) First
- C) Second
- D) Pseudofirst

52. In calibration of UV

I. Control of absorbances P. $\text{K}_2\text{Cr}_2\text{O}_7$ in H_2SO_4

II. Limit of straylight Q. 1.2% KCl solution

III. Resolution power R. 0.02% v/v solution of Toluene in Hexane

- A) I-P, II-Q, III-R
- B) I-Q, II-P, III-R
- C) I-R, II-Q, III-P
- D) I-Q, II-R, III-P

53. Mass base peak is 94, HNMR 7.24, 6.931, 6.838, 5.35; CNMR 155.02, 129.8, 121, 115.5, IR 3025 cm^{-1} . The correct sample was ———.

- A) Gallol
- B) Resorcinol
- C) Cresol
- D) Phenol

54. India's manned moon mission is planned to be executed in ———.

- A) 2020
- B) 2025
- C) 2030
- D) 2015

55. Which electrode is mostly used in precipitation titration?

- A) Hydrogen
- B) Platinum
- C) Glass
- D) Silver

56. What is kept constant in amperometric titration?

- A) Current
- B) Voltage
- C) Resistance
- D) Potential difference

57. Which one is correct for reverse phase chromatography?

- A) Polar stationary phase
- B) Organic stationary phase
- C) Nonpolar moving phase
- D) Organic moving phase

58. End capping of silica in reverse phase chromatographic stationary phase is done to block —.

- A) Si of silica
- B) OH of silica
- C) OH of bonded phase
- D) Protect the bonded phase

59. Which part of ergot is used medicinally?

- A) Seeds
- B) Leaves
- C) Sclerotium

D) Bark

60. Moisture content in hard gelatin capsules is:

- A) 6-10%
- B) 13-16%
- C) 8-15%
- D) >20

61. Ergot is the ____ of the fungus *Claviceps purpurea*:

- A) Filamentous hyphae
- B) Dried sclerotium
- C) Ascospore
- D) Conidiospore

62. Stationary phase for RPHPLC is ———.

- A) PFP
- B) CN
- C) ODS
- D) SCX or SAX

63. How many nucleotides are present in a turn of DNA?

- A) 10.5-12
- B) 10-15
- C) 5-10
- D) 10.5-15.5

64. Cholesterol and cholestane differ in structure because ———.

- A) Cholesterol is (3 β)-cholest-5-en-3-ol & cholestane is a saturated 27-carbon steroid
- B) Cholesterol is (3 α)-cholest-5-en-3-ol & cholestane is a saturated 27-carbon steroid
- C) Cholesterol is (3 β)-cholest-5-en-3-ol & cholestane is a saturated 29-carbon steroid
- D) Cholesterol is (3 β)-cholest-4-en-3-ol & cholestane is a saturated 27-carbon steroid

65. Major constituent of eucalyptus oil is ———.

- A) Alpha pinene
- B) Cineole
- C) Citral
- D) Geraniol

66. What is the name of the plot that is used to compare the values of two specified physicochemical properties for a range of substituents?

- A) Topliss plot
- B) Hansch plot
- C) Craig plot
- D) Free-Wilson plot

67. Choose the WRONG combination of drug and its adverse effect:

- A) Metformin: Lactic acidosis
- B) Clozapine: Agranulocytosis
- C) Glucocorticoids: Osteopenia
- D) Pseudoephedrine: Increased salivation

68. Multivaccine Shan5 (DTwP-hepatitis B-Hib) is a product of which company?

- A) Shantha Biotechnics
- B) Sanofi Aventis
- C) Biocon
- D) Merk

69. Proposal and functioning of NIPER comes under the jurisdiction of ———.

- A) Union Ministry of Chemicals and Fertilizers
- B) Human Resource Development
- C) Department of Science and Technology
- D) AICTE

70. Ingold has classified ester hydrolysis by eight different mechanisms. The mechanism which is not observed is ———. <https://www.pyqonline.com>

- A) $A_{AC} 1$
- B) $A_{AL} 1$

C) $B_{AC} 1$

D) $B_{AL} 1$

71. What is the HLB of a compound with Hydrophilic group = 36 and lipophilic group = 12, and the group contribution numbers are 1 and 2, respectively?

A) 20

B) 15

C) 17

D) 19

72. A polymorphism is ———.

A) Any change in the DNA sequence

B) The most common variation of a gene or marker sequence

C) The least common variation of a gene or marker sequence

D) A variation of a gene or marker sequence present in >1% of the population

73. HLB wetting spreading agent on HLB scale is ———.

A) 3.5-6

B) 4-10

C) 7-9

D) 8-18

74. Indicator reagent in complexometric titrations are all, EXCEPT:

A) Eriochrome black

B) Alizarin

C) Murexide

D) Methyl orange

75. Which of the following inequalities is correct?

A) $M_n > M_z > M_w$

B) $M_n < M_z < M_w$

C) $M_n < M_w < M_z$

D) $M_w < M_n < M_z$

76. The WTO replaced this as an international organization:

- A) GATT
- B) GATS
- C) GSP
- D) FAO

77. What is the pH of the solution formed when 0.060 moles NaOH is added to 1.00 L of 0.050 M HCl?

- A) 12.78
- B) 2.00
- C) 7.00
- D) 12.00

78. Which is the strongest bond?

- A) C-C
- B) C=O
- C) C-H
- D) C-Cl

79. What are the requirements of a Cannizzaro Reaction?

- P) Reactants should be aldehydes
 - Q) Reactants should not contain α -hydrogens
 - R) Reaction condition should be of concentrated aqueous base
 - S) At least one reactant should contain α -hydrogen
- A) P and Q
 - B) Q and R
 - C) P, Q, and R
 - D) P, Q, R, and S

80. According to Fredrickson classification, hyperlipidemia can arise due to deficiency in receptors for———.

- A) HDL
- B) LDL

C) VLDL

D) IDL

81. What is the use of Bisphenol A (BPA)?

A) Test reagent used for detecting cancer

B) Testing the use of drugs to improve performance by athletes

C) For the development of food packaging material

D) A special type of steel

82. Pigment in tomato is ———.

A) Lycopene

B) Betalain

C) Anthocyanin

D) Lutein

83. Threshold of Toxicological Concern (TTC) value of ____ intake of a genotoxic impurity is considered to be associated with an acceptable risk:

A) 0.5 µg/day

B) 1.5 µg/day

C) 2.5 µg/day

D) 2.5 µg /day

84. Drug specificity, defined as the degree to which the effects of a drug are due to one pharmacological action, depends on:

P) Dose

Q) Route of administration

R) Receptor affinity

S) Delivery system

A) P and Q

B) P, Q, and R

C) Q, R, and S

D) P, R, and S

85. The total quality approach has which of the following characteristics?

- A) Teamwork
- B) Freedom through control
- C) Obsession with quality
- D) Focus on the customer

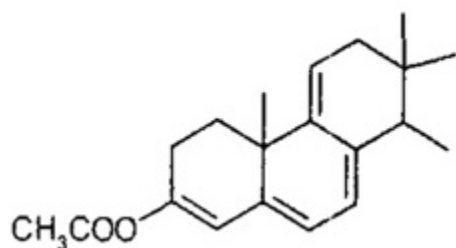
86. MOA of antihyperlipidemic statins is inhibition of:

- A) Thiolase
- B) HMG CoA reductase
- C) Dihydrofolate reductase
- D) Squalene epoxidase

87. What is eudismic ratio?

- A) Ratio of activity of eutomer to distomer
- B) Ratio of activity of conformers
- C) Ratio of activity of R and S
- D) Ratio of activity of E and Z

88. As per Woodward-Fieser, what will be the λ_{max} for:



- A) 254
- B) 354
- C) 318
- D) 298

89. Luminescence is because of:

- A) Photons emitted while excited electrons drop down
- B) Knocking out of electrons by photons
- C) Photons stimulated by photons
- D) All

90. ____ presence and quantity is considered as the marker for the quality of rose oil:

- A) Rhodiny acetate
- B) Phenyl ethyl formate
- C) Beta-damascenone
- D) Geraniol

91. Which one of the spectrometry may differ in its application?

- A) UV
- B) NMR
- C) Mass
- D) IR

92. Azithromycin is prepared by ____ rearrangement:

- A) Beckmann
- B) Hoffman
- C) Lossen
- D) All of these

93. Teratogenic effects of vitamin ____ are well documented:

- A) A
- B) B complex
- C) C
- D) D

94. Valleys rather than peaks might be of interest in ____ spectrum:

- A) UV
- B) IR
- C) CNMR
- D) ESR

95. IR is the graph of _____.

- P) Absorbance versus wavelength

- Q) Absorbance versus wavenumber
- R) Transmittance versus wavenumber
- S) Transmittance versus wavelength
- A) P & R
- B) R and S
- C) Q and R
- D) P, Q, R, and S

96. Heckel plot helps to choose:

- P) Lubricant
- Q) Size of die
- R) Time of compression
- S) Time of mixing with lubricant
- A) P and Q
- B) Q and R
- C) P, Q, and R
- D) P, Q, R, and S

97. Eudragit 100 is mainly used for:

- P) Sustained release
- Q) Controlled release
- R) Enteric coating
- S) Colon-targeted drugs
- A) P and Q
- B) P, Q, and R
- C) P, Q, R, and S
- D) Cannot say

98. A microbe that grows only at the bottom of a tube of thioglycollate medium is probably a(n):

- A) Facultative anaerobe
- B) Aerotolerant anaerobe
- C) Microaerophile
- D) Obligate anaerobe

99. Ester hydrolysis occurs most commonly by which mechanism?

- A) SN1
- B) SN2
- C) Tetrahedral
- D) All of the above

100. In which type of chromatography is the interaction between the analyte and the stationary phase due to the size and shape of the molecule only?

- A) Adsorption
- B) Partition
- C) Gel permeation
- D) Affinity

101. In supercritical fluid chromatography, if using packed columns, the most common stationary phase is: <https://www.pyqonline.com>

- A) A methyl-type stationary phase bonded to silica (like DB-1) for GC
- B) An aromatic-type stationary phase bonded to silica
- C) An octadecyl stationary phase bonded to silica
- D) Uncoated silica

102. Which of the following compounds would have the highest boiling point?

- A) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$
- B) CH_3NH_2
- C) CH_3OH
- D) CH_2F_2

103. Which one will undergo faster decarboxylation reaction?

- A) Formic acid
- B) Malonic acid
- C) Maleic acid
- D) Fumaric acid

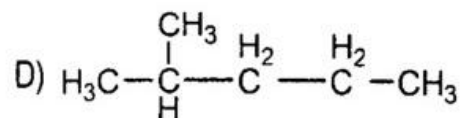
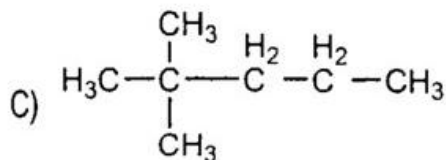
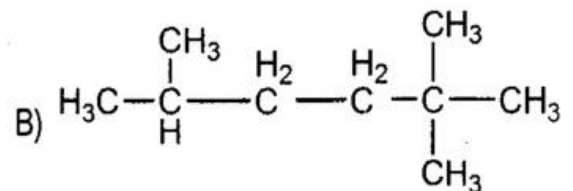
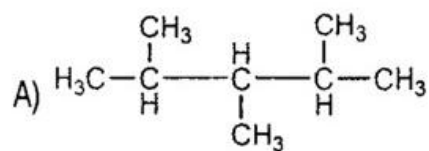
104. RAFTS in cells function to:

- A) Compartmentalize cellular processes
- B) Carry the extracellular ingredients into the cell
- C) Pinocytosis
- D) All of the above

105. Ludipress composition?

- A) 93% Lactose monohydrate, 3.5% Kollidon 30, and 3.5% Kollidon CL
- B) Sodium Starch Glycolate
- C) Sucrose, Invert sugar, Cornstarch, and Magnesium stearate
- D) 90% D-mannitol, 5% Kollidon CL-SF, and about 5% polyvinyl acetate

106. The CMR spectrum of an unknown compound shows 6 absorptions, and the PMR spectrum shows 5 absorptions. Which of the following compounds is the unknown compound?



107. Which are the THREE R's followed by the animal ethics committee?

- P) Replacement
- Q) Reduction
- R) Refinement
- S) Rehabilitation
- A) P, Q, and R
- B) P, R, and S
- C) Q, R, and S
- D) P, R, and S

108. Which are the recently banned drugs due to cardiotoxicity?

- P) Rosiglitazone

- Q) Propoxyphene
- R) Tolcapone
- S) Alpidem
- A) P and Q
- B) P and R
- C) Q and R
- D) R and S

109. Which of the following changes to morphine will cause it to become a m-receptor antagonist?

- A) $\text{NCH}_2\text{CH}=\text{CH}_2$ for NCH_3
- B) NC_5H_5 for NCH_3
- C) 6-OH to 6-H
- D) 3-OCH₃ for OH

110. If C is the concentration of dissolved drug and C_s is the saturation concentration, in which case are the sink conditions said to be maintained?

- A) $C < 20\%$ of C_s
- B) $C > 20\%$ of C_s
- C) $C < 10\%$ of C_s
- D) $C > 10\%$ of C_s

111. Which one of the following drugs does not have a 7-membered ring?

- A) Doxepine
- B) Paroxetine
- C) Olopatadine
- D) Ketotifen

112. CO₂ is a greenhouse gas because it absorbs heat radiation from the earth. Which is a true statement?

- A) CO₂ absorbs visible light, but not IR radiation
- B) CO₂ absorbs IR radiation, but not visible light
- C) CO₂ never absorbs any radiation
- D) CO₂ absorbs both visible light and IR radiation

113. Fluorescence is observed for all of the following compounds, EXCEPT:

- A) Quinoline
- B) Isoquinoline
- C) Pyridine
- D) Indole

114. The risk of kernicterus increases with the use of:

- A) Ceftriaxone
- B) Phenobarbitone
- C) Ampicillin
- D) Sulphonamide

115. Which of the following drugs do not reduce gastric motility?

- A) Glycopyrrolate
- B) Atropine
- C) Domperidone
- D) Loperamide

116. A 30-carbon precursor of the steroid nucleus, lanosterol, is:

- A) Farnesyl pyrophosphate
- B) Geranyl pyrophosphate
- C) Isopentenyl pyrophosphate
- D) Squalene

117. The absorption of aspirin is best at Ph —————.

- A) 1-2
- B) 3-5
- C) 5-7
- D) 7-8

118. Carrier-mediated transport follows kinetics of —————.

- A) Zero order
- B) First order

- C) Pseudo first order
- D) Michaelis-Menten

119. Which of the following is not enclosed by a bilayer of phospholipid?

- A) Nucleus
- B) ER
- C) Microsome
- D) Golgi Apparatus

120. Gastrointestinal motility is increased by which drug?

- A) Domperidone
- B) Morphine
- C) Cisapride
- D) Loperamide

121. The following drugs have significant drug interaction with digoxin, except:

- A) Cholestyramine
- B) Thiazide diuretics
- C) Quinidine
- D) Amlodipine

122. By which method are pyrogens NOT removed?

- A) Adsorbing on adsorbent
- B) Ultrafiltration
- C) Autoclaving
- D) Distillation

123. At what temperature does the α -form of cocoa butter melt?

- A) 34.5
- B) 27-28
- C) 22
- D) 18

124. Exclusivity granted to the first generic applicant after FDA approval:

- A) 60 days
- B) 90 days
- C) 10 days
- D) 180 days

125. Which one of the following is NOT a rational drug combination?

- A) Methotrexate + Probenecid
- B) Imipenem + Cilastatin
- C) Sulfadoxine + Pyrimethamine
- D) Ampicillin + Clavulanic acid

126. The TATA box is a(n):

- A) Sequence common to the promoter region of many genes
- B) Square-shaped sequence
- C) Enhancer consensus sequence
- D) Activator sequence necessary for proper translation

127. All are RNA polymerase inhibitors, EXCEPT:

- A) Rifampicin
- B) Fusidic acid
- C) Caspofungin
- D) Doxorubicin

128. Antioxidant which is water-soluble?

- A) Propyl gallate
- B) Sodium formaldehyde sulfoxylate
- C) Butylated hydroxytoluene
- D) Butylated hydroxyanisole

129. Under the D&C Act, 'prescription drugs' fall under:

- A) Schedule H
- B) Schedule X

C) Schedule G

D) All

130. What is the pH of the solution formed when 0.060 moles NaOH is added to 1.00 L of 0.050 M HCl?

A) 12.78

B) 2.00

C) 7.00

D) 12.00

131. Arrange the following groups in decreasing order of priority for E/Z nomenclature, with the highest priority group listed first:

P) $-\text{CH}(\text{CH}_3)_2$

Q) $-\text{F}$

R) $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$

A) $\text{Q} > \text{P} > \text{R}$

B) $\text{Q} > \text{R} > \text{P}$

C) $\text{P} > \text{R} > \text{Q}$

D) $\text{R} > \text{P} > \text{Q}$

132. The concentration of plasticizers as glycerol or sorbitol for soft gelatin capsule?

A) Between 1:10 and 4:10

B) Between 4:10 and 8:10

C) Between 8:10 and 10:10

D) Between 1:10 and 10:10

133. Which of the following is not an autoimmune disease?

A) Multiple sclerosis

B) Type II diabetes

C) Systemic lupus erythematosus

D) Grave's disease

134. 'Capill' is a capsule shell made up of _____.

A) Pork gelatin

- B) Goat gelatin
- C) Starch hydrolysate
- D) HPMC

135. Newtonian fluid viscosity is measured by _____.

- P. Ostwald-Cannon-Fenske viscometer
 - Q. Hoppeler Falling ball viscometer
 - R. Cup and Bob viscometer
 - S. Cone and Plate viscometer
- A) P and Q
 - B) Q and R
 - C) P and S
 - D) R and S

136. Fiscal Policy is connected with:

- A) Issue of currency
- B) Exports and imports
- C) Public revenue and expenditure
- D) None of these

137. Apoptosis is triggered by _____.

- A) Nitric oxide
- B) Superoxide dismutase
- C) BCL 2
- D) p53

138. Apoptosis can involve a series of proteases called ____ which cleave substrates:

- A) CDKs
- B) PARPs
- C) Caspases
- D) Microtubules

139. Megaloblastic anaemia occurs due to deficiency of which vitamin?

- A) B6
- B) B2
- C) B5
- D) B12

140. Choose the wrong option regarding morphine:

- A) Causes vasodilation, uterine relaxation
- B) Lowers BP
- C) Constricts pupils
- D) Causes respiratory acidosis

141. Post 1995, Indian companies need to patent ———.

- A) Process
- B) Product
- C) Me-too drugs
- D) Copycat drugs

142. Bacteria that produce superoxide dismutase and catalase are ———.

- A) Aerobic
- B) Obligate anaerobic
- C) Facultative anaerobic
- D) Mesophile

143. Nebivolol:

- A) It is a competitive and highly selective beta-1 receptor antagonist
- B) It is a mild vasodilator
- C) It increases nitric oxide formation
- D) It is not protein bound

144. Polymorph. Find the WRONG statement:

- A) Monoclinic form of paracetamol is marketed
- B) The most stable polymorph will be the least soluble
- C) The least stable polymorph crystallizes first

D) For ritonavir, most stable polymorph is most soluble

145. This process of repatenting modified formulations of a drug, after the original composition of matter patent has expired, is an example of ———.

- A) Evergreening
- B) Monopoly
- C) Continuation
- D) Extending

146. The amino acid residue having an imino side chain is:

- A) Lysine
- B) Histidine
- C) Tyrosine
- D) Proline

147. Carbon nanotubes are ———.

- A) Fullerenes
- B) Allenes
- C) Allotropes of carbon
- D) Both A and C

148. Which figure has the greatest area?

- A) Triangle
- B) Rectangle
- C) Hexagon
- D) Sphere

149. The temperature of liquid nitrogen is:

- A) -32°C
- B) -80°C
- C) -100°C
- D) -196°C

150. Nitrogen is estimated by:

- A) Liebig's method
- B) Kjeldahl's method
- C) Carius' method
- D) Duma's method

151. A person walks $\frac{3}{4}$ of his normal velocity and reaches office 20 minutes late. What is his usual time taken to reach office? <https://www.pyqonline.com>

- A) 40 minutes
- B) 60 minutes
- C) 80 minutes
- D) 30 minutes

152. ODT has in-vitro disintegration times of approximately ———.

- A) 30 seconds or less
- B) More than 30 seconds
- C) Depends on the drug
- D) Always more than one minute

153. Botanical source of soyabean is ____ Family Fabaceae:

- A) Vigna radiate
- B) Phaseolus vulgaris
- C) Glycine max
- D) Vigna angularis

154. What is the wavelength range of the radiation used in ESR spectroscopy?

- A) X-Ray
- B) Ultraviolet
- C) Infrared
- D) Microwave

155. What causes the splitting of energy levels in a magnetic field?

- A) Hund's Rule

- B) Zeeman Effect
- C) Van der Waals interactions
- D) Aufbau Principle

156. Allopurinol and Hypoxanthine are:

- A) Enantiomers
- B) Geometric isomers
- C) Isosteres
- D) Diastereomers

157. A positive Hammett sigma value means that a functional group:

- A) Donates electrons to a ring
- B) Doesn't affect the ring
- C) Withdraws electrons from the ring
- D) Makes the ring more flexible

158. Which one of the following constituents is reported to have anti-hepatotoxic activity?

- A) Podophyllotoxin
- B) Andrographolide
- C) Linalool
- D) Safranal

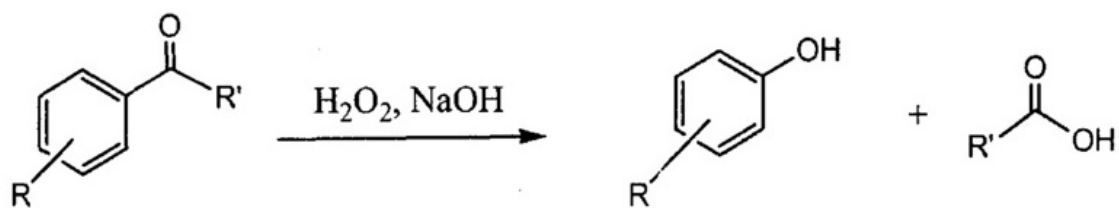
159. Cytochrome P450 most commonly involved in drug metabolism:

- A) CYP 3A4
- B) CYP 1A1
- C) CYP 2E1
- D) CYP 2D6

160. Experimental research differs from other types of research because in experimental research:

- A) Dependent variable has to be measured precisely
- B) Independent variable has to be manipulated
- C) Different groups are compared
- D) There are no extraneous variables

161. The given reaction is _____.



- A) Fries rearrangement
- B) Favorskii Reaction
- C) Dakin reaction
- D) Nef Reaction

162. Which is NOT a disadvantage of using a search engine?

- A) Variety
- B) Ionization
- C) Uncertain accuracy
- D) Irrelevant information

163. Life of Pi is a book by _____.

- A) Ang Lee
- B) Yann Martel
- C) Meera Sanyal
- D) Hanif Qureshi

164. One of the following propellants is a fluorocarbon propellant:

- A) A-17
- B) A-108
- C) 114
- D) A-31

165. Which is used as detecting agent in TLC for cardiac glycosides?

- A) Chloramine-trichloroacetic acid
- B) 4-Dimethyl benzaldehyde
- C) 2,6-Dichloroquinone chlorimide

D) Dinitrophenyl hydrazine

166. Related to symmetry and chirality, which statement is TRUE?

- A) Compounds with multiple chiral centers are chiral
- B) Compounds with a 2-fold axis of symmetry are achiral
- C) Compound with dissymmetry is chiral
- D) Compounds without chiral carbon cannot be optically active

167. Reagents used for preparation of salicylaldehyde?

- A) Phenol, chloroform, sodium hydroxide
- B) Phenol, CO₂, sodium hydroxide
- C) Benzene, chloroform, sodium hydroxide
- D) Benzene, CO₂, sodium hydroxide

168. Which of the following is NOT biodegradable?

- A) Polylactic acid
- B) Polyglycolic acid
- C) Polycaprolactone
- D) Polymethylmethacrylate

169. Infliximab is antibody against ———.

- A) FAB
- B) TNF alpha
- C) EGFR
- D) VEGF

170. Sterilization by autoclave is done at ———.

- I. 121°C at 15 psi for 15 minutes
 - II. 250°F at 100 kPa for 15 minutes
- A) I
 - B) II
 - C) Both

D) None

171. Sarin:

P) is (RS)-Propan-2-yl methylphosphonofluoridate

Q) acts on cholinesterase

R) fluoride is the leaving group

S) acts on N7 of guanine

A) P and Q

B) Q and R

C) P, Q, and R

D) P, Q, R, and S

172. The mitotic cell is most active in:

A) Prophase

B) Metaphase

C) Anaphase

D) Telophase

173. Western blotting is used for ———.

A) DNA

B) RNA

C) Proteins

D) Carbohydrate

174. Intestinal bacteria can synthesize.

A) Phylloquinone

B) Farnoquinone

C) Menadione

D) Both A & B

175. Etanercept functions as ———.

A) Receptor agonist

B) Receptor antagonist

- C) Decoy receptor
- D) Enzyme inhibitor

176. Crystallization is:

- A) Exothermic
- B) Endothermic
- C) Mesothermic
- D) Prothermic

177. Legal support to good clinical practices is provided by Schedule ——.

- A) C
- B) X
- C) Y
- D) M

178. USP apparatus for dissolution studies of implant and suppositories is ——.

- A) Basket Apparatus
- B) Paddle Apparatus
- C) Reciprocating Cylinder
- D) Flow-Through Cell

179. A lipoxygenase inhibitor used in prophylaxis of asthma is:

- A) Azelastine
- B) Zileuton
- C) Ramatroban
- D) Seratrodast

180. Interleukin, which has only anti-inflammatory function is ——.

- A) IL2
- B) IL6
- C) IL8
- D) IL10

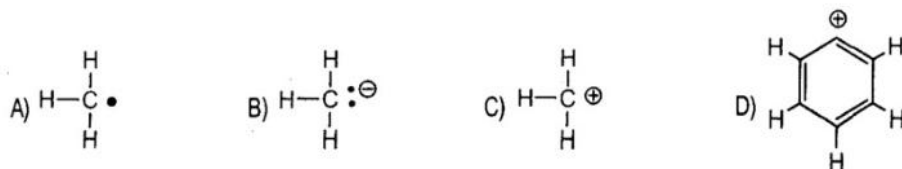
181. Which of the following is not a direct tax?

- A) Wealth Tax
- B) Income Tax
- C) Estate Duty
- D) Sales Tax

182. Vitamin E has ____ possible stereoisomers:

- A) 3 chiral centers, therefore 8
- B) 2 chiral centers, therefore 4
- C) 4 chiral centers, therefore 16
- D) 1 chiral center, therefore 2

183. Which of the following is an intermediate in the reaction of benzene with CH_3Cl and AlCl_3 ?



184. The most stable conformational isomer of cis-1-bromo-2-chlorocyclohexane will have:

- A) Both halide atoms in axial positions
- B) Both halide atoms in equatorial positions
- C) The bromine atom in an axial position and the chlorine atom in an equatorial position
- D) The bromine atom in an equatorial position and the chlorine atom in an axial position

185. Gastroretentive systems are:

- A) Hydrodynamically balanced systems
- B) High density systems
- C) Bioadhesive systems
- D) All

186. Lactate formed in muscles can be utilized through:

- A) Rapoport-Luebering cycle
- B) Glucose-alanine cycle

- C) Cori's cycle
- D) Citric acid cycle

187. Coenzyme A contains a vitamin which is:

- A) Thiamin
- B) Ascorbic acid
- C) Pantothenic acid
- D) Niacinamide

188. Which one of the following is not a calcium channel blocker:

- A) Nifedipine
- B) Aniskiren
- C) Bepridil
- D) Diltiazem

189. Insulin can't be absorbed orally, as it is:

- A) A macromolecule
- B) Poorly permeable
- C) Susceptible to gastric proteolytic enzymes
- D) Insoluble in lipid

190. Which of the following drugs is most likely to cause loss of equilibrium and auditory damage?

- A) Amikacin
- B) Ethambutol
- C) Isonazid
- D) Rifabutin

191. Indirectly acting sympathomimatic shock is:

- A) Dopamine
- B) Tyramine
- C) Phenylephrine
- D) Isoprenaline

192. The therapeutic index of a drug is a measure of its ———.

- A) Safety
- B) Efficacy
- C) Potency
- D) Dose variability

193. The Indian Supreme Court denied a patent for the Novartis breakthrough medicine Glivec. Its active constituent is ———.

- A) Imatinib
- B) Sorfenib
- C) Infliximab
- D) Abciximab

194. Fundamental rights of an Indian Citizen are ____ in number:

- A) 3
- B) 4
- C) 5
- D) 6

195. Lipitor is the brand name of which drug?

- A) Atorvastatin
- B) Colestipol
- C) Gemfibrozil
- D) Lisinopril

196. Least-developed countries have time until for pharmaceutical patents, to ensure that their laws and practices conform with the TRIPS: <https://www.pyqonline.com>

- A) 2016
- B) 2012
- C) 2020
- D) 2025

197. The science of tribology is the study of:

- A) Biocompatibility between two membranes

- B) Friction
- C) Organisms that colonize biocompatible surfaces
- D) How bacteria group together on a contact lens surface

198. The Bolar provision in the Indian Patent Act allows affordable generic equivalents of drugs to be brought into the market:

- A) Before expiry of patent
- B) After expiry of patent
- C) Is not concerned at all with the patent

199. Nonlinear pharmacokinetics means:

- A) Drug serum concentrations decrease in a straight line when plotted on a Concentration-Time graph
- B) Drug serum concentrations decrease in a straight line when plotted on a log Concentration-Time graph
- C) Steady-state drug serum concentrations change proportionally to dose
- D) Steady-state drug serum concentrations change non-proportionally to dose

200. Which one of these is a non-patentable invention?

- A) A method of testing
- B) A method of agriculture and horticulture
- C) Any substance which is not applied for treatment or to prevent a disease
- D) Microorganisms

NIPER JEE 2012 ANSWER KEY

Que.	Ans.	Que.	Ans.	Que.	Ans.	Que.	Ans.	Que.	Ans.
1	B	41	A	81	C	121	D	161	C
2	C	42	B	82	A	122	D	162	A
3	B	43	D	83	B	123	C	163	B
4	C	44	B	84	C	124	D	164	C
5	C	45	D	85	D	125	A	165	A
6	A	46	A	86	B	126	A	166	C
7	B	47	A	87	A	127	A	167	A
8	D	48	A	88	B	128	B	168	D
9	C	49	A	89	A	129	A	169	B
10	C	50	C	90	C	130	D	170	C
11	A	51	A	91	A	131	A	171	C
12	D	52	A	92	A	132	B	172	B
13	D	53	D	93	A	133	B	173	C
14	C	54	B	94	B	134	C	174	B
15	A	55	D	95	D	135	A	175	C
16	A	56	B	96	C	136	C	176	A
17	D	57	B	97	C	137	D	177	C
18	B	58	B	98	D	138	C	178	D
19	C	59	C	99	C	139	D	179	B
20	B	60	B	100	D	140	B	180	D
21	B	61	B	101	D	141	B	181	D
22	D	62	C	102	C	142	A	182	A
23	D	63	A	103	B	143	D	183	C
24	A	64	A	104	A	144	D	184	D
25	A	65	B	105	A	145	A	185	A
26	B	66	C	106	B	146	D	186	C
27	A	67	D	107	A	147	C	187	C
28	A	68	A	108	A	148	C	188	B
29	D	69	A	109	A	149	D	189	C
30	C	70	C	110	C	150	B	190	B
31	C	71	D	111	B	151	B	191	B
32	C	72	D	112	B	152	A	192	A
33	A	73	C	113	C	153	C	193	A
34	C	74	D	114	D	154	D	194	D
35	B	75	C	115	C	155	B	195	A
36	B	76	A	116	D	156	C	196	A
37	C	77	D	117	B	157	C	197	B
38	B	78	B	118	D	158	A	198	B
39	C	79	C	119	A	159	A	199	D
40	D	80	B	120	C	160	A	200	A