

FORENSIC SCIENCE

(PHYSICS)

1. The dimensional formula of stress is
 - (A) $[M^0L^1T^2]$
 - (B) $[M^1L^0T^{-2}]$
 - (C) $[M^1L^{-1}T^{-2}]$
 - (D) $[M^1L^{-1}T^{-1}]$

2. The work done per unit volume in stretching the wire is equal to
 - (A) stress $\times$ strain
 - (B) $(1/2)$ stress $\times$ strain
 - (C) stress / strain
 - (D) strain / stress

3. The twisting couple per unit twist of a cylinder depends on
 - (A) Young's modulus
 - (B) Bulk modulus
 - (C) Modulus of rigidity
 - (D) Poisson's ratio

4. The bending moment of a beam depends on only
 - (A) Young's modulus
 - (B) Bulk modulus
 - (C) Modulus of rigidity
 - (D) Poisson's ratio

5. Let y is depression produced in the free end of cantilever when weight W is loaded at other end of the beam. If the length of the beam is doubled, the depression y will be
 - (A) $y/8$
 - (B) $2y$
 - (C) $8y$
 - (D) None of the above

6. The upper end of a wire of radius 4 mm and length 100 cm is clamped and its other end is twisted through an angle of 30° . Then angle of shear is:
- (A) 12°
 - (B) 0.12°
 - (C) 1.2°
 - (D) 0.012°
7. At constant pressure velocity of sound is
- (A) independent of temperature
 - (B) inversely proportional to absolute temperature
 - (C) directly proportional to temperature in degree centigrade
 - (D) directly proportional to square root of absolute temperature
8. If the directions of wind and sound are the same then velocity of sound
- (A) decreases
 - (B) increases
 - (C) remains unaffected
 - (D) becomes minimum
9. In Doppler's effect there is a change in due to relative motion between observer and source of sound.
- (A) amplitude of sound
 - (B) type of sound wave
 - (C) loudness of sound
 - (D) pitch of a note
10. The same notes being played on the sitar and veena differ in
- (A) pitch
 - (B) quality
 - (C) loudness
 - (D) frequency
11. is a scalar quantity.
- (A) Velocity
 - (B) Weight
 - (C) Temperature
 - (D) Acceleration

12. If $D = (B \times C)$, then D is
- (A) perpendicular to B
 - (B) perpendicular to C
 - (C) perpendicular B and C
 - (D) parallel to B and C
13. If G is an operator corresponds to a physical quantity and H is its Hamiltonian, then the commutator relation $[G, H] = 0$ tells us that
- (A) G is not a physical entity
 - (B) G is a constant of motion
 - (C) G is varies with time
 - (D) H is not a constant of motion
14. For a vector V , $\text{div}(\text{curl } V) = \dots\dots\dots$
- (A) 0
 - (B) -1
 - (C) +1
 - (D) ∞
15. The relation between line integral and surface integral is given by theorem.
- (A) Stokes
 - (B) Gauss
 - (C) Green's
 - (D) Poisson
16. The maximum line integral per unit area enclosed by the path of integration is called
- (A) Gradient
 - (B) Divergence
 - (C) Curl
 - (D) Flux
17. product is governed by the Right-Hand Screw Rule.
- (A) Vector
 - (B) Scalar
 - (C) Simple mathematical

- (D) None of the above
18. The time period of a compound pendulum is directly proportional to the square root of
- (A) I
(B) m
(C) g
(D) ℓ
19. The value of 'g' on the Earth is the greatest at and the least at the
- (A) poles, equator
(B) equator, poles
(C) north pole, south pole
(D) south pole, north pole
20. If no external torque is acting on a particle, its remain constant.
- (A) angular momentum
(B) angular acceleration
(C) linear momentum
(D) angular velocity
21. These particles obey the Bose-Einstein statistics
- (A) Neutrinos
(B) Pions
(C) Protons
(D) Quarks
22. The work done by a conservative force along a closed path is
- (A) zero
(B) positive
(C) infinite
(D) negative
23. The force acting on a particle of charge 'e' in an electromagnetic field is
- (A) $F = eE + ev \cdot B$
(B) $F = eE + ev \times B$
(C) $F = ev \cdot B$
(D) $F = ev \times B$

24. The surface energy term in the nuclear binding energy is related to its mass number as
- (A) $A^{1/3}$
 - (B) $A^{2/3}$
 - (C) $A^{3/4}$
 - (D) A^2
25. The cyclotron frequency of charged particle depends on
- (A) mass of the particle
 - (B) applied magnetic field
 - (C) both (A) and (B)
 - (D) electric field
26. A car moving with a constant velocity represents frame of reference.
- (A) Einstein's
 - (B) inertial
 - (C) non-inertial
 - (D) Newton's
27. The Michelson-Morley experiment established the fact that the velocity of light is
- (A) constant and dependent of the frame of reference
 - (B) constant and independent of the frame of reference
 - (C) variable and independent of the frame of reference
 - (D) variable and dependent of the frame of reference
28. In Lorentz transformation, time is quantity.
- (A) constant
 - (B) absolute
 - (C) relative
 - (D) conserved
29. A NaCl crystal is irradiated with a beam of X-ray of wavelength 0.3 nm and the first Bragg reflection is observed at an angle of 30° . Then the atomic spacing of NaCl is
- (A) 0.5 nm
 - (B) 0.4 nm
 - (C) 1.2 nm
 - (D) 0.3 nm

30. According to the law of Dulong and Petit, the molar heat capacity is related to the universal gas constant (R) as

(A) R
(B) 2 R
(C) $\frac{3}{2}$ R
(D) 3 R

CHEMISTRY

31. Half-life of Ra^{226} is 1580 years. The amount left undisintegrated from 1.0 g of the isotope after 6320 years is

(A) 0.125 g
(B) 0.0625 g
(C) 0.0125 g
(D) 0.350 g

32. The wavelength associated with an electron ($m_e = 9.1 \times 10^{-31}$ kg) moving with a velocity of 10^3 m/sec is

(A) $7253 \text{ \AA}$
(B) 7253 m
(C) $725.3 \text{ \AA}$
(D) 8000 m

33. The oxidation numbers of chromium in $\text{K}_2\text{Cr}_2\text{O}_7$, K_2CrO_4 and CrO_2Cl_2 respectively are

(A) 6, 4 and 4
(B) 4, 6 and 6
(C) 6, 4 and 6
(D) 6, 6 and 6

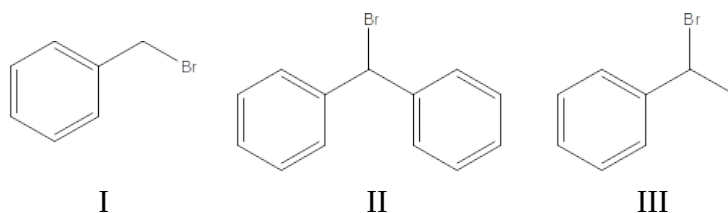
34. The concentration of the solution of tryptophan that has an absorbance of 0.54 at 280 nm in a 0.5 cm length cuvette (the absorbance coefficient of tryptophan is $6.01 \times 10^3 \text{ L mol}^{-1} \text{ cm}^{-1}$) is

(A) 0.000166 M
(B) 0.166 M
(C) 0.006 M
(D) None of the above

35. The emf of the cell $\text{Cu}/\text{Cu}^{2+} (0.02 \text{ M}) // \text{Cu}^{2+} (0.04)/\text{Cu}$ at 25°C
- (A) 0.89 v
(B) -0.0089 v
(C) -0.0069 v
(D) 0.0089 v
36. The rotational energy of H_2O molecule is
- (A) $3/2 \text{ KT}$
(B) $1/2 \text{ KT}$
(C) KT
(D) 2 KT
37. The $t_{1/2}$ of the zero order reaction is 250 s. The $t_{1/2}$ of the reaction if the initial concentration increases twice is
- (A) 250 s
(B) 500 s
(C) 125 s
(D) 400 s
38. The rotational constant of $^{14}\text{N}_2$ is 2 cm^{-1} . The wave number of incident radiation in a Raman spectrometer is $20,487 \text{ cm}^{-1}$. The wave number of first scattered Stoke line (in cm^{-1}) of $^{14}\text{N}_2$ is
- (A) $20,479 \text{ cm}^{-1}$
(B) $20,475 \text{ cm}^{-1}$
(C) $20,499 \text{ cm}^{-1}$
(D) $20,495 \text{ cm}^{-1}$
39. The equivalent conductivity at infinite dilution (λ_∞) for sodium acetate, hydrochloric acid and sodium chloride is 78, 384 and 109 respectively. The λ_∞ of acetic acid would be
- (A) 187
(B) 493
(C) 353
(D) 571

40. Number of nodes in 1s, 2s and 2p respectively are
- (A) 0, 1, 0
 - (B) 1, 0, 1
 - (C) 1, 0, 0
 - (D) 0, 0, 1
41. An organic compound of molecular formula, C_3H_8O (A) reacts violently with sodium evolving hydrogen. Oxidation of this compound with PCC gives a compound that gives a positive test with Tollens' reagent. The characteristic spectral data of A are (UV: 210 nm; IR 3350, 2800-3000, 1480, 1075 cm^{-1}). A would be
- (A) $CH_3CH_2CH_2OH$
 - (B) $CH_3CH(OH)CH_3$
 - (C) $CH_3OCH_2CH_3$
 - (D) All the above
42. The product formed by treating benzene with $CH_3Cl/AlCl_3$, followed by Cl_2 in the presence of sunlight and then with aqueous KOH is
- (A) *m*-chlorotoluene
 - (B) *o*-methylphenol
 - (C) *o*-chlorotoluene
 - (D) benzyl alcohol
43. Treatment of ethylamine with $CHCl_3$ in the presence of ethanolic KOH yields
- (A) Propanal + KCl + H_2O
 - (B) Formic acid + KCl + CO_2
 - (C) Propyl isocyanide + KCl + H_2O
 - (D) None of the above
44. The order of carbonyl stretching frequency in IR spectra of acetone, acetamide and acetic anhydride follows
- (A) anhydride > amide > ketone
 - (B) ketone > amide > anhydride
 - (C) amide > anhydride > ketone
 - (D) anhydride > ketone > amide

45. The order of the rate of S_N2 reactivity of the following compounds would be



- (A) $I > II > III$
- (B) $III > II > I$
- (C) $I > III > II$
- (D) $II > III > I$

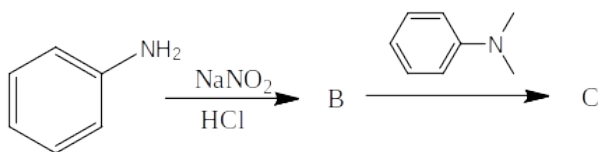
46. Which statement is **incorrect** about ascorbic acid?

- (A) enolic OH group is present and is not reduced by $LiAlH_4$
- (B) estimation of ascorbic acid is carried out by titration with 2,6-dichlorophenol-indophenol
- (C) deficiency in the diet causes scurvy
- (D) ascorbic acid contains two $-COOH$ groups and the molecular formula is $C_6H_8O_6$

47. The relative order of stability of the conformers of 1,2-dimethylcyclohexane is

- (A) $trans(aa) > cis > trans(ee)$
- (B) $trans(aa) > trans(ee) > cis$
- (C) $cis > trans(aa) > trans(ee)$
- (D) $trans(ee) > cis > trans(aa)$

48. In a reaction of aniline that is given below, a coloured product, C was obtained. Predict the structure of C.



- (A)
- (B)
- (C)
- (D)

49. Primary amides may be converted into amines by the reaction that is named as

- (A) Perkin reaction
(B) Claisen reaction
(C) Hoffmann reaction
(D) Kolbe reaction

50. The number of optical isomers of $\text{CH}_3\text{CH}(\text{OH})\text{CH}(\text{OH})\text{CHO}$ is

- (A) zero
(B) 2
(C) 3
(D) 4

51. The molarity of Na_2CO_3 solution which is obtained by dissolving 8 g of Na_2CO_3 in 100 ml water and the density of the solution is 1.08 g per ml is (Atomic weight of $\text{Na} = 23$, $\text{C} = 12$, $\text{O} = 16$)

- (A) 0.8 M
(B) 0.75 M
(C) 0.075 M
(D) 0.008 M

52. The hybridization and geometry of $[\text{NiCl}_4]^{2-}$ and $[\text{NiF}_6]^{2-}$ respectively are
- (A) sp^3 , tetrahedral and d^2sp^3 , octahedral
 - (B) dsp^2 , square planar and d^2sp^3 , octahedral
 - (C) sp^3 , tetrahedral and sp^3d^2 , octahedral
 - (D) dsp^2 , square planar and sp^3d^2 , octahedral
53. Number of alpha(α) and beta(β) particles emitted in the conversion of ${}_{90}\text{Th}^{232}$ to ${}_{84}\text{Po}^{216}$ are
- (A) $\alpha = 3, \beta = 3$
 - (B) $\alpha = 2, \beta = 4$
 - (C) $\alpha = 4, \beta = 2$
 - (D) $\alpha = 4, \beta = 6$
54. The atomic weight of metal in the oxide with the formula, M_2O_3 that contains 30% oxygen is
- (A) 50
 - (B) 84
 - (C) 124
 - (D) 56
55. The compound that undergoes oxidative addition in presence of H_2 is
- (A) $[\text{Mn}(\text{CO})_5]$
 - (B) $[(\eta^5\text{-C}_5\text{H}_5)\text{Mo}(\text{CO})_3]$
 - (C) $[\text{IrCl}(\text{CO})(\text{PPh}_3)_2]$
 - (D) $[(\eta^5\text{-C}_5\text{H}_5)\text{ReH}]$
56. The spin only magnetic moment and ground state term symbol of manganese in $[\text{MnF}_6]^{3-}$ ion respectively are
- (A) 4.9 BM and ${}^5\text{D}$
 - (B) 4.9 BM and ${}^5\text{F}$
 - (C) 3.9 BM and ${}^3\text{D}$
 - (D) 4.9 BM and ${}^4\text{F}$

57. The biological functions of carbonic anhydrase and peptidase A respectively are
- (A) gene regulation and hydrolysis of peptide
 - (B) interconversion of CO_2 and carbonates, and hydrolysis of peptide
 - (C) gene regulation and interconvert of CO_2 and carbonates
 - (D) None of the above
58. The reaction of $[\text{PtCl}_4]^{2-}$ with two equivalents of NH_3 produces
- (A) cis- $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
 - (B) trans- $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
 - (C) both cis and trans- $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
 - (D) trans- $[\text{Pt}(\text{NH}_3)_2\text{Cl}_4]$
59. The metal present in chlorophyll
- (A) Mg
 - (B) Fe
 - (C) Zn
 - (D) Cu
60. The oxide which has normal spinel structure is
- (A) Fe_3O_4
 - (B) NiFe_2O_4
 - (C) CoFe_2O_4
 - (D) ZnAl_2O_4

BIOLOGY

61. Which one of the following is **NOT** a property of active transport?
- (A) Requires specific proteins
 - (B) Solute transported against its gradient
 - (C) Coupled to ATP hydrolysis
 - (D) Driven by movement of a cotransported ion down its gradient
62. The phylum in which animals are bilaterally symmetrical in the larval stage and radially symmetrical in the adult stage.
- (A) Coelenterata
 - (B) Mollusca
 - (C) Nematoda
 - (D) Echinodermata

63. Which of the following is a protooncogene?
- (A) HER2
 - (B) APC
 - (C) RB
 - (D) BRCA-1
64. The FG-nucleoporins contain multiple repeats of short hydrophobic sequences rich in
- (A) Phenylalanine and glycine
 - (B) Tryptophan and histidine
 - (C) Phenylalanine and glutamine
 - (D) Proline and serine
65. The parasite *Onchocerca volvulus* causes
- (A) Scarlet fever
 - (B) Filariasis
 - (C) Schistosomiasis
 - (D) River blindness
66. Which of the following microbial recognition receptors mediate cytokine production and induce adaptive immune response?
- (A) Toll-like receptor
 - (B) CD14
 - (C) Mannose receptor
 - (D) Scavenger receptor
67. The first gymnosperms most likely originated in the
- (A) Palaeozoic era
 - (B) Mesozoic
 - (C) Cenozoic
 - (D) Neoproterozoic
68. The pathway which is extremely important in the differentiation of blood cells, the growth of limbs, and in the activation of casein gene during milk production
- (A) JAK-STAT pathway
 - (B) RTK pathway
 - (C) Both (A) and (B)
 - (D) SYK pathway

69. The transport of water and the inorganic minerals in the plant in the upward direction from the roots to the leaves
- (A) Translocation
 - (B) Ascent of sap
 - (C) Suction
 - (D) Siphoning
70. The cleavage point of trypsin (bovine pancreas)
- (A) Lys Arg(c)
 - (B) Asp glu(c)
 - (C) Met (c)
 - (D) Lys (c)
71. I-cell disease is caused by
- (A) Lack of lysosomal enzymes
 - (B) Imbalance in chloride and sodium
 - (C) Mutation in LDL receptor
 - (D) Uncontrolled autophagy
72. Distributions of incomes or wages are often
- (A) Negatively skewed
 - (B) Positively skewed
 - (C) Both (A) and (B)
 - (D) Neutral in nature
73. The shift in the relative timing of two developmental processes from one generation to the next
- (A) Heterometry
 - (B) Heterochrony
 - (C) Heterotypy
 - (D) Heterotopy
74. Principal CAMs or adhesion receptors in hemidesmosomes
- (A) Integrin
 - (B) Cadherins
 - (C) Occludin
 - (D) Connexins

75. RNA polymerases I synthesis
- (A) SiRNA
 - (B) tRNA
 - (C) Only pre-rRNA
 - (D) mRNAs and small nuclear RNAs
76. The first mammalian apoptotic gene to be cloned
- (A) Caspase 3
 - (B) Apaf-1
 - (C) Bcl2
 - (D) CED 4
77. Human papillomavirus (HPV) encodes three oncogenic proteins. The protein that activates the PDGF receptor
- (A) E7
 - (B) E5
 - (C) E6
 - (D) E2
78. The dietary precursor of Coenzyme biocytin in mammals
- (A) Riboflavin
 - (B) Biotin
 - (C) Pantothenic acid
 - (D) Folate
79. The hormone that break the dormancy of seeds and buds
- (A) Cytokinins
 - (B) Absciscic acid
 - (C) Gibberellins
 - (D) Auxin
80. Powdery mildews in plants are caused by
- (A) Bacteria
 - (B) Nematode
 - (C) Fungi
 - (D) Virus

81. Which one the following techniques enable us to observe the sample in its native hydrated state without fixing or heavy metal staining?
- (A) Cryo-electron microscopy
 - (B) Immunoelectron microscopy
 - (C) REM
 - (D) Both (A) and (B)
82. Which of the following is an example of neutral stain?
- (A) Giesma stain
 - (B) Congo red
 - (C) Malachite green
 - (D) Basic fuchsin
83. Identify the stage of mitosis where daughter cell returns to the interphase
- (A) Anaphase
 - (B) Telophase
 - (C) Metaphase
 - (D) Prophase
84. Difference in beak shape of Galapagos finches is a classic example of
- (A) Divergent evolution
 - (B) Convergent evolution
 - (C) Co evolution
 - (D) Iterative evolution
85. Give an example for a cartilaginous fish
- (A) Sardine
 - (B) Tuna
 - (C) Herrings
 - (D) Shark
86. Tay - Sachs disease is due to the deficiency
- (A) Hexosaminidase A
 - (B) α Galactosidase A
 - (C) Arylsulfatase A
 - (D) Hexosaminidase B

87. Which phylum is commonly known as sponges?
- (A) Cnidaria
 - (B) Porifera
 - (C) Platyhelminthes
 - (D) Echinoderms
88. Author of the *Origin of Species*
- (A) Charles Darwin
 - (B) Dmitri Ivanovsky
 - (C) Mikhail A Fedonkin
 - (D) Ludmila Kuprianova
89. Erosion of genetic variation when a new population is established by a small number of colonist
- (A) Genetic drift
 - (B) Non adaptive evolution
 - (C) Iterative evolution
 - (D) Founder effect
90. Which one of the following is a symporter?
- (A) Sodium calcium pump
 - (B) Sodium potassium pump
 - (C) Sodium hydrogen pump
 - (D) GLUT 1

FORENSIC SCIENCE

91. The primary duty of the crime scene investigator is to
- (A) barricade the crime scene
 - (B) providing medical assistance to the injured at the crime scene
 - (C) photographing viable evidence
 - (D) collecting the evidence
92. In DNA extraction, is included for chelating the ions needed for enzymes to prevent degradation of DNA.
- (A) chelating agent, Mg^{2+} , ribonuclease
 - (B) EDTA, Mg^{2+} , deoxyribonuclease
 - (C) enzyme, Mg^{2+} , deoxyribonuclease
 - (D) EDTA, Ca^{2+} , deoxyribonuclease

93. For the analysis of foetal drug exposure, which of the following matrix can be preferred?
- (A) Meconium
 - (B) Blood
 - (C) Vomit
 - (D) Colostrum
94. Which among the following is the earliest putrefaction change?
- (A) Marbling
 - (B) Rigor mortis
 - (C) Greenish discoloration of right iliac fossa
 - (D) Nystagmus
95. In rifled firearms, the following types of grooves are seen
- (A) Circular
 - (B) Straight
 - (C) Spiral
 - (D) Both (B) and (C)
96. X knows Y is suffering from a particular disease in which he can die if given a simple blow. X causes a simple blow to Y with an intention to cause bodily injury. Y dies. X is guilty of
- (A) culpable homicide not amounting to murder
 - (B) grievous hurt
 - (C) murder
 - (D) simple hurt
97. THC is a constituent of which of the following?
- (A) Dhatura
 - (B) Nux Vomica
 - (C) Cannabis sativa
 - (D) Oleander

98. Arrange the test methods of blood in the correct order

1. Absorption elution
2. Benzidine
3. Takayama test
4. Visual examination

- (A) 2, 3, 4, 1
(B) 1, 2, 4, 3
(C) 4, 2, 3, 1
(D) 4, 2, 1, 3

99. Match the following.

- | | |
|--------------------------|-----------------------|
| a. TLC | 1. Bullet |
| b. Gel electrophoresis | 2. Petroleum products |
| c. GLC | 3. Ink analysis |
| d. Comparison microscope | 4. DNA |

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

100. Vitriolage is a term associated with criminal throwing of harmful substances to disfigure a person. Which of the following is most suitable with the term?

- (A) Sulphuric Acid
(B) Nitric Acid
(C) Cashew nut Oil
(D) Any corrosive chemical

101. Which among the following CFSL is not under direct control of directorate of forensic science services?

- (A) Chandigarh
(B) Delhi
(C) Kolkata
(D) Hyderabad

102. Cephalic index is used to estimate following parameter of identification

- (A) age
(B) race
(C) sex
(D) stature

103. Interpolation is defined as
- (A) extraction of something of different nature from something else
 - (B) extraction of something of similar nature from something else
 - (C) insertion of something of a different nature into something else
 - (D) insertion of something of similar nature into something else
104. Electrostatic development apparatus (EDSA) is used to study indented
- (A) handwriting
 - (B) fingerprints
 - (C) foot prints
 - (D) tyre marks
105. To visualize invisible hand writing the property used is
- (A) effervescence
 - (B) florescence
 - (C) luminescence
 - (D) None of the above
106. Gooping, Beaded appearance, Burr striations, skipping are terms used in relation to writing with
- (A) ball pen
 - (B) gel pen
 - (C) hi tech point pen
 - (D) ink pen
107. DNA fingerprinting uses
- (A) eastern blot
 - (B) northern blot
 - (C) southern blot
 - (D) western blot
108. Denaturation, annealing and extension are integral steps of
- (A) fingerprinting
 - (B) polymerase chain reaction
 - (C) superimposition
 - (D) None of the above

109. The diameter of a 12 bore gun is
- (A) 0.723 "
 - (B) 0.727 "
 - (C) 0.729 "
 - (D) 0.731 "
110. Optical component of UV spectrometer is made up of
- (A) glass
 - (B) quartz
 - (C) paper
 - (D) plastic
111. Which of the following survey method is used in investigation of air crash disaster?
- (A) Strip method
 - (B) Spiral method
 - (C) Wheel method
 - (D) Zonal method
112. Confirmation of menstrual blood stain is done by
- (A) Fibrin degradation product
 - (B) Isoenzyme marker
 - (C) Protein marker
 - (D) Restriction enzymes
113. Kerosene is analysed using standards as per
- (A) IS 2796-2000
 - (B) IS 1459-1974
 - (C) IS 1460-2000
 - (D) IS 2796-1974
114. Tube test, press test, starch-iodine test, Phadebas reagents are used for testing stains due to
- (A) blood
 - (B) saliva
 - (C) semen
 - (D) urine

115. 'Sankhya' poisoning is due to
- (A) aconite
 - (B) arsenic
 - (C) mercury
 - (D) strychnine
116. Gustafson's method include all except
- (A) attrition
 - (B) cementum apposition
 - (C) dentition
 - (D) root resorption
117. Which of the following fibre shows scales?
- (A) Wool
 - (B) Cotton
 - (C) Linen
 - (D) Silk
118. The sequence of post-mortem changes in a cadaver includes
- (A) rigor mortis, primary flaccidity, secondary flaccidity, marbling
 - (B) primary flaccidity, secondary flaccidity, rigor mortis, marbling
 - (C) marbling, secondary flaccidity, primary flaccidity, rigor mortis
 - (D) primary flaccidity, rigor mortis, secondary flaccidity, marbling
119. Seminal stains are not detected using
- (A) Barberio's test
 - (B) Florence Test
 - (C) Hematin test
 - (D) Acid Phosphatase test
120. The technique, which requires antibodies that bind tightly to the drug of interest and only weakly or not at all to other substances
- (A) Chromatography
 - (B) Immunoassay
 - (C) Micro diffusion test
 - (D) Spectroscopy

COMPUTER SCIENCE

121. The brain of any computer system is
- (A) Memory
 - (B) ALU
 - (C) CU
 - (D) CPU
122. Which one of the data structure in non-linear?
- (A) List
 - (B) Stack
 - (C) Queue
 - (D) Graph
123. If x is an array of integer, then the value of $\&x[i]$ is same as
- (A) $\&x[i - 1] + \text{sizeof}(\text{int})$
 - (B) $x + \text{sizeof}(\text{int}) * i$
 - (C) $x + i$
 - (D) None of the above
124. A one dimensional array A has indices 1....75. Each element is a string and takes up three memory words. The array is stored starting at location 1120 decimal. The starting address of $A[49]$ is
- (A) 1167
 - (B) 1164
 - (C) 1264
 - (D) 1169
125. The communication mode that supports two-way traffic but only one direction at a time is
- (A) simplex
 - (B) duplex
 - (C) half duplex
 - (D) multiplex

126. If digital data rate of 9600 bps is encoded using 8-level phase shift keying (PSK) method, the modulation rate is
- (A) 1200 bands
 - (B) 3200 bands
 - (C) 4800 bands
 - (D) 9600 bands
127. When a host knows its physical address but not its IP address, it can use
- (A) RARP
 - (B) ARP
 - (C) IGMP
 - (D) ICMP
128. In SQL, which command is used to select only one copy of each set of duplicable rows
- (A) SELECT DISTINCT
 - (B) SELECT UNIQUE
 - (C) SELECT DIFFERENT
 - (D) All of the above
129. DBMS follows the concepts of Atomicity, Consistency, Isolation, and
- (A) Dependency
 - (B) Durability
 - (C) Integrity
 - (D) Exchangeability
130. A DBMS distributes data processing tasks between the workstation and a network server.
- (A) Network
 - (B) Relational
 - (C) Client Server
 - (D) Hierarchical
131. IPv6 provides unique IP addresses
- (A) 3.4×10^{38}
 - (B) 2.4×10^{38}
 - (C) 3.4×10^{36}
 - (D) 2.4×10^{36}

132. System implementation phase entails
- (A) system checkouts
 - (B) pilot run
 - (C) parallel runs
 - (D) All of the above
133. The advantage of binary files over text files is that
- (A) it is compact
 - (B) it can be accessed faster
 - (C) they are more reliable
 - (D) All of the above
134. If cat x. prints garbage. Then x is probably a
- (A) data file
 - (B) binary file
 - (C) text file
 - (D) source file
135. The quality of an image depends on
- (A) number of pixel used by image
 - (B) number of line used by image
 - (C) number of resolution used by image
 - (D) None of the above
136. In raster scan display, the frame buffer holds
- (A) line drawing commands
 - (B) scanning instructions
 - (C) image resolution
 - (D) intensity information
137. MYCIN is
- (A) a robot
 - (B) a natural language processing system
 - (C) an expert system
 - (D) a computer game

138. The initial value of the semaphore that allows only one of the many processes to enter their critical sections, is
- (A) 8
 - (B) 1
 - (C) 16
 - (D) 0
139. Daisy chain is a device for
- (A) connecting a number of devices to a controller
 - (B) connecting a number of controllers to a device
 - (C) interconnecting a number of devices to a number of controllers
 - (D) All of the above
140. Banker's algorithm for resource allocation deals with
- (A) deadlock prevention
 - (B) deadlock avoidance
 - (C) deadlock recovery
 - (D) mutual exclusion
141. A compiler for a high-level language that runs on one machine and produces code for a different machine is called is
- (A) optimizing compiler
 - (B) one pass compiler
 - (C) cross compiler
 - (D) multi-pass compiler
142. Which of the following tag is used to mark a beginning of paragraph?
- (A) <TD>
 - (B)

 - (C) <P>
 - (D) <TR>
143. A relation that is reflexive, symmetric and transitive is called relation.
- (A) closure
 - (B) positive
 - (C) equivalence
 - (D) associatively

144. is utilized to transfer data between disks and memory.
- (A) DMA
 - (B) MDA
 - (C) AMD
 - (D) ADM
145. refers to inability of the operating systems to allocate portions of unused memory.
- (A) Hole
 - (B) Segment
 - (C) Page
 - (D) Block
146. Meta-data does not provide data about
- (A) the storage format of each data item
 - (B) various constraints on the data
 - (C) structure of each file
 - (D) the size of the disk storage
147. Insert operation on relations can violate which of the following type of constraint?
- (A) Key constraints
 - (B) Entity integrity
 - (C) Referential integrity
 - (D) All of the above
148. RAM is
- (A) read/write memory
 - (B) non-volatile memory
 - (C) fixed memory
 - (D) only readable memory
149. White box testing is to test
- (A) functionality
 - (B) structure
 - (C) input and output
 - (D) behavior

150. Garbage collection is used to
- (A) allocate space
 - (B) keep track of space
 - (C) collect wastage
 - (D) reuse unwanted memory

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FINAL ANSWER KEY**Subject Name: 625 MSc FORENSIC SCIENCE**

SI No.	Key	SI No.	Key	SI No.	Key	SI No.	Key	SI No.	Key
1	C	31	B	61	D	91	B	121	D
2	B	32	A	62	D	92	B	122	D
3	C	33	D	63	A	93	A	123	A
4	A	34	A	64	A	94	C	124	C
5	C	35	D	65	D	95	D	125	C
6	B	36	A	66	A	96	C	126	B
7	D	37	B	67	A	97	C	127	A
8	B	38	B	68	A	98	C	128	A
9	D	39	C	69	B	99	C	129	B
10	B	40	A	70	A	100	D	130	C
11	C	41	A	71	A	101	B	131	A
12	C	42	D	72	B	102	B	132	A
13	B	43	C	73	B	103	A	133	D
14	A	44	D	74	A	104	A	134	B
15	A	45	C	75	C	105	C	135	A
16	C	46	D	76	C	106	A	136	D
17	A	47	D	77	B	107	C	137	C
18	A	48	B	78	B	108	B	138	B
19	A	49	C	79	C	109	C	139	A
20	A	50	D	80	C	110	B	140	B
21	B	51	B	81	A	111	C	141	C
22	A	52	A	82	A	112	A	142	C
23	B	53	C	83	B	113	B	143	C
24	B	54	D	84	A	114	C	144	A
25	C	55	C	85	D	115	B	145	A
26	B	56	A	86	A	116	C	146	D
27	B	57	B	87	B	117	A	147	D
28	C	58	A	88	A	118	D	148	A
29	D	59	A	89	D	119	C	149	B
30	D	60	D	90	B	120	B	150	D