

NIPER-JEE PYQ 2020

1. Which of the following is a cytokine inhibitor used as anti-inflammatory?

- (a) Nimesulide
- (b) Abatacept
- (c) Diclofenac
- (d) Nabumetone

Correct Answer : (b) Abatacept

2. Remdesivir interferes with the action of which viral enzyme?

- (a) RNA-dependent RNA polymerase
- (b) Exoribonuclease
- (c) DNA-dependent RNA polymerase
- (d) DNA gyrase

Correct Answer : (a) RNA-dependent RNA polymerase

3. Captisol is an excipient based on:

- (a) PLA polymer
- (b) PLGA polymer
- (c) Cyclodextrin
- (d) PEG

Correct Answer : (c) Cyclodextrin

4. 6-Fluoro-3-oxo-3,4-dihydro-2-pyrazine carboxamide is the IUPAC name of which drug?

- (a) Ritonavir
- (b) Favipiravir
- (c) Remdesivir
- (d) Pyrazinamide

Correct Answer : (b) Favipiravir

5. This reaction mechanism is favored by 3° substrates, low temperatures, polar solvents, and low concentrations of very weak bases.

- (a) E1
- (b) E2
- (c) SN1
- (d) SN2

Correct Answer : (d) SN2

6. Who is the recipient of 'World Entrepreneur of The Year award' for 2020?

- (a) Vivekchand Sehgal
- (b) Siddarth Lal
- (c) Kiran Mazumdar-Shaw
- (d) Rahul Bajaj

Correct Answer : (c) Kiran Mazumdar-Shaw

7. In one of the following sulfonamides, pyrimidine ring is absent. Which is it?

- (a) sulfosimidine
- (b) sulfadimidine
- (c) sulfadoxine
- (d) sulfisoxazole

Correct Answer : (d) sulfisoxazole

8. Histamine structure is represented by:

- (a) 3,4-Dihydroxyphenethylamine
- (b) 2-(1-H-Imidazol-5-yl)ethanamine
- (c) 2-(1-H-Imidazol-4-yl)ethanamine

(d) 2-Amino-3-(1H-imidazol-4-yl) propanoic acid

Correct Answer : (c) 2-(1-H-Imidazol-4-yl)ethanamine

9. P2Y₁₂ is a chemoreceptor for adenosine diphosphate (ADP) that:

- (a) Mediates platelet aggregation
- (b) Mediates WBC stimulation
- (c) Binds to clopidogrel reversibly
- (d) Mediates fibrinolysis

Correct Answer : (a) Mediates platelet aggregation

10. Neopentane and 2-methyl butane are which type of isomers?

- (a) Positional isomers
- (b) Chain isomers
- (c) Isomers
- (d) Diastereoisomers

Correct Answer : (b) Chain isomers

11. Which activity (the signal transduction pathway) of metformin is responsible for the inhibitory effect on glucose production by liver cells?

- (a) Activation of AMPK
- (b) Inhibition of hormone-sensitive lipase
- (c) Inhibition of mammalian target of rapamycin (mTOR)
- (d) Allosteric regulation by binding to a crucial section of the DNA that makes proteins needed for glucose uptake

Correct Answer : (a) Activation of AMPK

12. Single letter code for pyrrolysine is:

- (a) P
- (b) J

(c) O

(d) Y

Correct Answer : (c) O

13. Which bacterial enzyme helps the survival of *Helicobacter pylori* in the stomach?

(a) carbonic anhydrase

(b) urease

(c) β -lactamase

(d) transpeptidase

Correct Answer : (b) urease

14. Which of the following amino acids cannot provide a substrate for gluconeogenesis?

(a) Leucine

(b) Tryptophan

(c) Histidine

(d) Isoleucine

Correct Answer : (a) Leucine

15. ^1H NMR spectra recorded in CDCl_3 solution typically show a resonance at 7.24 ppm. What is this resonance due to?

(a) water

(b) trace HC

(c) Chloroform

(d) exchangeable protons

Correct Answer : (d) exchangeable protons

16. Favipiravir tested as a COVID-19 treatment is a product of which company?

(a) Fujifilms

- (b) AstraZeneca
- (c) Safoni team
- (d) Takeda

Correct Answer : (a) Fujifilms

17. The drug of choice for Torsades de pointes treatment is:

- (a) Sotalol
- (b) Ibutilide
- (c) disopyramide
- (d) Magnesiums

Correct Answer : (d) Magnesiums

18. ^{13}C chemical shift has a much wider range (<300 ppm) than ^1H (<10 ppm) because:

- (a) The contribution of the diamagnetic shielding of ^{13}C is much larger than ^1H due to the small ^{13}C energy
- (b) The contribution of the paramagnetic shielding of ^{13}C is much larger than ^1H due to the small ^{13}C energy
- (c) The electron density of ^1H is usually spherically symmetrical
- (d) The reason is unknown

Correct Answer : (b) The contribution of the paramagnetic shielding of ^{13}C is much larger than ^1H due to the small ^{13}C energy

19. Which of the following drugs reduces LDL cholesterol by inhibiting an intestinal transport protein?

- (a) atorvastatin
- (b) cholestyramine
- (c) ezetimibe
- (d) gemfibrozil

Correct Answer : (c) ezetimibe

20. The least abundant amino acid in human proteins is:

- (a) Leucine
- (b) Lysine
- (c) Cysteine
- (d) Tyrosine

Correct Answer : (c) Cysteine

21. Arrange in the order of increasing basicity piperidine, pyrrole, pyrimidine, morpholine

- (a) Piperidine> pyrrole> pyrimidine> morpholine
- (b) Pyrrole> piperidine> morpholine> pyrimidine
- (c) Pyrimidine> piperidine> morpholine> pyrrole
- (d) Piperidine> morpholine> pyrimidine> pyrrole

Correct Answer : (d) Piperidine> morpholine> pyrimidine> pyrrole

22. Which of the following diseases is NOT associated with corona virus

- (a) SARS-CoV-1
- (b) MERS
- (c) COVID-19
- (d) Swine flu

Correct Answer : (d) Swine flu

23. IUPAC of carbamazepine is

- (a) 5H-dibenzo[b,e]azepine-5-carboxamide
- (b) 5H-dibenzo[b,f]azepine-5-carboxamide
- (c) 5H-dibenzo[b,g]oxepine-5-carboxamide
- (d) 5H-dibenzo[b,d]azepine-5-carboxamide

Correct Answer : (b) 5H-dibenzo[b,f]azepine-5-carboxamide

24. Which of the following alkaloids is derived from tyrosine

- (a) Quinine
- (b) Morphine
- (c) Atropine
- (d) Vinca alkaloid

Correct Answer : (b) Morphine

25. Carvedilol is a mixture of how many enantiomers

- (a) 2
- (b) 4
- (c) 6
- (d) 8

Correct Answer : (a) 2

26. Why is DSS used instead of TMS as the ^1H chemical shift reference for a biological sample

- (a) TMS can denature proteins
- (b) The chemical shift of TMS is dependent on temperature
- (c) DSS has a higher solubility in aqueous solution
- (d) DSS is widely used in protein sample preparation

Correct Answer : (c) DSS has a higher solubility in aqueous solution

27. Which international clinical trial is launched by WHO and partners to help find an effective treatment for COVID-19

- (a) Solidarity
- (b) Dissidence
- (c) Severance
- (d) Dissension

Correct Answer : (a) Solidarity

28. Lupron implant is an example of

- (a) Erodible implant
- (b) Implant pump
- (c) Both (A) and (B)
- (d) None of these

Correct Answer : (a) Erodible implant

29. Full form of COVID-19 is

- (a) Co-viral disease-19
- (b) Corona virus disorder-19
- (c) Corona Virus disease-19
- (d) Corona Virus deficiency syndrome-19

Correct Answer : (c) Corona Virus disease-19

30. For maximum bioavailability, drug should be targeted at

- (a) Stomach
- (b) Small intestine
- (c) Large intestine
- (d) Colon

Correct Answer : (b) Small intestine

31. Which of the following virus is not named on the basis of geographical location

- (a) MERS and Ebola
- (b) Zika and West Nile virus
- (c) Marburg
- (d) Rubella

Correct Answer : (d) Rubella

32. Hand-foot syndrome (palmar-plantar erythrodysesthesia) is NOT caused by

- (a) 5-fluorouracil
- (b) capecitabine
- (c) mitomycin
- (d) doxorubicin

Correct Answer : (c) mitomycin

33. Cimetidine acts by blocking

- (a) Na-H-ATPase
- (b) Na-K ATPase
- (c) H₂ receptor
- (d) H₁ receptor

Correct Answer : (c) H₂ receptor

34. Nerve gases used as warfare agent is/are

- (a) SARIN
- (b) TABUN
- (c) SOMAN
- (d) All of the above

Correct Answer : (d) All of the above

35. One letter symbol of Arginine is

- (a) K
- (b) A
- (c) R
- (d) D

Correct Answer : (c) R

36. First Indian pharma company

- (a) Alembic Chemical Works
- (b) Bengal Chemicals and Pharmaceuticals
- (c) Cipla
- (d) Dabur India Ltd

Correct Answer : (b) Bengal Chemicals and Pharmaceuticals

37. For a drug following linear pharmacokinetics what would be the change in t_{\max} if the oral dose of the drug is doubled

- (a) t_{\max} remains unchanged
- (b) t_{\max} doubled
- (c) t_{\max} decreased to half
- (d) Can not be predicted

Correct Answer : (a) t_{\max} remains unchanged

38. Which isomer(s) of xylene will exhibit 3 peaks in the ^{13}C NMR spectrum

- (a) o-xylene
- (b) m-xylene
- (c) p-xylene
- (d) All of the above

Correct Answer : (c) p-xylene

39. Which of the following drug transport mechanism across the cell membrane is bidirectional in nature

- (a) Passive diffusion
- (b) Active transport
- (c) Pinocytosis
- (d) Facilitated diffusion

Correct Answer : (c) Pinocytosis

40. A thermodynamically-controlled reaction will yield predominantly the

- (a) product whose formation requires the smallest free energy of activation.
- (b) more/most stable product
- (c) product that can be formed in the fewest steps.
- (d) product that is formed at the fastest rate.

Correct Answer : (b) more/most stable product

41. Dielectric constant of water at 25°C is

- (a) 1.0006
- (b) 2.25
- (c) 78.2
- (d) 100

Correct Answer : (c) 78.2

42. Medical devices are notified as DRUGS under Drugs & Cosmetics Act. Schedule for Medical devices GMP requirements are specified under

- (a) Schedule M III
- (b) Schedule M-II
- (c) Schedule M-I
- (d) Schedule M

Correct Answer : (a) Schedule M III

43. which of the following is not true for a patent

- (a) Monopoly
- (b) Exclusivity
- (c) Disclosure

(d) Indefinite term

Correct Answer : (d) Indefinite term

44. Margaret Dayhoff developed the first protein sequence database named as

- (a) SWISS PORT
- (b) Protein sequence databank
- (c) Protein data bank PDB
- (d) Atlas of protein sequence and structure

Correct Answer : (d) Atlas of protein sequence and structure

45. Haloperidol belongs to

- (a) Azaspirodecanedione antidepressant
- (b) Opioid analgesic
- (c) Butyrophenone antipsychotic
- (d) Quinoline antipsychotic

Correct Answer : (c) Butyrophenone antipsychotic

46. Acute decrease in response to a drug after initial or repeated intake is known as which in the following drug interactions. <https://www.pyqonline.com>

- (a) Additive
- (b) Permissive
- (c) Synergetic
- (d) tachyphylaxis

Correct Answer : (d) tachyphylaxis

47. Which of the following is an unusual feature of the replication cycle in corona viruses

- (a) The RNAs all terminate in a common 3' and produce nested set transcripts
- (b) They take advantage of recombination with the long RNA genome

- (c) They are not highly mutable
- (d) They use capped cellular mRNAs

Correct Answer : (a) The RNAs all terminate in a common 3' and produce nested set transcripts

48. Original X company sells its product under the name 'Phido'. Company Y begins to market an identical product under the name 'Fido'. This is case of

- (a) copyright infringement.
- (b) patent infringement.
- (c) trademark infringement.
- (d) none of the above.

Correct Answer : (c) trademark infringement.

49. In Kjeldahl method, sample containing nitrogen is digested with

- (a) Conc. NaOH
- (b) Fuming HNO_3
- (c) Conc. H_2SO_4
- (d) Strong NH_3 solution

Correct Answer : (c) Conc. H_2SO_4

50. Identify the fifth generation cephalosporin.

- (a) Ceftaroline
- (b) Cefadroxil
- (c) Cefotetan
- (d) Cefipime

Correct Answer : (a) Ceftaroline

51. Who is CEO of Dr. Reddy's Lab

- (a) K. Anji Reddy

- (b) Erez Israeli
- (c) Ibrahim Alkazi
- (d) Israel Makov

Correct Answer : (b) Erez Israeli

52. One degree Celsius is how many degrees Kelvin

- (a) 273.15 K
- (b) 274.15 K
- (c) 33.8 K
- (d) 1

Correct Answer : (b) 274.15 K

53. Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) is a campaign launched by

- (a) Prime Minister's Office
- (b) Department of Health and Family Welfare, Ministry of Health and Family Welfare
- (c) Department of Health Research, Ministry of Health and Family Welfare
- (d) Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers

Correct Answer : (d) Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers

54. The plot of $1/V$ versus $1/[S]$ where V is rate of enzymatic reaction and $[S]$ is substrate concentration is known as

- (a) Michaelis-Menton plot
- (b) Lineweaver-Burk plot
- (c) Hanes-Woolf plot
- (d) Eadie-Hofstee plot

Correct Answer : (b) Lineweaver-Burk plot

55. Camphor contains how many isoprene units

- (a) One
- (b) Two
- (c) Three
- (d) Four

Correct Answer : (b) Two

56. A diabetic patient developed cellulites due to staphylococcus aureus, which was found to be methicillin resistant on the antibiotic sensitivity testing. All the following antibiotics will be appropriate EXCEPT

- (a) Vancomycin
- (b) Imipenem
- (c) Teicoplanin
- (d) Linezolid

Correct Answer : (b) Imipenem

57. Which of the protein in corona virus is responsible for attachment to host cell

- (a) Spike
- (b) Membrane
- (c) Envelope
- (d) Nucleocapsid

Correct Answer : (a) Spike

58. Lindlars catalyst is

- (a) Platinum chloride + calcium carbonate + lead acetate
- (b) Palladium chloride + calcium carbonate+ lead acetate
- (c) Chromic acid + lead acetate
- (d) palladium(iii) bis(acetylacetonate)

Correct Answer : (b) Palladium chloride + calcium carbonate+ lead acetate

59. Three friends A, B, C invested in a business in the ratio of 4:5:11. The investment 1000 rupees. What will be the profit earned by A out of the total profit of Rs 100 earned within 2 days

- (a) 20
- (b) 25
- (c) 55
- (d) 45

Correct Answer : (a) 20

60. Who is the current DCGI

- (a) VG Somani
- (b) S.Eswara Reddy
- (c) P. B. N. Prasad
- (d) Ravi Kant Sharma

Correct Answer : (a) VG Somani

61. What is true about Autophagy

- (a) can be considered a cell survival pathway as well as a cell death pathway
- (b) might be activated when AMP-dependent kinase (AMPK) is inhibited
- (c) could release branched chain amino acids from muscle
- (d) is associated with movement of phosphatidyl serine to the outer leaflet

Correct Answer : (a) can be considered a cell survival pathway as well as a cell death pathway

62. Dr. Reddy's Lab will conduct Phase III studies of _____ vaccine in the country

- (a) Sputnik V
- (b) Moderna
- (c) Sinovac
- (d) IQVIA

Correct Answer : (a) Sputnik V

63. Jarsch Herxheimer reaction is due to

- (a) *Borrelia spirochetes*
- (b) *Plasmodium vivax*
- (c) Herpes Virus
- (d) *Yersinia pestis*

Correct Answer : (a) *Borrelia spirochetes*

64. Financial status of the company at any given time can be analysed with

- (a) Trading account
- (b) Profit & Loss statement
- (c) Balance Sheet
- (d) Cash Book

Correct Answer : (c) Balance Sheet

65. Which heterocyclic rings are present in nicotine

- (a) pyrimidine and pyrrole
- (b) pyridine and pyrrolidine
- (c) pyrimidine and imidazole
- (d) Piperidine and pyrrolidine

Correct Answer : (b) pyridine and pyrrolidine

66. As per USP, weight variation limit for tablet of 250 mg is

- (a) 10%
- (b) 7.50%
- (c) 5%
- (d) 1.50%

Correct Answer : (b) 7.50%

67. Methotrexate toxicity can be prevented by

- (a) Leucovorin
- (b) Mesna
- (c) Oncovin
- (d) $\text{Na}_2\text{S}_2\text{O}_3$

Correct Answer : (a) Leucovorin

68. Cell mediated immunity is provided by all of the following EXCEPT

- (a) Macrophages
- (b) NK-cells
- (c) T-lymphocytes
- (d) B-lymphocytes

Correct Answer : (d) B-lymphocytes

69. MPTP a prodrug, is converted to MPP⁺ by enzyme

- (a) MAO A
- (b) MAO B
- (c) DAO
- (d) AChE

Correct Answer : (b) MAO B

70. Which of the following phenomenon in cell membrane is energetically expensive and does not occur spontaneously

- (a) the rotation of membrane proteins
- (b) the rotation of phospholipids
- (c) the lateral diffusion of phospholipids
- (d) the flip flop movement of phospholipids

Correct Answer : (d) the flip flop movement of phospholipids

71. My mother is twice as old as my brother. I am five years younger than my brother but three years older than my sister. If my sister is twelve years of age how old is my mother

- (a) 50
- (b) 40
- (c) 30
- (d) 24

Correct Answer : (b) 40

72. An essential amino acid is one that

- (a) is readily available in the body.
- (b) can be synthesized by body.
- (c) is essentially easy to synthesize.
- (d) cannot be synthesized by body.

Correct Answer : (d) cannot be synthesized by body.

73. Which amino acid gives max UV absorption

- (a) tryptophan
- (b) tyrosine
- (c) phenylalanine
- (d) proline

Correct Answer : (a) tryptophan

74. Functional group determination can be done with

- (a) IR spectroscopy
- (b) NMR spectroscopy
- (c) UV spectroscopy

(d) Mass spectrometry

Correct Answer : (a) IR spectroscopy

75. Which of the following is a polysaccharide vaccine

(a) anthrax vaccine

(b) rabies vaccine

(c) hepatitis A

(d) Hib vaccine

Correct Answer : (d) Hib vaccine

76. A person travelled towards west 5 km, turned left and traveled 3 km, turned right and traveled 9 km. He then traveled North 3 km, How far was 'A' from the starting point now.

(a) 6

(b) 14

(c) 15

(d) 20

Correct Answer : (b) 14

77. Who is the chairman of Fifteenth Finance Commission

(a) Shaktikanta Das

(b) N.K.Sing

(c) Gita Gopinath

(d) Viral Acharya

Correct Answer : (b) N.K.Sing

78. Synonym of abeyance

(a) reserve

(b) depth

- (c) abysmal
- (d) abstinence

Correct Answer : (a) reserve

79. Bicuculine acts as

- (a) Antagonist of GABAA
- (b) Agonist of GABAA
- (c) Agonist of nicotinic receptors
- (d) Agonist of NMDA receptor

Correct Answer : (a) Antagonist of GABAA

80. Which of the following is a water soluble base

- (a) Soft paraffin
- (b) Hydroxyethylcellulose
- (c) Cocoa butter
- (d) Vaseline

Correct Answer : (b) Hydroxyethylcellulose

81. Remdesivir was originally created and developed in 2009 for hepatitis C infection by

- (a) Gilead Sciences
- (b) Takeda
- (c) Toyama Chemical
- (d) Novartis

Correct Answer : (a) Gilead Sciences

82. If the aim of these investigations is to determine the stability of a drug after opening of the package what are the conditions

- (a) 40°C, 75 RH 0-6 months

- (b) Room temp, 0-3 month
- (c) Room temp, 0-24 hours
- (d) Room temp, 0-4 weeks

Correct Answer : (d) Room temp, 0-4 weeks

83. Benzoic acid to benzoyl chloride conversion is achieved by

- (a) Cl_2 , $h\nu$
- (b) SO_2 , Cl_2
- (c) PCl_5
- (d) Cl_2 , H_2O

Correct Answer : (c) PCl_5

84. Mr. X took a loan for 6 years at the rate of 5% p.a. S.I. if the total interest paid was Rs. 1230 the principal amount was

- (a) Rs. 4100
- (b) Rs. 4920
- (c) Rs. 5000
- (d) Rs. 5300

Correct Answer : (a) Rs. 4100

85. A simple interest on a certain sum for 3 years is Rs. 225 and the compound interest on the same sum for 2 years is Rs. 165. Find the rate percent per annum

- (a) 20%
- (b) 2.5%
- (c) 5%
- (d) 15%

Correct Answer : (a) 20%

86. A person gets one rupee for each successful target hitting, and one rupee is lost for each missed target. If the total chances taken by the person are 100 and earned rupees are 30 what is the number of successful attempts

- (a) 70
- (b) 60
- (c) 75
- (d) 65

Correct Answer : (d) 65

87. Concentration given in gram equivalent per volume of solution it is known as

- (a) Molality
- (b) Molarity
- (c) Normality
- (d) Mole fraction

Correct Answer : (c) Normality

88. Which of the following amino acids is not necessary to be taken in the diet

- (a) histidine
- (b) threonine
- (c) serine
- (d) lysine

Correct Answer : (c) serine

89. Self assembled closed colloidal structures composed of lipid bilayers are called as

- (a) dendrimers
- (b) polymers
- (c) micelles
- (d) liposomes

Correct Answer : (d) liposomes

90. Which of the following drug delivery systems comprises a hydrophobic core and a hydrophilic surface

- (a) Liposomes
- (b) Micelles
- (c) Reverse micelles
- (d) None of the above

Correct Answer : (b) Micelles

91. Tamoxifen is classified as

- (a) Antiprogestin
- (b) Antiandrogen
- (c) Antiestrogen
- (d) Androgen

Correct Answer : (c) Antiestrogen

92. Among the butane conformers, which occur at energy minima on a graph of potential energy versus dihedral angle

- (a) Synperiplanar
- (b) Antiperiplanar
- (c) Gauche
- (d) Eclipsed

Correct Answer : (b) Antiperiplanar

93. Which of the following antiflatulents is usually added to antacid

- (a) Alginic acid
- (b) Sucralfate
- (c) Simethicone
- (d) Misoprostol

Correct Answer : (c) Simethicone

94. The dihydropyridines block which of the following type of calcium channels?

- (a) L type voltage gated channels
- (b) T type voltage gated channels
- (c) N type voltage gated channels
- (d) Ligand gated calcium channels

Correct Answer : (a) L type voltage gated channels

95. Commonly, which reaction on the histones leads to the silencing of genes?

- (a) phosphorylation
- (b) methylation
- (c) acetylation
- (d) demethylation

Correct Answer : (b) methylation

96. Baby shampoo contains which of the following surfactant as detergent?

- (a) Sodium lauryl sulphate
- (b) Cationic surfactant
- (c) Amphoteric imidazole derivatives (Miranda)
- (d) Alkyl sulfonates

Correct Answer : (c) Amphoteric imidazole derivatives (Miranda)

97. If investment of Rs. X is done on which simple interest is given. If the amount doubles in years, what would be the rate of simple interest per annum? <https://www.pyqonline.com>

- (a) 10
- (b) 12.5
- (c) 20

(d) 25

Correct Answer : (c) 20

98. Find the synonym for 'chimera'.

(a) chimney

(b) protest

(c) illusion

(d) panache

Correct Answer : (c) illusion

99. Which of the following rings does ergoline contain?

(a) indolo [4,3-f g]quinoline

(b) indoloquinazoline

(c) β -carboline

(d) indolonaphthalene

Correct Answer : (a) indolo [4,3-f g]quinoline

100. Which of the following cytokines is associated with pulmonary inflammation related with brain death?

(a) IL-2

(b) IL-6

(c) IL-5

(d) IL-8

Correct Answer : (b) IL-6

101. Who has been appointed as the head of the committee formed by the government to address the issues of drug security in the country in the context of Novel Corona virus outbreak

(a) Vashishtha Narayan Singh

(b) Gita Mittal

- (c) R.K. Mathur
- (d) Eswara Reddy

Correct Answer : (d) Eswara Reddy

102. Recently ranitidine, metformin were in news due to presence of which impurity?

- (a) Nitrosodimethylamine
- (b) Methylnitrile
- (c) Diethylene glycol
- (d) 4-aminobiphenyl

Correct Answer : (a) Nitrosodimethylamine

103. Fries rearrangement reaction of phenol ester leads to the formation which type of product

- (a) Alkene
- (b) Aldehyde
- (c) Alcohol
- (d) Ketone

Correct Answer : (d) Ketone

104. In which medium Favorskii rearrangement does occur?

- (a) Neutral
- (b) Acidic
- (c) Basic
- (d) Amhiprotic

Correct Answer : (c) Basic

105. Glycine and proline are the most abundant amino acids in the structure of

- (a) Hemoglobin
- (b) Myoglobin

- (c) Insulin
- (d) Collagen

Correct Answer : (d) Collagen

106. Which of the following is an opioid-like agonist?

- (a) Phenobarbital
- (b) Diltiazem
- (c) Pemoline
- (d) Propoxyphene

Correct Answer : (d) Propoxyphene

107. Which of the following compounds will not absorb UV radiations?

- (a) Chloral hydrate
- (b) Salicylic acid
- (c) Acetanalide
- (d) Chloramphenicol

Correct Answer : (a) Chloral hydrate

108. Which of the following is not aromatic?

- (a) Thiophene
- (b) Dioxane
- (c) Pyrrole
- (d) Isoxazole

Correct Answer : (b) Dioxane

109. Alcohol and carboxylic acid in presence of dehydrating agent gives which compounds?

- (a) Amides
- (b) Esters

(c) β -hydroxyketone

(d) Anhydride

Correct Answer : (b) Esters

110. Considering 'fluid mosaic model' of cell membrane, which one of the following statements is CORRECT with respect to the movement of lipids and proteins from one lipid monolayer to the other i.e. flip-flop movement?

(a) Neither lipids, nor proteins can flip-flop

(b) Both lipids and proteins can flip-flop

(c) While lipids can rarely flip-flop, proteins can not

(d) While proteins can flip-flop, lipids can not

Correct Answer : (c) While lipids can rarely flip-flop, proteins can not

111. How many chiral centers are present in one molecule of camphor?

(a) 0

(b) 1

(c) 2

(d) 3

Correct Answer : (c) 2

112. Cilostazol, a drug used in the treatment of intermittent claudication, inhibits which phosphodiesterase enzyme for its clinical effect?

(a) PDE3

(b) PDE4

(c) PDE5

(d) PDE6

Correct Answer : (a) PDE3

113. Which of the following antiplatelet drugs is a reversible inhibitor of ADP receptors?

- (a) Clopidogrel
- (b) Prasugrel
- (c) Ticagrelor
- (d) All of the above

Correct Answer : (c) Ticagrelor

114. The most essential fatty acid is

- (a) Linolenic acid
- (b) Oleic acid
- (c) Arachidonic acid
- (d) Palmitic acid

Correct Answer : (a) Linolenic acid

115. Ticlopidine acts as

- (a) antagonist of P2Y₁₂ receptor
- (b) agonist of P2Y₁₂ receptor
- (c) agonist of GPIIb/IIIa receptor
- (d) antagonist of GPIIb/IIIa receptor

Correct Answer : (a) antagonist of P2Y₁₂ receptor

116. Carbonyl group can be reduced to alkane with the help of catalyst

- (a) H₂N-NH₂, KOH, heat
- (b) Zn/Hg HCl
- (c) LiAlH₄
- (d) P, Q and R

Correct Answer : (a) H₂N-NH₂, KOH, heat

117. When the velocity of enzyme activity is plotted against substrate concentration, which of the following is obtained

- (a) Parabola
- (b) Hyperbolic Curve
- (c) Straight line with positive slope
- (d) Straight line with negative slope

Correct Answer : (b) Hyperbolic Curve

118. The active site of chymotrypsin consists of a catalytic triad of which of the following amino acid residues

- (a) Serine, histidine and glutamate
- (b) Threonine, histidine and aspartate
- (c) Serine, histidine and aspartate
- (d) Methionine, histidine and aspartate

Correct Answer : (c) Serine, histidine and aspartate

119. Which of the following types of lipid aggregates has maximum stability

- (a) Micelles
- (b) Bilayer
- (c) Liposome
- (d) Myelin sheath

Correct Answer : (c) Liposome

120. Which of the following is choline containing lipid

- (a) Phosphatidylserine
- (b) Phosphatidylglycerol
- (c) Phosphatidylethanolamine
- (d) Sphingomyelin

Correct Answer : (d) Sphingomyelin

121. Volhard's method of chloride ion determination

- (a) is back titration with ammonium thiocyanate
- (b) is direct titration ammonium thiocyanate
- (c) uses dichlorofluorescein as indicator
- (d) uses potassium chromate

Correct Answer : (a) is back titration with ammonium thiocyanate

122. Which of the following is an ergot derivative

- (a) Bergapten
- (b) Bretylium
- (c) Bupropion
- (d) Bromocriptine

Correct Answer : (d) Bromocriptine

123. Pramipexole is

- (a) Antipsychotic
- (b) Antidepressant
- (c) Anthelmintic
- (d) Antiparkinsonian

Correct Answer : (d) Antiparkinsonian

124. Single letter symbol for arginine is

- (a) K
- (b) D
- (c) R
- (d) G

Correct Answer : (c) R

125. Penicillin degradation is prevented at pH

- (a) 4
- (b) 5
- (c) 6
- (d) 8

Correct Answer : (c) 6

126. Which of the following titration method should be protected from light

- (a) Volhard
- (b) Adsorption
- (c) Mohr
- (d) Gay Lussac

Correct Answer : (d) Gay Lussac

127. If the rate constant for a first order reaction is k , the time(t) required for the completion of 99% of the reaction is given by

- (a) $t = 4.606/k$
- (b) $t = 2.303/k$
- (c) $t = 0.693/k$
- (d) $t = 6.909/k$

Correct Answer : (a) $t = 4.606/k$

128. Assessment, control, communication and review of risks to the quality of the drug product across the product life cycle is

- (a) QbD
- (b) QRM
- (c) PAT
- (d) QTPP

Correct Answer : (b) QRM

129. Which one of the following is a Histamine H1-receptor antagonist?

- (a) 4-(5H-dibenzola,d] cyclohepten-5-ylidene)-1-methyl pyridine hydrochloride
- (b) 4-(5H-dibenzola,d] cyclohepten-5-ylidene)-1-methyl pyrimidine hydrochloride
- (c) 4-(5H-dibenzo[a,d] cyclohepten-5-ylidene)-1-methyl piperidine hydrochloride
- (d) 4-(5H-dibenzoja,d] cycloheptane-5-ylidene)-1-methyl piperidine hydrochloride

Correct Answer : (c) 4-(5H-dibenzo[a,d] cyclohepten-5-ylidene)-1-methyl piperidine hydrochloride

130. QbD is described in ICH guidelines

- (a) Q8 Part I
- (b) Q8 Part II
- (c) Q9
- (d) Q10

Correct Answer : (a) Q8 Part I

131. Which is the correct long term stability condition for zone IVb?

- (a) $40^{\circ}\text{C} \pm 2^{\circ}\text{C}/75\% \pm 5\%$
- (b) $30^{\circ}\text{C} \pm 2^{\circ}\text{C}/65\% \pm 5\%$
- (c) $30^{\circ}\text{C} \pm 2^{\circ}\text{C}/75\% \pm 5\%$
- (d) None

Correct Answer : (c) $30^{\circ}\text{C} \pm 2^{\circ}\text{C}/75\% \pm 5\%$

132. Which medicine works by binding to the glycoprotein IIb/IIIa receptor, reversibly inhibiting platelet aggregation?

- (a) Clopidogrel
- (b) Warfarin
- (c) Ticlopidine

(d) Eptifibatide

Correct Answer : (a) Clopidogrel

133. Which is the most stable structure of 1-isopropyl-4-methylcyclohexane?

- (a) Both groups axial
- (b) Both groups equatorial
- (c) Bigger group axial smaller equatorial
- (d) Bigger group equatorial smaller group axial

Correct Answer : (b) Both groups equatorial

134. Nuclei having either the number of protons or neutrons as odd have _____ spin.

- (a) Integral spin
- (b) Half integral spin
- (c) Zero spin
- (d) Positive spin

Correct Answer : (b) Half integral spin

135. Only percent of the effluent of the liquid chromatography must be introduced in the mass spectrometer

- (a) 1-20%
- (b) 1-15%
- (c) 1-5%
- (d) Below 1%

Correct Answer : (c) 1-5%

136. In AAS, ionization of analyte atoms in flame/plasma can be suppressed by

- (a) EDTA or other complexing agents
- (b) Addition of KCl to the matrix

- (c) Addition of oxyanions such as sulfate or phosphate
- (d) Internal standards methods

Correct Answer : (b) Addition of KCl to the matrix

137. Furan is aromatic. What is the value of Hukel's n in it

- (a) 1
- (b) 2
- (c) 4
- (d) 6

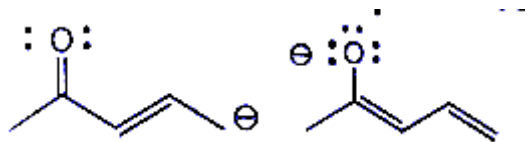
Correct Answer : (a) 1

138. Which feature in the ^1H NMR spectrum provides information about the electronic environment of the protons in a compound

- (a) splitting
- (b) chemical shift
- (c) integral
- (d) number of signals

Correct Answer : (b) chemical shift

139. What is the relationship between the following two structures?



- (a) tautomers
- (b) stereoisomers
- (c) resonance structures
- (d) constitutional isomers, but not tautomers

Correct Answer : (c) resonance structures

140. Systemic clearance (CLs) is related with

- (a) Only the concentration of substances in plasma
- (b) Only the elimination rate constant
- (c) Volume of distribution, half life and elimination rate constant
- (d) Bioavailability and half life

Correct Answer : (c) Volume of distribution, half life and elimination rate constant

141. Reversible uncompetitive enzyme inhibition occurs when the inhibitor binds to

- (a) enzyme-substrate complex (ES) only
- (b) free enzyme at substrate binding site
- (c) enzyme at a site different from substrate binding site
- (d) enzyme-substrate complex but at a site different from substrate binding site

Correct Answer : (a) enzyme-substrate complex (ES) only

142. The observations of study of hydrolysis of a drug in an aqueous solution were plotted as a logarithm of the amount of drug remaining (on Y-axis) against time (on X-axis) and was found to be linear. What might be the correct inference?

- (a) The reaction is zero-order
- (b) The slope is $2.303/k$.
- (c) The units of k are $\text{concentration}^{-1} \text{ time}^{-1}$.
- (d) The half-life is $t_{1/2} = 0.693/k$.

Correct Answer : (d) The half-life is $t_{1/2} = 0.693/k$.

143. Attention deficit hyperactivity disorder (ADHD) may be treated with behavior management, educational programs, parental counseling and medications. Which of the following medications is NOT generally used in the treatment of ADHD in children

- (a) methylphenidate
- (b) dexamphetamine
- (c) imipramine
- (d) clonazepam

Correct Answer : (d) clonazepam

144. Who is Health Minister in Govt. of India (Health & Family Welfare Department)

- (a) Smriti Irani
- (b) Dr. Harsh Vardhan
- (c) Shri Sanjeeva Kumar
- (d) Rajesh Tope

Correct Answer : (b) Dr. Harsh Vardhan

145. Phototoxicity shown by all EXCEPT

- (a) Doxycycline
- (b) Chlorpromazine
- (c) Thiazide and quinolones
- (d) Rosiglitazone

Correct Answer : (d) Rosiglitazone

146. Phenolphthalein is used as indicator in acid base titration because it shows colors as

- (a) pH less than 1, orange.
- (b) pH 0-8, and above 13 colorless.
- (c) pH-8-13 pink
- (d) All of the above

Correct Answer : (d) All of the above

147. The optimal pH range for the Karl Fischer reaction to occur with Karl Fischer reagent is

- (a) 2 to 6
- (b) 5 to 8
- (c) 8 to 12
- (d) 12 to 14

Correct Answer : (b) 5 to 8

148. Ketone on reduction gives

- (a) Primary alcohol
- (b) Secondary alcohol
- (c) Aldehyde
- (d) Carboxylic acid

Correct Answer : (b) Secondary alcohol

149. Which of the following functional groups is likely to be present in a molecule that has peaks in the infrared spectrum at $1000\text{-}1250\text{ cm}^{-1}$ (strong), but does not have peaks at $3200\text{-}365$ or $1630\text{-}1820\text{ cm}^{-1}$?

- (a) Alcohol
- (b) Aldehyde or ketone
- (c) Ether
- (d) Ester

Correct Answer : (c) Ether

150. Which is India's first public sector enterprise

- (a) Air-India
- (b) Indian Telephone Industries (ITI)
- (c) Bharat Sanchar Nigam Limited (BSNL)
- (d) Oil and Natural Gas Corporation

Correct Answer : (b) Indian Telephone Industries (ITI)

151. The term that describes spreading of cancer is

- (a) Malignancy
- (b) Invasiveness
- (c) Metastasis

(d) Microstasis

Correct Answer : (c) Metastasis

152. Which is not used in treatment of asthma

(a) Budesonide

(b) Isoniazid

(c) Cromolyn sodium

(d) Zafirlukast

Correct Answer : (b) Isoniazid

153. Aluminium tertiary butoxide in ethanol as solvent is used in

(a) Oppenaur oxidation

(b) Clemmensen reduction

(c) MPV reduction

(d) Wolf Kishner reduction

Correct Answer : (c) MPV reduction

154. Calcium channel blockers can be divided into three classes based on their chemical structure. Which of the following is not a class of calcium channel blockers? <https://www.pyqonline.com>

(a) Aryloxyethanolamine

(b) Phenylalkylamines

(c) Dihydropyridines

(d) Benzothiazepines

Correct Answer : (a) Aryloxyethanolamine

155. When granules stick to die what may be a remedy?

(a) External lubrication

(b) Drying of granules

- (c) Decrease the dwell time
- (d) Increase in binder quantity

Correct Answer : (a) External lubrication

156. New education system envisages the education system of pattern

- (a) $5 + 5 + 2$
- (b) $5 + 3 + 3 + 4$
- (c) $10 + 2 + 3$
- (d) $10 + 2 + 4$

Correct Answer : (b) $5 + 3 + 3 + 4$

157. Under what reaction conditions does the electrophilic chlorination of aromatic compounds usually occur

- (a) NaCl , CH_3OH
- (b) $\text{Cl}_2/\text{AlCl}_3$
- (c) Cl_2/CCl_4
- (d) NaCl , EtOH

Correct Answer : (b) $\text{Cl}_2/\text{AlCl}_3$

158. Which of the following is the strongest activating group in electrophilic aromatic substitution reactions

- (a) $-\text{OCH}_3$
- (b) $-\text{N}(\text{CH}_3)_2$
- (c) $-\text{CO}_2\text{CH}_3$
- (d) $-\text{NO}_2$

Correct Answer : (b) $-\text{N}(\text{CH}_3)_2$

159. Which of the following compounds has the most signals in the noise-decoupled ^{13}C NMR spectrum

- (a) o-dibromobenzene
- (b) m-dibromobenzene
- (c) p-dibromobenzene
- (d) 1,3,5-tribromobenzene

Correct Answer : (b) m-dibromobenzene

160. Antipsychotic drugs work by blocking post-synaptic dopamine __ receptors, particularly in the mesolimbic-mesocortical pathway

- (a) D4
- (b) D5
- (c) D2
- (d) D1

Correct Answer : (c) D2

161. Artificial moon is being developed by which country

- (a) USA
- (b) Japan
- (c) China
- (d) KSA

Correct Answer : (c) China

162. The reduced dose requirement of isoniazid is observed in patients who are

- (a) Fast acetylator
- (b) Slow acetylator
- (c) G6PD deficient
- (d) CYP450 induced

Correct Answer : (b) Slow acetylator

163. 3,5-dinitrobenzoic acid will give how many peaks in HNMR

- (a) 4
- (b) 3
- (c) 2
- (d) 1

Correct Answer : (b) 3

164. Which of the following drugs works as a proteasome inhibitor

- (a) Nilotinib
- (b) Infliximab
- (c) Bortezomib
- (d) Filgrastim

Correct Answer : (c) Bortezomib

165. All of the following are typical cholinergic effects EXCEPT

- (a) a decrease in heart rate and contraction of bronchial muscle
- (b) a decrease in conduction velocity through the AV node
- (c) an increase in sweat secretion
- (d) an increase in pupillary diameter

Correct Answer : (d) an increase in pupillary diameter

166. Agarose is a polysaccharide, composed of

- (a) D-galactose and agarobiose
- (b) D-glucuronic acid and sulfated D-glucuronic acid
- (c) D-glucuronic acid and glucosamine
- (d) D-galactose and 3,6-anhydro-L-galactopyranose

Correct Answer : (d) D-galactose and 3,6-anhydro-L-galactopyranose

167. Which of the following forces is dictated by entropic effects

- (a) atom-atom repulsion based on the Pauli Exclusion principle
- (b) electrostatic interactions
- (c) hydrophobic interactions
- (d) charge-transfer interactions

Correct Answer : (c) hydrophobic interactions

168. Which of the following functional groups is a classical isostere for $-\text{CH}=?$

- (a) $-\text{CH}_3$
- (b) $-\text{NH}-$
- (c) $-\text{N}=?$
- (d) COOH

Correct Answer : (c) $-\text{N}=?$

169. As much as 70 per cent of all the APIs needed by India to manufacture drugs come from

- (a) China
- (b) India
- (c) Taiwan
- (d) Belgium

Correct Answer : (a) China

170. Alogliptin, saxagliptin, vildagliptin have a structural feature common that is responsible for reaction with DPP-4. What is that

- (a) Nitrilo group
- (b) β -aminoacid group
- (c) Adamantane ring
- (d) Pyrrolidine

Correct Answer : (a) Nitrilo group

171. The approximate δ value of methyl proton in ^1H -NMR is

- (a) 1.3
- (b) 1.5
- (c) 0.9
- (d) 2.5

Correct Answer : (c) 0.9

172. 100 proof ethanol means it is

- (a) 100%
- (b) 75%
- (c) 60%
- (d) 50%

Correct Answer : (d) 50%

173. Select the drug indicated for extended drug resistance tuberculosis (XDR TB)

- (a) Linezolid
- (b) Moxifloxacin
- (c) Tyrocidin
- (d) Azithromycin

Correct Answer : (a) Linezolid

174. Which of the following quantities is not changed at different magnetic field strength

- (a) Chemical shift (in Hz)
- (b) Nuclear spin population in an energy state
- (c) J-coupling constant
- (d) Energy difference between two energy states of nuclei with nonzero spin quantum number

Correct Answer : (c) J-coupling constant

175. Choose the WRONG statement about mass spectrometry with ESI

- (a) It is very unlikely for adducts to occur during ESI.
- (b) ESI can be used for thermally labile analytes.
- (c) Adjusting the pH might enhance the generation of ions.
- (d) It has easy compatibility with LC

Correct Answer : (a) It is very unlikely for adducts to occur during ESI.

176. Which are the host cell membrane receptors that the outer coat protein gp-120 of HIV binds to are

- (a) CD4 and CCR5
- (b) pepsin and adenylyl cyclase
- (c) IP3 and cytochrome-c
- (d) bicoid and nanos

Correct Answer : (a) CD4 and CCR5

177. In LC-MS instrument, interface is applied between

- (a) LC column and mass separator
- (b) Injection and ion source
- (c) LC column and ion source
- (d) LC column and detector

Correct Answer : (c) LC column and ion source

178. Microwave spectroscopy is generally used to detect

- (a) Functional groups
- (b) Double bonds
- (c) Isotopes
- (d) Unpaired electrons

Correct Answer : (d) Unpaired electrons

179. Which of the following is not true

- (a) Magnets (200 MHz-900 MHz) are made of superconducting wires
- (b) Room temperature shims are in a liquid nitrogen vessel
- (c) Liquid helium and liquid nitrogen are needed to maintain the magnetic field
- (d) The magnet solenoid is in a liquid helium vessel

Correct Answer : (b) Room temperature shims are in a liquid nitrogen vessel

180. The purpose of shimming is to

- (a) Stabilize the static magnetic field
- (b) Obtain homogeneity of the static magnetic field
- (c) Find the lock frequency
- (d) Obtain homogeneity of the B1 field

Correct Answer : (b) Obtain homogeneity of the static magnetic field

181. Tyndall effect is shown by

- (a) particles in colloidal solution
- (b) particles in very fine suspension
- (c) Aerosols
- (d) All of the above

Correct Answer : (d) All of the above

182. Who is the founder of Lupin

- (a) Desh Bandhu Gupta
- (b) Khwaja Abdul Hamied
- (c) Dilip Shanghvi
- (d) Habil Khorakiwala

Correct Answer : (a) Desh Bandhu Gupta

183. Neutropenia is adverse effects of all of the following EXCEPT

- (a) Rituximab & Ganciclovir
- (b) Phenytoin & Clarithromycin
- (c) Propyl thiouracil & Carbamazepine
- (d) Clozapine & Colchicine

Correct Answer : (b) Phenytoin & Clarithromycin

184. The phenomenon of Fermi resonance is observed in

- (a) UV spectroscopy
- (b) IR spectroscopy
- (c) NMR spectroscopy
- (d) ESR spectroscopy

Correct Answer : (b) IR spectroscopy

185. Hydroxychloroquine is

- (a) 4-Amino quinoline
- (b) 8-Amino quinoline
- (c) 9-Aminoacridine
- (d) 8-Hydroxyquinoline

Correct Answer : (a) 4-Amino quinoline

186. Gibbs free energy (F) is defined as

- (a) $F = E - Ts$
- (b) $F = H - TS$
- (c) $F = H + TS$
- (d) $F = E + TS$

Correct Answer : (b) $F = H - TS$

187. Apart from TNF-alpha inhibitors that are the most commonly used biologic DMARDs, an IL-6 receptor antagonist has also been found to be effective in treating arthritis. An example of this class is. <https://www.pyqonline.com>

- (a) ankinra
- (b) leflunomide
- (c) rituximab
- (d) tocilizumab

Correct Answer : (d) tocilizumab

188. The time taken for 5% of a drug to decompose by first-order kinetics is

- (a) $0.022/k_1$
- (b) $0.051/k_1$
- (c) $0.105/k_1$
- (d) $k_1/0.051$

Correct Answer : (b) $0.051/k_1$

189. Based on their half-lives, which drug would you select to make a sustained release tablet

- (a) Metformin (6 hr)
- (b) Heroin (2-6 min)
- (c) Cocaine (50 mins)
- (d) Amlodipine (20 hrs)

Correct Answer : (a) Metformin (6 hr)

190. A partial theoretical support for the idea that more stable carbocations would be formed faster than less stable ones comes during regioselective addition of HCl to propene is provided by

- (a) the Hammond postulate
- (b) Markovnikov's rule

- (c) Saytzeff's rule
- (d) the Diels-Alder rule

Correct Answer : (a) the Hammond postulate

191. Mode of action of nerve gas is

- (a) blocking of acetylcholinesterase
- (b) blocking of serotonergic action
- (c) blocking of cholinergic action
- (d) blocking of noradrenergic action

Correct Answer : (a) blocking of acetylcholinesterase

192. The heating effect is used in the measurement of the wavelength of

- (a) X-rays
- (b) Infrared
- (c) Ultraviolet rays
- (d) Visible light

Correct Answer : (b) Infrared

193. Which form of the electrochemical measurement does not involve electrolysis

- (a) Coulometry
- (b) Voltametry
- (c) Amperometry
- (d) Potentiometry

Correct Answer : (d) Potentiometry

194. Who is the founder and CEO of Netmeds Marketplace Limited

- (a) Pradeep Dadha
- (b) Kalyan Krishnamurthy

(c) Byju Raveendran

(d) Ananth Narayanan

Correct Answer : (a) Pradeep Dadha

195. Which of the following are incorrectly paired

(a) gluconeogenesis: cortisol

(b) hepatic glycogenesis: insulin

(c) muscle glycogenolysis: epinephrine

(d) kaliuresis: aldosterone

Correct Answer : (d) kaliuresis: aldosterone

196. Probability always lies between

(a) 0 and infinite

(b) 0 and 1

(c) -infinite and + infinite

(d) 1 and infinite

Correct Answer : (b) 0 and 1

197. Friedel Crafts reaction is observed in

(a) Nitrobenzene

(b) Aniline

(c) Both A and B

(d) None of the above

Correct Answer : (d) None of the above

198. Over-expression of ____ in somatic cells leads to cell immortalization

(a) p53

(b) Cadherin

(c) Telomerase

(d) DNA ligase

Correct Answer : (c) Telomerase

199. Which of the following peptides is cyclic in nature

(a) Glutathione

(b) Gramicidin

(c) Met-enkephalin

(d) Dynorphin

Correct Answer : (b) Gramicidin

200. The term WIPO stands for

(a) World investment policy organization

(b) Wildlife investigation and policing organization

(c) World institute for prevention of organized crime

(d) World intellectual property organization

Correct Answer : (d) World intellectual property organization