1. Which is the Instrumental method of choice for fiber examination?

(A) Infrared spectroscopy
(B) UV-visible spectroscopy
(C) Gas Chromatograph/Mass Spectrometry (GC/MS)
(D) Scanning electron microscope
(E) Answer not known

2. The comparison process involving physical matching of fragments of objects, such as vehicular components, glass or clothing from crime scene is known as

(A) Grid method
(B) Jigsaw puzzle fashion
(C) Zone matching
(D) Strip method
(E) Answer not known

3. For overall reconstruction of vehicle accidents which patterns are used?

(A) Track and trail patterns
(B) Tire impression patterns
(C) Length of skid mark patterns
(D) Tire and skid patterns
(E) Answer not known

4. Crime scene search patterns are used only for

(A) Outdoor crime scenes

(B) Indoor crime scenes

(C) Only for packing and transporting physical evidence

(D) (A) and (B)

(E) Answer not known

5. Which is the best suited method for searching the crime scene of a large area?

(A) Grid search pattern

(B) Spiral search pattern

(C) Strip search patterns

(D) Quadrant search pattern

(E) Answer not known

6. Which of the following are not true?

1. Number of Lands and Grooves – class characteristics
2. Extractor mark in a fired revolver cartridge case is very useful in weapon identification
3. Extractor mark can be found in the base of the cartridge.
4. The diameter of the bullet and diameter of barrel of firearm are equal (or) diameter of bullet can be slightly higher than that of barrel.

(A) 2, 3 & 4

(B) 2 & 3

(C) 1, 2 & 3

(D) 1 & 4

(E) Answer not known

7. ANFO is

(A) Forensic organisation
(B) Narcotic drug
(C) Pesticide
(D) Explosive chemical
(E) Answer not known

8. High explosive compound used in primers

(A) Mercury fulminate
(B) Hydrogen peroxide
(C) Gun powder
(D) RDX
(E) Answer not known

9. Additive to smokeless powder that reacts with acid breakdown products of nitrocellulose and nitroglycerine

(A) Dimethylglyoxime
(B) Diphenyl amine
(C) Diphenhydramine
(D) Diethyl ether
(E) Answer not known

10. In cases of Arson or accidental fire, combustion can occur only in the presence of the following

(i) Fuel
(ii) Oxygen
(iii) Heat

(A) (i) and (iii)
(B) (i), (ii) and (iii)
(C) (i) and (ii)
(D) (ii) and (iii)
(E) Answer not known

11. Which of the following is considered an individual characteristics mark on fired bullet?

(A) Chamber marks
(B) Striation marks
(C) Extractor marks
(D) Ejector marks
(E) Answer not known

12. Firing pin impression is surrounded by _____.

(A) Chamber marks
(B) Extractor marks
(C) Breech face marks
(D) Ejector impression
(E) Answer not known

13. A fired bullet appears as unfired –

(A) If the bullet does carry barrel marks
(B) If the bullet does not carry barrel marks
(C) If the bullet does not have breech marks
(D) If the bullet does not have extractor marks
(E) Answer not known

14. Paradox gun has the following characteristic.

(A) More than one barrel
(B) More than one caliber
(C) Partially rifled
(D) Can be fired using right or left hand
(E) Answer not known

15. This is not related to size of shotgun pallets

(A) A, AA, AAA, AAAA
(B) B, BB, BBB
(C) 1, 2, 3, 4
(D) C, CC, CCC
(E) Answer not known

16. A chemical reagent used to develop latent fingerprints on porous materials is

(A) Marquis
(B) Ninhydrin
(C) Dragen Dorff
(D) Formalin
(E) Answer not known

17. Dactylography is the study of

(A) Footprint
(B) Fingerprint
(C) Shoeprint
(D) Tyre print
(E) Answer not known

18. Which of the following division in a forensic science Laboratory examines blood, body fluids, hair and fibres?

(A) Anthropology
(B) Toxicology
(C) Biology
(D) Chemistry
(E) Answer not known

19. What is the main function of forensic scientist at forensic science laboratory?

(A) To visit scene of crime
(B) To identify finger print in crime scene
(C) To examine the clue materials involved in crimes
(D) To reconstruct a crime scene
(E) Answer not known

20. This is a unit of a forensic science laboratory

(A) Histopathology unit
(B) Victimology unit
(C) Toxicology unit
(D) Criminology unit
(E) Answer not known

21. Which of the following is incorrectly paired?

	Disease		Causative agent
1.	Plague	–	Borrelia burgdorferi
2.	Lyme disease	–	Yersinia pestis
3.	Murine typhus	–	Rickettsia typhi
4.	Rocky mountain spotted fever	–	Rickettsia rickettsii

(A) 2 and 3
(B) 1 and 2
(C) 1 and 4
(D) Only 2
(E) Answer not known

22. Peptone, a nitrogen source used in microbial culture media is

(A) Casein hydrolysate
(B) Partially hydrolyzed polysaccharide
(C) Saponifiable lipid
(D) Partially hydrolyzed casein
(E) Answer not known

23. Facultative anaerobes are the ability to grow in which of the following conditions?

(A) In the presence of oxygen
(B) In the absence of oxygen
(C) With or without oxygen
(D) In the absence of nutrients
(E) Answer not known

24. Which of the following chemicals is used to create pH gradient in the ISO-electric focusing Electrophoretic gel?

(A) Ethidium bromide
(B) Tris Buffer
(C) Poly amino-poly carboxylic acid
(D) Bromophenol blue
(E) Answer not known

25. Which of the following is the function of β-mercaptoethanol used in SDS-PAGE?

(A) To give specific charge to protein

(B) To break hydrogen bonds in proteins

(C) To reduce interpolypeptide disulfide bridge in complete proteins

(D) None of the above

(E) Answer not known

26. Which of the following statements is true about SDS-PAGE?

(A) Proteins are denatured by SDS

(B) Denatured proteins are negative charged with uniform charge to mass ratio

(C) Smaller protein moves faster than the larger one

(D) All of the above

(E) Answer not known

27. Assertion [A] : PCR technology has largely replaced the gene cloning technique.

Reason [R] : PCR technology is much easier and requires much smaller quantity of template DNA.

(A) [A] is true but [R] is false

(B) Both [A] & [R] are true; and [R] is the correct explanation of [A]

(C) [A] is false, [R] is true

(D) Both [A] and [R] are true; but [R] is not the correct explanation of [A]

(E) Answer not known

28. What will be the effect of mutational change of the Codon "UAC" to "UAA"?

(A) No change in protein function

(B) Substitution of another aminoacid

(C) Premature termination of translation

(D) Formation of functional palindromic sequences

(E) Answer not known

29. Which of the following enzymes is essential for cutting DNA at specific sequences in recombinant DNA technology?

(A) DNA polymerase

(B) Restriction endonuclease

(C) Ligase

(D) RNA polymerase

(E) Answer not known

30. Which of the following is the restriction enzyme isolated for the first time?

(A) Hind II

(B) Eco RI

(C) Bam HI

(D) Alu I

(E) Answer not known

31. Chemical mutagen used to cause mutation in plants under laboratory condition belongs to which of the following types?

(A) Physical mutation

(B) Spontaneous mutation

(C) Induced mutation

(D) Lethal mutation

(E) Answer not known

32. In a mutation where the movement of a segment of DNA from one place to other in a genome is called?

(A) An inversion mutation
(B) Duplication mutation
(C) Transposition mutation
(D) Base substitution mutation
(E) Answer not known

33. The condition in heterozygotes where both members of an allelic pair contribute to phenotype expression is known as

(A) Incomplete dominance
(B) Co-dominance
(C) Pseudo dominance
(D) Dominance
(E) Answer not known

34. In the monosporic type of development how many megaspores are formed after meiosis?

(A) One
(B) Two
(C) Three
(D) Four
(E) Answer not known

35. "Adventive embryos coated with neutral gums" are referred to as

(A) Somatic embryogenesis
(B) In vitro polyembryony
(C) Synseeds
(D) In vitro storage
(E) Answer not known

36. Which of the following plants releases the alarm pheromone E-β-farnesene (Eβf) to prevent aphids?

(A) Solanum lycopersicum

(B) Solanum berthaultii

(C) Solanum americanum

(D) Solanum dulcamara

(E) Answer not known

37. Which of the following statement is/are true about plasma membrane :

(i) Carrier protein undergoes no confirmational changes to transport solute across the membrane

(ii) Channel protein forms water filled pores to transport the specific solute across the membrane.

(iii) Channel protein will facilitate the process of gating

(A) (i) and (ii) are correct

(B) (ii) and (iii) are correct

(C) only (iii) is correct

(D) only (i) is correct

(E) Answer not known

38. Which is the major component of the cell walls of the secondary protective tissue of roots and leaves?

(A) Cutin

(B) Lignin

(C) Severin

(D) Tannin

(E) Answer not known

39. The presence of calcium oxalate crystals and tannin in the young stems are the characteristics of which of the following general of gymnosperms?

(A) Gnetum gnemon
(B) Ginkgo biloba
(C) Ephedra fragilis
(D) Pinus ponderosa
(E) Answer not known

40. Match the organic acids with their correct sources?

	Organic acid		Sources
(a)	Gallic acid	1.	Aspergillus niger
(b)	Citric acid	2.	Rhizopus oryzae
(c)	Fumaric acid	3.	Penicillium glaucum
(d)	Lactic acid	4.	Mucor sp.

	(a)	(b)	(c)	(d)
(A)	3	1	4	2
(B)	4	2	3	1
(C)	2	1	3	4
(D)	3	2	4	1

(E) Answer not known

41. Carrier gas used in gas chromatography

(A) CO_2
(B) O_2
(C) He
(D) CH_4
(E) Answer not known

42. Which types of forces are involved when a drop of solution is applied to the filter paper and with the solvent?

(A) Propelling forces
(B) Retarding forces
(C) (A) and (B)
(D) None of the above
(E) Answer not known

43. The Van Deemter equation is

(A) $HETP = A + \frac{B}{\mu} + C\mu$
(B) $HETP = \frac{A}{\mu} + \frac{B}{\mu} + C\mu$
(C) $HETP = A + B\mu + \frac{C}{\mu}$
(D) $HETP = A + \frac{B}{\mu} + \frac{C}{\mu}$
(E) Answer not known

44. The technique used to identify as well as quantify the presence of impurity in dry substance is

(A) HPLC
(B) MS
(C) NMR
(D) IR
(E) Answer not known

45. Which of the following is not a mobile phase in gas chromatography?

(A) Helium
(B) Bromine
(C) Hydrogen
(D) Nitrogen
(E) Answer not known

46. The process of recovery of the separated substances by continuous flow of mobile phase is called

(A) Elution
(B) Partition
(C) Separation
(D) Adsorption
(E) Answer not known

47. Number of spin states available for ^{1}H nucleus is

(A) 1
(B) 2
(C) 3
(D) 4
(E) Answer not known

48. Elemental composition and isotopic ratios of samples can be determined by

(A) UV
(B) IR
(C) NMR
(D) ICP-MS
(E) Answer not known

49. Signal splitting occurs in NMR spectrum because of

(A) Deshielding effect
(B) Spin-Spin Coupling
(C) Shielding effect
(D) Spin-Spin decoupling
(E) Answer not known

50. The energy level of electronic transition in UV-visible spectroscopy is in the following order

(A) $n \rightarrow \pi^* > \sigma \rightarrow \sigma^* > n \rightarrow \sigma^* > \pi - \pi^*$

(B) $\sigma \rightarrow \sigma^* > n \rightarrow \sigma^* > \pi \rightarrow \pi^* > n \rightarrow \pi^*$

(C) $\sigma \rightarrow \sigma^* > n - \pi^* > n \rightarrow \sigma^* > \pi \rightarrow \pi^*$

(D) $n \rightarrow \pi^* > \sigma - \sigma^* > \pi - \pi^* > n \rightarrow \sigma^*$

(E) Answer not known

51. Which one of the following is not used for flame photometry burner system?

(A) Propane – air mixture

(B) Acetylene – air mixture

(C) Acetylene – nitrous oxide mixture

(D) Ethylene – air mixture

(E) Answer not known

52. In which of the following reagent is used to identification of magnesium ion?

(A) EDTA

(B) 8-hydroxy quinoline

(C) Nessler's Reagent

(D) Tollen's Reagent

(E) Answer not known

53. The spot test for identification of Ni^{2+} –ion in semi-micro qualitative analysis used for the following reagent.

(A) Nessler's Reagent
(B) Magneson Reagent
(C) Tollen's Reagent
(D) Dimethylglyoxime (DMG)
(E) Answer not known

54. Which among the cation is not belongs to Group-IIIA?

(A) Zr
(B) Mg
(C) V
(D) Th
(E) Answer not known

55. In semi-micro qualitative analysis, the amount of sample generally to be taken for analysis.

(A) 1g
(B) 2g
(C) 0.2g
(D) 0.5g
(E) Answer not known

56. _____ is added to create common in effect for the analysis of group III onwards

(A) HCl
(B) H_2S
(C) NH_4Cl
(D) NH_4OH
(E) Answer not known

57. Phenolphthalein indicator is used in the following pH range.

(A) 4.2-6.3
(B) 6.8-8.0
(C) 8.0-9.6
(D) 3.0-5.0
(E) Answer not known

58. 0.45g of an acid of molecular weight 90 was neutralized by 20 ml of 0.5N caustic soda. The basicity of the acid is

(A) 1
(B) 4
(C) 2
(D) 3
(E) Answer not known

59. Assertion (A) : Oxalic acid is considered as a primary standard.
Reason (R) : Oxalic acid is a pure substance and has high molecular weight.

(A) (A) is true but (R) is false
(B) Both (A) and (R) are true; and (R) is the correct explanation of (A)
(C) (A) is false and (R) is true
(D) Both (A) and (R) are true; but (R) is not the correct explanation of (A)
(E) Answer not known

60. Which one of the following is primary standard solution?

(A) $KMnO_4$
(B) $K_2Cr_2O_7$
(C) NaOH
(D) HCl
(E) Answer not known

61. An amplitude modulated wave, the relation between the power of modulated (P_T) and carrier (P_C) wave is

(A) $P_C = P_T\left(\frac{2}{2+m^2}\right)$ (B) $P_C = P_T\left(\frac{2+m^2}{2}\right)$

(C) $P_C = P_T\left(\frac{m^2}{2+m^2}\right)$ (D) $P_C = P_T\left(\frac{2+m^2}{m^2}\right)$

(E) Answer not known

62. Ventricular muscle depolarization is indicated by

(A) PR interval (B) P wave

(C) U wave (D) QRS complex

(E) Answer not known

63. Which electrode is used to measure ECG potential?

(A) Micro electrode (B) Surface electrode

(C) Needle electrode (D) Reference electrode

(E) Answer not known

64. An Op-amp, peak output voltage is 200 mV, the slew rate is 0.5 V/μs. Calculate the maximum operating frequency of the amplifier is

(A) 796 kHz (B) 398 kHz

(C) 3.98 kHz (D) 7.96 kHz

(E) Answer not known

65. Which of the following statements are true?

(i) JFET has high input impedance

(ii) JFET acts like a current controlled device

(iii) In all JFET's source current (I_S) is equal to the drain current (I_D)

(A) (i) only
(B) (i) and (ii) only
(C) (ii) and (iii) only
(D) (i) and (iii) only
(E) Answer not known

66. Assertion (A) : In UJT, emitter lead is open, the resistance between the base terminal is very high.

Reason (R) : The emitter is heavily doped having many holes. The *n* region, is lightly doped.

(A) (A) is true but (R) is false
(B) Both (A) and (R) are true; and (R) is the correct explanation of (A)
(C) (A) is false, (R) is true
(D) Both (A) and (R) are true, but (R) is not correct explanation of (A)
(E) Answer not known

67. In full adder, the inputs A = 1, B = 0, C = 0, the sum and carry output is

(A) 10
(B) 01
(C) 11
(D) 00
(E) Answer not known

68. Which logic gates, the output is high, when all the inputs are high (or) low?

(A) NOR gate
(B) INHIBIT gate
(C) Exclusive OR gate
(D) Comparator gate
(E) Answer not known

69. The expression for a.c. drain resistance of a JFET is

(A) $\left[\Delta V_{DS} / \Delta \mathrm{I}_D\right]$ at constant V_{GS}

(B) $\left[\Delta V_{GS} / \Delta \mathrm{I}_D\right]$ at constant V_{DS}

(C) $\left[\Delta I_D / \Delta V_{GS}\right]$ at constant V_{DS}

(D) $\left[\Delta I_D / \Delta V_{DS}\right]$ at constant V_{GS}

(E) Answer not known

70. The widely used biasing method in D-MOSFET circuit is

(A) Gate-Bias method
(B) Self-Bias method
(C) Voltage-divider-Bias method
(D) Zero-Bias method
(E) Answer not known

71. A full adder can be converted into a full subtractor with the addition of

(A) only one OR gate
(B) only one AND gate
(C) only one NOT gate
(D) only one NAND gate
(E) Answer not known

72. Match the following :

(a)	Photo diode	(1)	A forward biased P-N junction diode
(b)	LCD	(2)	It is used in light operated relays
(c)	Photo transistor	(3)	It consists of two glass plates with a nematic fluid in between them
(d)	LED	(4)	A reverse biased P-N junction diode

(A) (a)-(2), (b)-(1), (c)-(4), (d)-(3)
(B) (a)-(3), (b)-(2), (c)-(1), (d)-(4)
(C) (a)-(4), (b)-(3), (c)-(2), (d)-(1)
(D) (a)-(1), (b)-(4), (c)-(3), (d)-(2)
(E) Answer not known

73. Which of the following is incorrectly paired?

(1) Universal diode current equation – Explains change in the value of diode current

(2) A semiconductor diode conducts current – When reverse biased

(3) Forward resistance of a diode – Very small

(4) Reverse resistance of a diode – Very large

(A) (1) only

(B) (2) only

(C) (3) only

(D) (4) only

(E) Answer not known

74. Assertion (A) : The output resistance of CB circuit is very large of the order of several tens of kilo ohms.

Reason (R) : A very large change in collector-base voltage produces only a tiny change in collector current.

(A) (A) is false but (R) is true

(B) Both (A) and (R) are false

(C) Both (A) and (R) are true and (R) is the correct explanation of (A) is true

(D) Both (A) and (R) are true, but (R) is not the correct explanation of (A) is true

(E) Answer not known

75. Assertion (A) : Out of the three transistor connections, the common emitter connection is the most efficient one.

Reason (R) : The common emitter circuit arrangement has high current, voltage and power gain.

(A) (A) is true but (R) is false

(B) Both (A) and (R) are true and (R) is the correct explanation of (A)

(C) Both (A) and (R) are false

(D) Both (A) and (R) are true, but (R) is not the correct explanation of (A) is true

(E) Answer not known

76. The relation between collector current I_C and emitter current I_E in terms of β is

(A) $I_C = \frac{\beta}{(1+\beta)} I_E$

(B) $I_C = \beta I_E$

(C) $I_C = \frac{I_E}{(1+\beta)}$

(D) $I_C = (1+\beta) I_E$

(E) Answer not known

77. Match the following :

(a)	Pn junction diode	1.	Reverse-biased silicon or germanium diode
(b)	Zener diode	2.	Gives off visible light when forward biased
(c)	Light Emitting diode	3.	Rectifier
(d)	Photo diode	4.	Voltage regulator

	(a)	(b)	(c)	(d)
(A)	1	2	4	3
(B)	2	3	1	4
(C)	3	4	2	1
(D)	4	1	3	2

(E) Answer not known

78. Choose the right matches among type :

1.	Forward power rating	–	0.3 V for Silicon diode
2.	Ratio of reverse to forward resistance	–	40000 : 1 for Germanium diode
3.	Forward resistance of a diode	–	Very small
4.	Reverse or leakage current	–	Due to majority carriers

(A) 1 and 2 are correct (B) 2 and 3 are correct

(C) 3 and 4 are correct (D) 4 and 1 are correct

(E) Answer not known

79. Which of the following statements are true for a semiconductor diode?

(i) Semiconductor diode can accomplish the job of rectification

(ii) They are smaller in size, cheaper, robust and operate with greater efficiency

(iii) It can withstand high reverse voltages and can operate at fairly high temperatures

(A) (i) only
(B) (i) and (ii) only
(C) (ii) and (iii) only
(D) (i) and (iii) only
(E) Answer not known

80. Which of the following statements are true about potentiometer?

(i) A device used for measuring or comparing potential difference

(ii) A device used to measure the quantity of charge discharged through it

(iii) A device used to measure any electrical quantity which can be converted into a proportionate DC potential difference

(A) (i) only
(B) (i) and (ii) only
(C) (i) and (iii) only
(D) (ii) and (iii) only
(E) Answer not known

81. Assertion [A] : ^{13}C isotope is NMR active and ^{12}C isotope is NMR inactive.

Reason [R] : ^{12}C isotope does not have a nuclear spin.

(A) [A] is true but [R] is false

(B) Both [A] and [R] are true; and [R] is the correct explanation of [A]

(C) [A] is false, [R] is true

(D) Both [A] and [R] are true; and [R] is not the correct explanation of [A]

(E) Answer not known

82. In benzene molecule, the number of fundamental bands absorb in the infra-red spectrum

(A) 18 (B) 19

(C) 30 (D) 31

(E) Answer not known

83. Which radiation is used for NMR spectroscopy?

(A) Ultraviolet and visible (B) Infrared

(C) Radio-frequency (D) Electron beam impact

(E) Answer not known

84. Match the following :

	Unit Cell Characteristics	System
(a)	$a \neq b \neq c,\ \alpha = \beta = 90^\circ \neq \gamma$	1. Triclinic
(b)	$a \neq b \neq c,\ \alpha = \beta = \gamma = 90^\circ$	2. Trigonal
(c)	$a \neq b \neq c,\ \alpha \neq \beta \neq \gamma = 90^\circ$	3. Monoclinic
(d)	$a = b = c,\ \alpha = \beta = \gamma \neq 90^\circ$	4. Orthorhombic

	(a)	(b)	(c)	(d)
(A)	3	4	1	2
(B)	4	1	2	3
(C)	1	2	3	4
(D)	2	3	4	1

(E) Answer not known

85. Choose the right answer :

(i) The longer wavelength end of the X-ray spectrum is the "hard X-rays"

(ii) The intensity of X-ray beam, at any point, the amount of energy carried per second per unit area, parallel to the direction of flow of energy

(iii) The linear absorption coefficient μ depends upon the X-ray wavelength and on the nature of the absorbing material

(A) (i) only
(B) (i) and (ii) only
(C) (iii) only
(D) (ii) and (iii) only
(E) Answer not known

86. Which of the following statement(s) is the incorrect in laser technique an optical resonator helps to?

(i) further intensity the input and output radiation

(ii) further amplify the input and output radiation

(iii) further reduce the intensity and amplify the input as well as the output radiation

(A) (i) only
(B) (iii) only
(C) (ii) and (iii) only
(D) (ii) only
(E) Answer not known

87. Find the spectral width of a He-Ne laser having a coherent time of the order of nanoseconds here $\lambda = 6.438 \times 10^{-5}$; $C = 3 \times 10^{10}$; $\tau_C = 10^{-9}$

(A) ~ 0.01Å
(B) ~ 0.001Å
(C) ~ 0.023Å
(D) ~ 0.1Å
(E) Answer not known

88. In the interference pattern intensity is minimum is denoted as

(A) Partially constructive interference
(B) Constructive interference
(C) Destructive interference
(D) Partially destructive interference
(E) Answer not known

89. The spacing between the principal planes of NaCl crystal is 2.82 Å. It is found that first order Bragg reflection occurs at an angle of 10°. Calculate the wavelength of X-rays.

(A) 0.98×10^{-10} m
(B) 9.8×10^{-10} m
(C) 98×10^{-10} m
(D) 0.098×10^{-10} m
(E) Answer not known

90. Which of the following statements is/are correct in L-S coupling?

(i) L is always an integer including zero

(ii) L is always an integer excluding zero

(iii) L is always an odd multiple of 1/2

(A) (ii) only
(B) (iii) only
(C) (ii) and (iii) only
(D) (i) only
(E) Answer not known

91. Which of the following conditions is/are correct for the constructive interference?

(i) Phase difference $\delta = 2m\pi$

(ii) Path difference $\Delta = (2m + 1)\lambda/2$, $m = 0,1,2,3,...$

(iii) Amplitude $A = a_1 + a_2$

(iv) Intensity $I = (a_1 - a_2)^2$

(A) (i) and (ii) only
(B) (ii) and (iii) only
(C) (i) and (iii) only
(D) (iii) and (iv) only
(E) Answer not known

92. Maxwell's third Thermodynamical relation is _____.

(A) $\left(\frac{\partial T}{\partial V}\right)_S = -\left(\frac{\partial P}{\partial S}\right)_V$

(B) $\left(\frac{\partial S}{\partial V}\right)_T = \left(\frac{\partial P}{\partial T}\right)_V$

(C) $\left(\frac{\partial T}{\partial P}\right)_S = \left(\frac{\partial V}{\partial S}\right)_P$

(D) $\left(\frac{\partial V}{\partial T}\right)_P = -\left(\frac{\partial S}{\partial P}\right)_T$

(E) Answer not known

93. When the source and the screen are at a finite distance from the diffracting aperture is known as

(A) Lloyd's method

(B) Biprism

(C) Fresnel diffraction

(D) Fraunhofer diffraction

(E) Answer not known

94. The bullet remains embedded in the target, then the collision between a bullet and its target is

(A) Completely elastic collision

(B) Completely inelastic collision

(C) Approximately elastic collision

(D) Approximately inelastic collision

(E) Answer not known

95. When two bodies collide each other, the total momentum before collision is equal to the total momentum after collision is

(A) Elastic collision

(B) Loss of KE

(C) Inelastic collision

(D) Acceleration

(E) Answer not known

96. A thin uniform rod of Length l and mass M, the moment of inertia about an axis passing through its center and perpendicular to its length is

(A) $Ml^2/12$ (B) $Ml^2/3$

(C) $Ml^2/2$ (D) Ml^2

(E) Answer not known

97. A body of mass(m) is projected upward, it never come back to the earth of radius $\left(R = 6.4 \times 10^6 m\right)$. The escape velocity is $\left(g = 9.8 m / \sec^2\right)$

(A) 11.2 km/s (B) 12.5 km/s

(C) 9.8 km/s (D) 10.0 km/s

(E) Answer not known

98. Which of the following statement is correct?

In a rigid body,

(i) The impulse is equal to the change in momentum produced

(ii) The impulse is equal to change in initial velocity produced

(A) (i) only

(B) (ii) only

(C) (i) and (ii) both are correct

(D) (i) and (ii) both are not correct

(E) Answer not known

99. In special theory of relativity, which postulates is very important and responsible to differentiate the classical theory and Einstein's theory of relativity.

(A) Postulate I
(B) Postulate II
(C) Postulates I and II
(D) Postulates II and III
(E) Answer not known

100. Einstein's mass-energy relation is

(A) $E = mc^2 - m_0c^2$
(B) $E = mc^2 + m_0c^2$
(C) $E = mc^2$
(D) $E = m_0c^2$
(E) Answer not known

101. A technique used for separating and measuring the amount of ethanol

(A) Gas chromatography
(B) Hydrometer method
(C) Extractive distillation
(D) Thin layer chromatography
(E) Answer not known

102. Chemicals for flavour matching in whisky

(1) Ethyl caproate

(2) Ethyl myristate

(3) Valeric acid

(4) Isoeugenol ethyl ether

(A) (2) and (3) (B) (1) only

(C) (4) only (D) (2) and (4)

(E) Answer not known

103. Absolute ethanol is

(1) 200° proof in the US system

(2) 175.25 proof in the Imperial system

(3) 75.25 over proof in the Imperial system

(4) 100 proof in the Imperial system

(A) (1) is only correct (B) (4) is only correct

(C) (2) and (3) are correct (D) (1), (2) and (3) are correct

(E) Answer not known

104. Peyote is a small, spineless cactus whose principal active ingredient is

(A) Psilocybin (B) Mescaline

(C) Psilocin (D) Phentermine

(E) Answer not known

105. Which of the following is not a CNS depressant?

(A) Barbiturates
(B) Alcohol
(C) Heroin
(D) Benzodiazepines
(E) Answer not known

106. Phosphorus used in fertilisers, rodenticide, fireworks, gunpowder, etc is

(A) White or yellow, Highly toxic, Garlicky, Luminous
(B) Reddish-brown, Highly toxic, Garlicky, Luminous
(C) Reddish-brown, Non-toxic, Garlicky, Non-Luminous
(D) White or yellow, mild toxic, Tasteless, Non-Luminous
(E) Answer not known

107. Match the following :

(a)	Dilation of pupils	1.	Nux-vomica
(b)	Pin point pupils	2.	Organo phosphorus insecticide
(c)	Botulism	3.	Atropine
(d)	Opisthotonos	4.	Food poisoning

	(a)	(b)	(c)	(d)
(A)	2	3	1	4
(B)	3	2	4	1
(C)	2	1	4	3
(D)	4	1	3	2

(E) Answer not known

108. Paracetamol is a potent

(A) Hepatic toxin
(B) Chronic poison
(C) Cardiac poison
(D) Nervous poison
(E) Answer not known

109. This is not a poisonous plant

(A) Nerium odorum
(B) Mangifera Indica
(C) Digitalis purpurea
(D) Cannabis Indica
(E) Answer not known

110. Seminal stains fluorescence on visual examination using an Alternate Light Source (ALS) due the presence of

(A) Acid phosphatase
(B) Prostate Specific Antigen (PSA)
(C) Flavine
(D) Spermatozoa
(E) Answer not known

111. Human hair has a medullary index of

(A) 0.5

(B) 0.8

(C) 0.4

(D) less than 0.3

(E) Answer not known

112. Which type of genetic markers are used for human identification on purposes from highly degraded evidence materials to get the best results

(A) Short Tandem Repeat (STR) markers

(B) Restriction Fragment Length Polymorphism (RFLP)

(C) Variable Number of Tandem Repeats (VNTR)

(D) Amplified Fragment Length Polymorphism (AFLP)

(E) Answer not known

113. A vasectomized male involved in a sexual assault case can be identified using DNA profiling in instances of

(A) Detection of spermatozoa

(B) Detection of Semenogelin

(C) Detection of Luminol

(D) Detection of Fluorescein

(E) Answer not known

114. What is the preferred method of collection for reference whole blood sample for DNA profiling for comparison with the DNA profile of evidence material for the purpose of individualization.

(A) Scraping from the scene of crime

(B) FTA paper and air-dried

(C) Swab from the scene of crime

(D) Collect coagulated blood from the scene of crime

(E) Answer not known

115. It is mandatory to air-dry wet evidence material prior to packing and forwarding for forensic examination

(A) To prevent degradation of proteins and nucleic acids by the growth of bacteria and molds

(B) To preserve the smell of the evidence material

(C) To make the evidence material easier to handle

(D) To mark the details of evidence material on it

(E) Answer not known

116. In spectrographic view, the waveform display shows the signal in the

(A) energy domain

(B) time domain

(C) space domain

(D) frequency domain

(E) Answer not known

117. What is the other name for polygraph

(A) Truth detector
(B) Lie detector
(C) Cardiograph
(D) Pneumograph
(E) Answer not known

118. In glass fracture examination, the four R rule is usually unreliable for which type of glasses.

(A) Laminated glass
(B) Coloured glass
(C) Toughened glass
(D) Decorative glass
(E) Answer not known

119. Three main categories of forged signatures are

(A) Smooth, rapid and rhythmic forgeries
(B) Traced, simulated and simple forgeries
(C) Digital, scribble and personalised forgeries
(D) Calligraphy, formal and quilt forgeries
(E) Answer not known

120. In handwriting comparison, authentic sample used for comparison purpose is called as

(A) Manuscript
(B) Deplorable writings
(C) Worksheet
(D) Exemplars
(E) Answer not known

121. What is the expansion for MQTT?

(A) Message Queue Telemetry Transport
(B) Message Queue Television Transport
(C) Message Queue Telecast Transmission
(D) Message Queue Television Transmission
(E) Answer not known

122. Digital signatures are implemented through _____

(A) Private key cryptography
(B) Public key cryptography
(C) Smart cards
(D) Internet
(E) Answer not known

123. Which component in cloud architecture provides virtual machines, storage and network as services?

(A) Saas
(B) Paas
(C) Iaas
(D) DBaas
(E) Answer not known

124. Match the appropriate data related to cyber crime

(a)	Salami attack	1.	Cyber defamation
(b)	Data diddling	2.	Taking control of website
(c)	Web Jacking	3.	Altering raw data
(d)	Cybercrime against individual	4.	Financial crimes

	(a)	(b)	(c)	(d)
(A)	4	3	2	1
(B)	3	1	4	2
(C)	2	1	3	4
(D)	2	4	1	3

(E) Answer not known

125. Match the following routing protocols for WSWs

	Category		Representive protocols
(a)	Location based protocols	1.	LEACH, PEGASIS
(b)	Data centric protocols	2.	MECN, SMECN
(c)	Hierarchical protocols	3.	SPIN, COUGAR
(d)	Mobility based protocols	4.	SEAD, TTDD

	(a)	(b)	(c)	(d)
(A)	3	2	1	4
(B)	2	3	4	1
(C)	2	3	1	4
(D)	3	1	2	4

(E) Answer not known

126. Type II Cyber criminals are

(A) Hobby hacker's
(B) Organized criminals
(C) Politically motivated hackers
(D) IT professionals
(E) Answer not known

127. Private key cryptography is also known as ———— cryptography.

(A) Public key
(B) Symmetric
(C) Asymmetric
(D) Hybrid
(E) Answer not known

128. Identify the validity of the terminologies associated with transactions in DBMS.

1. Transactions are a sequence of queries and updates that together carryout task
2. Transactions can be committed or roll back
3. When a transaction is committed the effect of all updates of the transaction are undone

(A) 1, 2, 3 are valid
(B) Only 1 is true
(C) Only 1 and 2 are true
(D) Only 2 is true
(E) Answer not known

129. List which of the SQL statement is not Data Definition Language Statement

(A) Create
(B) Alter
(C) Rename
(D) Update
(E) Answer not known

130. Find the statement which is not true about Java Script

1. Java Script is an interpreted language
2. Java Script runs on browser
3. Java Script needs to be compiled
4. Java Script is an object based language

(A) 1
(B) 1 and 2
(C) 3
(D) 3 and 4
(E) Answer not known

131. Applying a logo to every slide in a presentation can be done by

(A) Save as image in PPT
(B) Paste in each slide
(C) Add it to the slide master
(D) Insert in every page
(E) Answer not known

132. Web applications that need access to data for only a browsing session and that must keep that data separate among multiple tabs can use window objects ———————— in Java Script.

(A) local storage
(B) global storage
(C) session storage
(D) cookies
(E) Answer not known

133. Which command is used to remove a table from a database in SQL?

(A) DELETE
(B) DROP
(C) REMOVE
(D) TRUNCATE
(E) Answer not known

134. Which HTML element is used to define description data in description list?

(A)
(B)
(C) <dd>
(D) <dl>
(E) Answer not known

135. Which protocol is used to assign IP address automatically to device on a network?

(A) DNS
(B) HTTP
(C) DHCP
(D) FTP
(E) Answer not known

136. Computers connected to transmission lines may establish a path by either

(A) Connectionless, switching, CDMA
(B) Circuit switching, path switching, message switch
(C) PSTN, GSM, CDMA
(D) Circuit switching, packet switching, message switching
(E) Answer not known

137. The devices which use magnetic surface recording are ————————.

(A) hard disk, floppy disk, DVD
(B) hard disk, magnetic tape, floppy disk
(C) hard disk, CD-ROM, magnetic tapes
(D) magnetic disk, floppy disk, DVD
(E) Answer not known

138. Which of this is not a function of operating system?

(A) Scheduling processes
(B) Accounting software auditing
(C) Accounting resource usage
(D) Controlling program execution
(E) Answer not known

139. ———————— is a device that is used to read an image, convert it into a set of 0's and 1's and store in a computer's memory.

(A) Optical scanner
(B) Hand held scanner
(C) Optical Mask reading and recognition
(D) Both (A) and (B)
(E) Answer not known

140. When a user attempts to login to the system by entering the password, the same function is applied to the entered value and the result is compared with the stored value. If they match, user gains the access. This process is called

(A) login
(B) authentication
(C) password cracking
(D) illegal attempt
(E) Answer not known

141. The theory that states life has originated from non-living organic matter abiogenetically from time to time is

(A) Theory of Catastrophism
(B) Theory of Spontaneous Generation
(C) Theory of Panspermia
(D) Theory of Eternity of present conditions
(E) Answer not known

142. The secretion of ecdysteroids in insects is principally regulated by a tropic neuro hormone called

(A) Prothoracicotropic hormone (PTTH)
(B) Melanocyte Stimulating hormones (MSHs)
(C) Adrenocorticotropic hormone (ACTH)
(D) Growth Hormone (GH)
(E) Answer not known

143. Choose the right matches among the following

1. Sex pheromone – Bombykol
2. Territorial pheromones – Area Marking pheromone
3. Trail pheromones – Trigger a change of developmental events
4. Primer pheromones – ants mark their path using this

(A) 1 and 2 are correct
(B) 2 and 3 are correct
(C) 3 and 4 are correct
(D) 1 and 4 are correct
(E) Answer not known

144. Which of the following statements are true

(i) Base are Adenine (A), Guanine (G), Cytosine (C) Uracil (U)
(ii) Ribonucleosides include – Adenosine, Guanosine, Cytosine and Uridine
(iii) Adenine (A), Guanine (G), Cytosine (C), Uracil (U) are Ribonucleoside
(iv) Adenosine, Guanosine, Cytosine and Uridine are Bases

(A) (i) only
(B) (i) and (iii) only
(C) (i) and (ii) only
(D) (ii) and (iii) only
(E) Answer not known

145. In Watson and Crick's structural model of DNA, the hydrogen bonds between Purines and Pyrimidines are such that

(A) Adenine can bond only to Thymine and guanine binds to cytosine

(B) Adenine bonds to Cytosine and Guanine binds to Thymine

(C) Thymine bonds to Cytosine and Adenine binds to Guanine

(D) Adenine can bond only to Adenine and Guanine binds to Guanine

(E) Answer not known

146. Which of the following insects are not useful

(A) *Periplaneta americana*

(B) *Bombyx mori*

(C) *Laccifer lacca*

(D) *Plutella Xylostella*

(E) Answer not known

147. The blow fly lifecycle has six parts. Arrange the chronological order.

(A) Egg → 2 larval stage → Pupa → Adult

(B) Egg → 3 larval stage → Adult → Pupa

(C) Egg → 1 larval stage → Pupa → Adult

(D) Egg → 3 larval stage → Pupa → Adult

(E) Answer not known

148. Record slips of convicted person maintained in Finger print Bureaus which afford the best means to establish the identity of unknown criminals include

(A) 9 digit finger print
(B) 8 digit finger prints
(C) 12 digit finger prints
(D) Ten digit finger print
(E) Answer not known

149. Insect that consume a wide range of plants of different genera but in a single plant family are called as

(A) Phytophagous Insects
(B) Monophagous Insects
(C) Polyphagous Insects
(D) Oligophagous Insects
(E) Answer not known

150. Choose the right matches for the basic patterns of fingerprints

1. Arches – Plain and Tented
2. Whorls – Plain
3. Loops – Radial and Ulnar
4. Composites – Tented and Ulnar

(A) 1 and 3 are correct
(B) 1 and 2 are correct
(C) 2 and 3 are correct
(D) 3 and 4 are correct
(E) Answer not known

151. If a woman contacts German measles during the first three months of pregnancy, her offspring have a greatly increased showing some sort of malformation which are not inheritable called

(A) Inheritable phenotypic traits
(B) Congenital phenotypic traits
(C) Mendelian phenotypic traits
(D) None of the above
(E) Answer not known

152. The human race are genetically diverse, because they are

(A) Homozygous for many genes
(B) Heterozygous for many genes
(C) Homozygous for single gene
(D) Heterozygous for single gene
(E) Answer not known

153. The special type of eukaryotic polytene chromosomes found in the nuclei of the salivary gland cells of the larvae.

(A) Mosquito Larvae
(B) Chironomous Larvae
(C) Lepidopteron Larvae
(D) Coleopteran Larvae
(E) Answer not known

154. Select the correctly choice of the following matched among the syndrome and Trisomy.

1. Down's syndrome — Trisomy 13
2. Edward's syndrome – Trisomy 8
3. Patau's syndrome — Trisomy 21
4. Warkany syndrome — Trisomy 18

(A) 4, 3, 2, 1 (B) 3, 4, 1, 2
(C) 2, 1, 3, 4 (D) 1, 2, 4, 3
(E) Answer not known

155. The number of chromosomes was made in 1912 by winiwatter, who proposed that human chromosomes are

(A) Women 47 and Men 48 (B) Women 48 and Men 47
(C) Women 48 and Men 48 (D) Women 46 and Men 47
(E) Answer not known

156. The Archaebacteria and Eubacteria are included in _____.

(A) Monera (B) Protista
(C) Protozoa (D) Parazoa
(E) Answer not known

157. The axon terminals of motor neurons contain thousands of vesicles filled with _____

(A) Sodium (B) Potassium
(C) Acetyl choline (D) Calcium
(E) Answer not known

158. Mathias Schleiden and Theodor Schwann conclude that all organisms are composed of similar units of organization, called cells in the year

(A) 1836 & 1837
(B) 1837 & 1838
(C) 1838 & 1839
(D) 1839 & 1840
(E) Answer not known

159. Assertion [A] : The sub-phylum cephalo chordata is taken up first, because of its generalized chordate organization.

Reason [R] : Notochord extends throughout the length of the animal dorsally.

(A) [A] is true but [R] is false
(B) Both [A] and [R] are true and [R] is the correct explanation of [A]
(C) [A] is false, [R] is true
(D) Both [A] and [R] are true, but [R] is not correct explanation of [A] is correct
(E) Answer not known

160. The term systematics was used by Linnaeus in the period of

(A) 1753-1758
(B) 1807-1878
(C) 1717-1810
(D) 1817-1810
(E) Answer not known

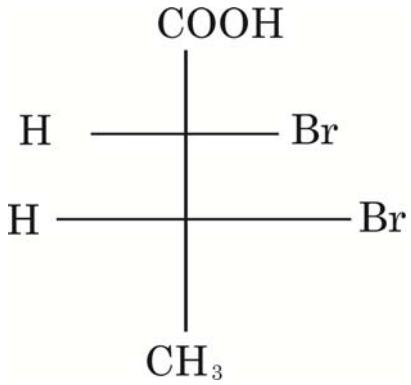
161. 0.5 g of an optically active compound was dissolved in 2 ml of solvent at 25°C. The solution was kept in a cell of length 10 cm and observed rotation was +10°. What is the specific rotation of its enantiomer?

(A) +40° (B) –40°

(C) 0.75° (D) 0

(E) Answer not known

162. Assign R, S configuration to the following compounds :



(A) 2S, 3R (B) 2R, 3S

(C) 2R, 3R (D) 2S, 3S

(E) Answer not known

163. Compounds which are mirror images of each other and are not superimposable are called

(A) Enantiomers (B) Diastereomers

(C) Chiral centres (D) Assymetric centres

(E) Answer not known

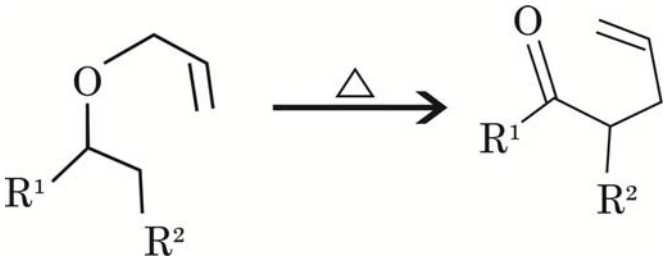
164. Which among the following molecule can exhibit the optical isomerism?

(A) n-butyl chloride
(B) Isobutyl chloride
(C) Sec. butyl chloride
(D) Tert. butyl chloride
(E) Answer not known

165. Which one of the following is the decreasing order of nucleophilic bimolecular substitution reaction?

(A) $CHCl_3 > CHCl_2 > CH_3Cl > CCl_4$
(B) $CH_3Cl > CH_2Cl_2 > CHCl_3 > CCl_4$
(C) $CHCl_2 > CHCl_3 > CCl_4 > CH_3Cl$
(D) $CCl_4 > CH_3Cl > CHCl_2 > CHCl_3$
(E) Answer not known

166. Rearrangement involved in the following conversion is



(A) Claisen rearrangement
(B) Cope rearrangement
(C) Beckmann rearrangement
(D) Pinacol-Pinacolone rearrangement
(E) Answer not known

167. The rate determining step in S_N1 reaction is

(A) Formation of carbanion
(B) Formation of carbocation
(C) Addition of OH^- ion
(D) Both (B) and (C)
(E) Answer not known

168. Which one of the following is the correct order of proton releasing power?

(A) $H_2Te < H_2Se < H_2S < H_2O$
(B) $H_2O < H_2Se < H_2S < H_2Te$
(C) $H_2O < H_2S < H_2Se < H_2Te$
(D) $H_2Te < H_2S < H_2Se < H_2O$
(E) Answer not known

169. The degree of polarity in a polar molecule is expressed by its dipole moment which is equal to

(A) product of size and the charge between atoms
(B) product of charge and the distance between atoms
(C) product of energy and structure between atoms
(D) product of size and distance between atoms
(E) Answer not known

170. According to Aufbau principle every electrons enters in the following state.

(A) Highest possible energy state
(B) Nearest possible energy state
(C) Optimum energy state
(D) Lowest possible energy state
(E) Answer not known

171. Alkali metal halide with lowest lattice energy :

LiF, NaCl, KBr, CsI

(A) LiF
(B) NaCl
(C) KBr
(D) CsI
(E) Answer not known

172. According to the Lewis concept a base is called

(A) Donor and nucleophile
(B) Acceptor and electrophile
(C) Donor and electrophile
(D) Acceptor and nucleophile
(E) Answer not known

173. Species with high proton affinity

I^-, HS^-, NH_2^-, F^-

(A) I^-
(B) HS^-
(C) NH_2^-
(D) F^-
(E) Answer not known

174. According to Arrhenius concept which one of the following statement is correct?

(A) Acid gives OH^- in water and base gives H^+ in water
(B) Acid gives H^+ in water and base gives OH^- in water
(C) Acid release electron in water and base release H^+ in water
(D) Acid accepts H^+ in water and base donate H^+ in water
(E) Answer not known

175. According to Bronsted-Lowry concept which one of the following statement is correct?

(A) Acid is a hydrogen contained substance

(B) Base is a hydrogen contained substance

(C) Acid is a electron contained substance

(D) None of the above

(E) Answer not known

176. Oxidation number of 'S' in $S_2O_7^{2-}$

(A) +6 (B) +4

(C) +2 (D) +1

(E) Answer not known

177. The total number of reacting species which colloide simultaneously to form the products in an elementary reaction is called

(A) Rate of the reaction

(B) Collision of the reaction

(C) Molecularity of the reaction

(D) Activation energy of the reaction

(E) Answer not known

178. In Arrhenius equation a plot of lnk Vs 1/T gives,

(A) A straight line with positive slope

(B) A straight line with negative slope

(C) Curved line

(D) Horizontal line

(E) Answer not known

179. The ratio of the velocity constant for a reaction at two temperatures differing by 10°C is called

(A) Activation coefficient
(B) Specific reaction coefficient
(C) Velocity coefficient
(D) Temperature coefficient
(E) Answer not known

180. For the reaction $A \rightarrow B$, the rate of the reaction doubles when the concentration increased four times. The order of A is

(A) Zero
(B) Half
(C) One
(D) Two
(E) Answer not known

181. Restorative Justice process can be considered:

(A) only a formal response
(B) only an informal response
(C) both formal and informal response
(D) neither formal nor informal response
(E) Answer not known

182. What are risk factors in criminology?

(A) Conditions that decrease the likelihood of crime
(B) Conditions that increase the likelihood of crime
(C) Laws that prevent crime
(D) Punishments given to offenders
(E) Answer not known

183. Which among the following is not a victimless crime?

(A) Suicide
(B) Gambling
(C) Alcoholism
(D) Homicide
(E) Answer not known

184. Payment to victims to makeup for a crime by offender is called

(A) Fine
(B) Restitution
(C) Bail
(D) Damages
(E) Answer not known

185. Match the following : Stages of Victimization cycle

List I	List II
(a) Primary victimization	1. Negative treatment of the victim by institution or society
(b) Secondary victimization	2. Initial act of harm or crime suffered by the victim
(c) Tertiary victimization	3. Societal neglect or lack of systemic support leading to long-term harm
(d) Re-victimization	4. Being victimized again, often due to unaddressed trauma or repeated vulnerabilities.

	(a)	(b)	(c)	(d)
(A)	2	1	3	4
(B)	1	4	2	3
(C)	3	2	1	4
(D)	4	3	2	1

(E) Answer not known

186. Which one of the following pairs is not correctly matched?

(A) Children's home – Section 34 of JJ Act
(B) Special Juvenile Police unit – Section 63 of JJ Act
(C) Juvenile Justice Board – Section 4 of JJ Act
(D) 'Fit Institution' – NDPS Act
(E) Answer not known

187. Who is the authority to conduct trails in the Court of Session?

(A) District Magistrate
(B) Police Inspector
(C) Sessions Judge
(D) Advocate General
(E) Answer not known

188. Which theory of punishment is based on the principle "an eye for an eye"?

(A) Reformative theory
(B) Retributive theory
(C) Deterrent theory
(D) Preventive theory
(E) Answer not known

189. Parole is usually granted to prisoners who have :

(A) Just been convicted
(B) Completed part of their sentence with good behaviour
(C) Been acquitted
(D) Escaped from prison
(E) Answer not known

190. Which principle is not typically followed in judicial sentencing?

(A) Proportionality
(B) Uniformity
(C) Judicial Discretion
(D) Double Jeopardy
(E) Answer not known

191. Which of the following agencies is responsible for investigating White Collar Crimes in India?

(A) NCB
(B) NIA
(C) CBI
(D) BSF
(E) Answer not known

192. "Crime, racism, sexism and international exploitation are manifestations of the inherent contradictions of the political - economic organization of monopoly capitalism" given by Don C. Gibbons is part of;

(A) Radical Criminology
(B) Critical Criminology
(C) New Criminology
(D) Clinical Criminology
(E) Answer not known

193. Which of the following is most commonly associated with drug-addiction related crimes?

(A) Political graft
(B) Theft and robbery
(C) Tax erosion
(D) Cyber Crime
(E) Answer not known

194. According to U.S. Statistics, which racial group is disproportionately incarcerated relative to their population size

(A) Native Americans
(B) African Americans
(C) Asian Americans
(D) White Americans
(E) Answer not known

195. Which of the following best describes “regulatory crimes"?

(A) Crimes committed by Juveniles
(B) Violent crimes
(C) Crimes with no victims
(D) Violations of laws designed to protect public welfare, often by corporations
(E) Answer not known

196. The act of gaining unauthorized access to computer system is called

(A) Hacking
(B) Phishing
(C) Spamming
(D) Malware
(E) Answer not known

197. Match the following type

List I	List II
(a) Classical school	1. Sutherland
(b) Positive school	2. Cesare Beccaria
(c) Psychological school	3. Lombroso
(d) Sociological school	4. Eysenck

	(a)	(b)	(c)	(d)
(A)	4	3	2	1
(B)	1	2	3	4
(C)	3	2	4	1
(D)	2	3	4	1

(E) Answer not known

198. Which criminological theory focuses on the influence of peers and social groups on criminal behaviour?

(A) Rational choice theory
(B) Social learning theory
(C) Conflict theory
(D) Biological theory
(E) Answer not known

199. Who first initiated an ecology study of crime?

(A) Shaw & McKay
(B) McLin & Ferri
(C) Sykes & Matza
(D) Cohen & Felson
(E) Answer not known

200. Cesare Beccaria was influenced by

(i) Social contract

(ii) Biological determinism

(iii) Freewill

(iv) Atavism

(A) (i) & (ii) are correct

(B) (ii) & (iii) are correct

(C) (i) & (iv) are correct

(D) (i) & (iii) are correct

(E) Answer not known
