NFAT Mock Questions
BSc Criminology and Forensic Science

1. Which specific layer of the atmosphere is primarily responsible for absorbing most of the Sun's harmful ultraviolet (UV) radiation?

   a) Troposphere
   b) Stratosphere
   c) Mesosphere
   d) Thermosphere

2. The "Operation Green" initiative by the Indian government is aimed at stabilizing the supply and prices of which three crops?

   a) Wheat, Rice, Pulses
   b) Potato, Onion, Tomato (TOP)
   c) Cotton, Sugarcane, Jute
   d) Maize, Soyabean, Mustard

3. Which international treaty, signed in 1987, is known for phasing out ozone-depleting substances?

   a) Kyoto Protocol
   b) Paris Agreement
   c) Montreal Protocol
   d) Vienna Convention

4. In the context of the Indian judiciary, what is the maximum permissible period for which a person can be held under preventive detention without the opinion of an Advisory Board?

   a) 1 month
   b) 2 months
   c) 3 months
   d) 6 months

5. What is the unique property of forensic light sources (ALS) that allows for the detection of latent fingerprints or body fluids without chemical treatment?

   a) Infrared absorption
   b) UV reflection
   c) Fluorescence
   d) X-ray diffraction

6. Which classical dance form of India is associated with the storytelling of Hindu epics and Puranas, often performed by male dancers?

   a) Bharatanatyam
   b) Kathak
   c) Kathakali
   d) Odissi

7. Which fundamental force is responsible for the phenomenon of radioactivity?

   a) Strong Nuclear Force
   b) Weak Nuclear Force
   c) Electromagnetic Force
   d) Gravitational Force

8. In the realm of cryptocurrencies, what is "Halving" a characteristic event of?

   a) Ethereum
   b) Ripple
   c) Bitcoin
   d) Dogecoin

9. The "Sagarmala Programme" by the Government of India primarily aims at the development of which sector?

a) Agriculture
b) Space technology
c) Ports and coastal shipping
d) Renewable energy

10. Which famous Indian monument was built by Emperor Shah Jahan in memory of his wife Mumtaz Mahal?

a) Red Fort
b) Humayun's Tomb
c) Qutub Minar
d) Taj Mahal

11. What is the approximate half-life of Carbon-14 (14C), used in radiocarbon dating for archaeological samples?

a) 57.3 years
b) 573 years
c) 5730 years
d) 57300 years

12. Which article of the Indian Constitution grants special provisions to the state of Jammu and Kashmir (prior to its abrogation in 2019, but a commonly asked historical fact)?

a) Article 370
b) Article 35A
c) Article 32
d) Article 368

13. What is the scientific term for the fear of open spaces?

a) Claustrophobia
b) Acrophobia
c) Agoraphobia
d) Nyctophobia

14. The term "BRICS" includes which five major emerging national economies?

a) Belgium, Russia, India, China, South Korea
b) Brazil, Russia, Indonesia, China, South Africa
c) Brazil, Russia, India, China, South Africa
d) Britain, Russia, India, Canada, Spain

15. In forensic ballistics, what is the term for the microscopic markings on a fired bullet that are unique to the barrel from which it was fired?

a) Caliber marks
b) Headstamp impressions
c) Rifling marks
d) Firing pin impressions

16. Which Indian state has the longest coastline?

a) Maharashtra
b) Tamil Nadu
c) Gujarat
d) Andhra Pradesh

17. What is the primary function of "Adipose tissue" in the human body?

a) Muscle contraction
b) Fat storage
c) Blood production
d) Nerve impulse transmission

18. Which international organization recently accepted the African Union (AU) as a permanent member?

a) United Nations (UN)
b) G7
c) G20
d) European Union (EU)

19. The concept of "Zero-Based Budgeting" gained prominence in which country before being adopted globally?

a) Japan
b) Germany
c) United States
d) India

20. Which famous scientist is credited with developing the theory of General Relativity?

a) Isaac Newton
b) Marie Curie
c) Albert Einstein
d) Stephen Hawking

21. In the context of forensic document examination, what is "ESDA" primarily used for?

a) Analyzing ink composition
b) Detecting indented writing
c) Determining the age of paper
d) Identifying typeface origin

22. What is the main objective of the "National Education Policy (NEP) 2020" in India?

a) To privatize all educational institutions
b) To increase the budget allocation for defense
c) To introduce major reforms in the Indian education system
d) To make higher education free for all

23. Which Indian state is the largest producer of coffee?

a) Kerala
b) Karnataka
c) Tamil Nadu
d) Andhra Pradesh

24. The term "Mitochondrial Eve" refers to:

a) The first human woman discovered in archaeological records
b) A hypothetical common ancestor from whom all living humans trace their ancestry through their mother's side
c) A specific type of ancient human-like species
d) The earliest known single-celled organism on Earth

25. What is the chemical formula of the compound commonly known as "laughing gas"?

a) CO2
b) N2O
c) CH4
d) H2O2

26. Shazo solves 5 questions per minute and starts solving at 2 pm. Razo solves 6 questions per minute and starts solving at 2.15 pm, the same day. When would they have solved same number of questions?

A) 3.40 pm
B) 3.35 pm
C) 3.45 pm
D) 3.30 pm

27. Which is the next letter in the given alphanumeric series?
B, 25, D, 23, G, 19, K, 13, ?

A) L
B) P
C) N
D) Q

28. What is the next number in the series given below?
3, 5, 5, 3, 7, 1, ?

A) 6
B) 12
C) 9
D) 8

29. How many people are there in the group, if it is known that while standing in a straight line A and E are at the ends and there are 3 people in between them?

A) 4
B) 7
C) 2
D) 5

30. 166) Fill in the blanks with correct option: Clean water is a precious commodity in _____ parts of the world.

A) little
B) neither
C) each
D) many

31. Johny introduced Selvia as the mother of his sister's brother. How is Selvia related to Johny?

A) Aunt
B) Niece
C) Mother
D) Sister

32. In a certain code language, the word "PENCIL" is coded as " CEILNP". How is the word "MOBILE" coded in that language?

A) OBELIM
B) BEILMO
C) LOBMEI
D) BOMLEI

33. R's only brother's only sister's husband is father of M. If R has only 1 sibling, then what could be the relation of M with R?

A) Son
B) Aunt
C) Mother
D) Sister

34. In three of the options, the 2nd number is related to the 1st number in a similar logical way. Which is the odd one out?..

A) 4, 125
B) 3, 27
C) 6, 216
D) 2, 8

35. Which is the next number in the series given below? 12, 98, 24, 49, 48, 24.5, ?

A) 96
B) 86
C) 24
D) 49

36. The price of high grade milk is ₹ 40 per litre and that of low grade milk is ₹ 30 per litre. In what ratio they should be mixed so that the resultant mixture has a price of ₹ 36 per litre?

A) 3:2
B) 5:4
C) 4:3
D) 2:1

37. 67) What will be the remainder left when 1036823 is divided by 5?

A) 4
B) 2
C) 3
D) 1

38. The ratio of length and breadth of a rectangle is 3:2. If its area is 2400 square cm, then what is its perimeter (in cms)?

A) 180
B) 220
C) 200
D) 240

39. The salary of Manu is half of that of Tanu. If Manu's salary increases by ₹ 3,000 and Tanu's salary decreases by 20%, then Manu's salary would be 68.75% of Tanu's salary. What is the salary of Tanu?

A) ₹ 1,20,000
B) ₹ 45,000
C) ₹ 90,000
D) ₹ 60,000

40. Ginny works twice as fast as Sunny. If Ginny takes 3 hours to finish a work, then how much time will Sunny and Ginny together take to finish a work twice as large?

A) 2 hours
B) 4 hours
C) 2.5 hours
D) 3.5 hours

41. What will be the remainder left when 268 + 368 is divided by 97?

A) 0
B) 96
C) 42
D) 1

42. What will be the sum of numerator and denominator when 0.48 is written in simplest fraction form?

A) 32
B) 64
C) 74
D) 37

43. In a zoo, 40% of the total animals are reptiles. Out of the remaining, 60% are mammals. If there are 456 animals that are neither reptiles nor mammals, then how many animals are there in the zoo?

A) 1,900
B) 1,800
C) 2,100
D) 2,300

44. The cost price of a TV is ₹ 7,272. The seller wants to sell it at 30% profit, and at the same time he wants to offer consecutive discounts of 20% and 10%. What should be the marked price of the TV so that he is able to earn 30% profit even after offering the discounts?

A) ₹ 11,110
B) ₹ 10,000
C) ₹ 13,130
D) ₹ 12,120

45. A group of 11 natural numbers is arranged in ascending order. The average of the first six numbers is 18 and the average of the last six numbers is 28. If the 7th number is the smallest prime number greater than 20, then what is the sum of all these numbers?

A) 253
B) 276
C) 299
D) 241

46. How many prime numbers are there that are less than 30 and can be represented both as a sum and a difference of two primes?

A) 4
B) 1
C) 10
D) 0

47. Harry and Sharry together take 8 days to dig a cubical well of depth, length and width 5 metres each. If Harry is twice as fast as Sharry, then how much time would Sharry alone take to dig up a cubical well of depth, length and width 10 metres each?

A) 216 days
B) 192 days
C) 144 days
D) 208 days

48. 12 men and 6 women can complete a work in 10 days. 3 men and 6 women can complete this work in 25 days. How many men are required to complete this work in 5 days?

A) 30
B) 20
C) 24
D) 36

49. Select one of the following four options that will make the 2nd pair analogous to the 1st pair given: BAR : RAB :: CAR :?

A) ARC
B) CAR
C) RAC
D) RCA

50. Select one of the following four options that will make the 2nd pair analogous to the 1st pair given.
West : North-West : South-West : ?

A) North
B) East
C) West
D) South

51. Which of the following organisms shows external fertilization?

a) Humans
b) Birds
c) Reptiles
d) Bony fishes

52. Vegetative propagation by leaves is observed in:

a) Potato
b) Bryophyllum
c) Ginger
d) Onion

53. The ploidy level of endosperm in angiosperms is typically:

a) Haploid
b) Diploid
c) Triploid
d) Tetraploid

54. Which part of the flower develops into the fruit after fertilization?

a) Ovary
b) Ovule
c) Petal
d) Sepal

55. The 'Bt' in Bt-cotton stands for:

a) Bacillus thuringiensis
b) Bacillus tuberculosis
c) Bacterial toxin
d) Biotechnical

56. Down's syndrome is caused by an extra copy of chromosome number:
a) 13
b) 18
c) 21
d) X

57. A test cross is performed to:
a) Determine the genotype of a parent with a dominant phenotype.
b) Determine the genotype of a parent with a recessive phenotype.
c) Identify linked genes.
d) Identify multiple alleles.

58. The universally accepted model for the structure of the plasma membrane is:

a) Unit membrane model
b) Fluid mosaic model
c) Sandwich model
d) Lamellar model

59. Which of the following is an example of a secondary metabolite?

a) Glucose
b) Amino acid
c) Alkaloids
d) Nucleotides

60. The enzyme responsible for transcription in prokaryotes is:

a) DNA polymerase
b) RNA polymerase
c) Ligase
d) Helicase

61. The process of formation of mRNA from a DNA template is called:
a) Replication
b) Translation
c) Transcription
d) Transduction

Gel electrophoresis is used for:

a) Separating DNA fragments based on their size.
b) Amplifying DNA fragments.
c) Ligating DNA fragments.
d) Inserting DNA into a host cell.

63. The main function of ozone layer in the stratosphere is to:

a) Regulate temperature
b) Absorb UV radiations
c) Reflect infrared radiations
d) Trap greenhouse gases

64. Which of the following is a biodiversity hotspot in India?

a) Thar Desert
b) Western Ghats
c) Gangetic Plains
d) Sunderbans

65. The interaction where one species benefits and the other is neither harmed nor benefited is called:

a) Mutualism
b) Commensalism
c) Parasitism
d) Amensalism

66. The primary succession on bare rock is called:
a) Hydrarch succession
b) Xerarch succession
c) Pioneer succession
d) Climax succession

Which of the following is a biodegradable pollutant?

a) DDT
b) Plastic
c) Domestic sewage
d) Heavy metals

68. In a pyramid of biomass, the biomass of producers is usually:

a) Less than primary consumers
b) Equal to primary consumers
c) More than primary consumers
d) Variable depending on the ecosystem

69. Which of the following diseases is caused by a protozoan?

a) Typhoid
b) Pneumonia
c) Malaria
d) Common Cold

70. Humoral immunity is mediated by:

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

71. The period from birth to the natural death of an organism represents its:
a) Life span
b) Life cycle
c) Growth period
d) Reproductive period

72. Asexual reproduction is common among:
a) Single-celled organisms
b) Animals
c) Higher plants
d) All of the above

73. The unit of rate constant for a first-order reaction is:

a) mol L−1 s−1

b) L mol−1 s−1

c) s−1

d) L2 mol−2 s−1

74. Which of the following statements is true for a galvanic cell?

a) Oxidation occurs at the cathode.

b) Reduction occurs at the anode.

c) Electrons flow from the anode to the cathode.

d) Anode is positive.

75. Lanthanide contraction is due to:

a) Poor shielding by 4f electrons.

b) High nuclear charge.

c) Both (a) and (b).

d) None of these.

The IUPAC name of K3[Fe(CN)6] is:

a) Potassium hexacyanoferrate(II)

b) Potassium hexacyanoferrate(III)

c) Tripotassium hexacyanoiron(II)

d) Potassium ferricyanide

77. Which of the following reagents is used to distinguish between primary, secondary, and tertiary amines?

a) Lucas reagent

b) Tollen's reagent

c) Hinsberg's reagent

d) Fehling's solution

78. The type of intermolecular forces present in ethanol (CH3CH2OH) are primarily:

a) London dispersion forces

b) Dipole-dipole interactions

c) Hydrogen bonding

d) All of the above

Which of the following is a non-reducing sugar?

a) Glucose

b) Fructose

c) Sucrose

d) Maltose

80. The monomer of natural rubber is:

a) Isoprene

b) Chloroprene

c) Neoprene

d) Styrene

81. Which of the following compounds does NOT undergo aldol condensation?

a) Ethanal

b) Propanal

c) Propanone

d) Methanal

82. The heat of solution or mixing has a negative sign for:

a) Ideal solutions

b) Non-ideal solutions showing positive deviation

c) Non-ideal solutions showing negative deviation

d) None of the above

What is the coordination number of Co in [Co(en)2Cl2]Cl? (en = ethylenediamine)

a) 2

b) 3

c) 4

d) 6

84. The reaction of an alkyl halide with sodium in dry ether to form a higher alkane is known as:

a) Wurtz reaction

b) Fittig reaction

c) Wurtz-Fittig reaction

d) Friedel-Crafts reaction

85. The SI unit of electric flux is:

a) NmC−1

b) Nm2C−1

c) NmC−2

d) Nm2C−2

86. Which of the following is a vector quantity?

a) Electric charge

b) Electric potential

c) Electric field intensity

d) Electric potential difference

Which of the following electromagnetic waves has the shortest wavelength?

a) Radio waves
b) Microwaves
c) Ultraviolet rays
d) Gamma rays

88. The phenomenon of splitting of white light into its constituent colors is called:

a) Interference
b) Diffraction
c) Polarization
d) Dispersion

Q.89 The working principle of an optical fiber is:

a) Reflection
b) Refraction
c) Total internal reflection
d) Diffraction

Q.90 The kinetic energy of a particle is doubled. Its momentum will become:

a) Root 2 Times
b) 2 times
c) 4 times
d) Remains the same

Q.91 The angle of dip at the Earth's magnetic poles is:

a) 0°
b) 45°
c) 90°
d) 180°

The SI unit of magnetic flux is:

a) Tesla
b) Weber
c) Henry
d) Gauss

Q.93 In a purely inductive AC circuit, the phase difference between voltage and current is:

a) 0°
b) 45°
c) 90°
d) 180°

Q.94 The resolving power of a telescope is proportional to:

a) The wavelength of light
b) The inverse of the wavelength of light
c) The diameter of the objective lens
d) The inverse of the diameter of the objective lens

Q.95 According to Huygens' principle, each point on a wavefront acts as:

a) A source of light
b) A secondary source of disturbance
c) A reflector of light
d) An absorber of light

Q.96 The rest mass energy of an electron is approximately:

a) 0.51 MeV
b) 5.1 MeV
c) 51 MeV
d) 510 MeV

Q.97 In a p-n junction diode, the depletion region contains:

a) Electrons and holes
b) Only electrons
c) Only holes
d) Immobile ions

The logic gate that gives a high output only when both its inputs are high is the:

a) OR gate
b) AND gate
c) NOT gate
d) NAND gate

Q.99 The escape velocity from the surface of the Earth is approximately:

a) 11.2 km/s
b) 3×10^8 m/s
c) 9.8 m/s^2
d) 6.67×10^{-11} Nm^2/kg^2

Q.100 The radius of the first Bohr orbit of the hydrogen atom is approximately:

a) 0.53 Å
b) 5.3 Å
c) 53 Å
d) 530 Å

ANSWER KEY

1. b
2. b
3. c
4. c
5. c
6. c
7. b
8. c
9. c
10. d
11. c
12. a
13. c
14. c
15. c
16. c
17. b
18. c
19. c
20. c
21. b
22. c
23. b
24. b
25. b
26. d
27. b
28. c
29. d
30. d
31. c
32. b
33. a

a
35. a
36. a
37. b
38. c
39. d
40. b
41. a
42. d
43. a
44. c
45. c
46. b
47. b
48. a
49. c
50. c
51. d
52. b
53. c
54. a
55. a
56. c
57. a
58. b
59. c
60. b
61. c
62. a
63. b
64. b
65. b
66. b
67. c

c
69. c
70. b
71. a
72. a
73. c
74. c
75. c
76. b
77. c
78. d
79. c
80. a
81. d
82. c
83. d
84. a
85. b
86. c
87. d
88. d
89. c
90. a
91. c
92. b
93. c
94. c
95. b
96. a
97. d
98. b
99. a
100. a