Entrance Exam

2024



QUESTION PAPER

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FORENSIC SCIENCE

1. When a radioactive nucleus emits β–particle, the mass number of the atom:

   (A) Increases by one
   (B) Decreases by one
   (C) Remains the same
   (D) Decreases by two

2. When there is an electric current through a conducting wire along its length, then an electric field must exist

   (A) Outside the wires, but normal to it
   (B) Outside the wires, but parallel to it
   (C) Inside the wires, but parallel to it
   (D) Inside the wires, but normal to it

3. In a cyclotron, a charged particle

   (A) Undergoes acceleration all the time
   (B) Speeds up between the dees because of the magnetic field
   (C) Speeds up in a dee
   (D) Slows down within a dee and speeds up between dees

4. The primary origin of magnetism lies in

   (A) Pauli's exclusion principle
   (B) Polar nature of the molecules
   (C) Intrinsic spin of electron
   (D) External electric field

5. The material suitable for making electromagnets should have

   (A) High retentivity and high coercivity
   (B) Low retentivity and low coercivity
   (C) High retentivity and low corecivity
   (D) Low retentivity and high coercivity

6. Lenz's law of electromagnetic induction is as per law of conservation of

   (A) Energy
   (B) Angular momentum
   (C) Charge
   (D) Electromotive force

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7. A transformer works on the principle of

(A) Converter
(B) Inverter
(C) Mutual inductance
(D) Self-inductance

8. Which of the following has maximum penetrating power?

(A) Ultraviolet radiation
(B) Microwaves
(C) Radio waves
(D) γ – rays

9. The structure of solids is investigated by using

(A) Cosmic rays
(B) X – rays
(C) Blue rays
(D) Infrared rays

10. In optical fibers, the refractive index of the core is

(A) Greater than that of cladding
(B) Equal to that of cladding
(C) Smaller than that of cladding
(D) Independent of cladding

11. When a compact disc is illuminated by a source of white light, coloured lines are observed. This is due to

(A) Dispersion
(B) Diffraction
(C) Interference
(D) Refraction

12. Sun's radiant energy is due to

(A) Nuclear fission
(B) Nuclear fusion
(C) Photoelectric effect
(D) Spontaneous radioactive decay

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13. The quantity which is not conserved in a nuclear reaction is

(A) Momentum
(B) Charge
(C) Mass
(D) Position

14. In a p-type semiconductor, there is

(A) Excess of one electron
(B) Absence of one electron
(C) A mission of atom
(D) A donor level

15. Nanomaterials posses

(A) Very low surface to volume ratio
(B) Very high volume to surface ratio
(C) Very high surface to volume ratio
(D) Very low volume to surface ratio

16. Which of the following is not due to total internal reflection of light?

(A) Brilliance of diamond
(B) Rainbow formation
(C) Light propagation in fiber
(D) Mirage

17. In comparison with a 2-*d* experiment, a 3-*d* experiment has a better

(A) baseline
(B) line shape
(C) S/N ratio
(D) resolution

18. Which of the following is a flavour made from beans?

(A) Vanilla
(B) Strawberry
(C) Mint
(D) Cherry

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19. Oxidation chemical reaction is due to

(A) loss of protons
(B) gain of electrons
(C) loss of electrons
(D) gain of photons

20. The freezing temperature of pure water is

(A) 32°F
(B) 32°C
(C) 49°F
(D) 0°F

21. Haemoglobin is a

(A) carbohydrate
(B) protein
(C) fat
(D) vitamin

22. The device used for detecting lie is called as

(A) Polygraph
(B) Kymograph
(C) Spectrograph
(D) Electromyograph

23. Acid rain is caused due to pollution of atmosphere by

(A) oxides of carbon and nitrogen
(B) oxides of nitrogen and phosphorous
(C) oxides of nitrogen and oxygen
(D) oxides of nitrogen and sulphur

24. Water flows through a horizontal pipe at a constant volumetric rate. At a point where the cross sectional area decreases, the velocity of the fluid is

(A) zero
(B) constant
(C) deceases
(D) increases

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25. When cool air flows from a high mountain region to a low mountain region, the air will

(A) undergo adiabatic warming
(B) increase in moisture content
(C) undergo adiabatic cooling
(D) condense, forming large amount of dew

26. Human eyes are

(A) diverging lenses of fixed focal length
(B) diverging lenses of variable focal length
(C) converging lenses of fixed focal length
(D) converging lenses of variable focal length

27. Natural rubber is a polymer of

(A) Acetylene
(B) Ethylene
(C) Isoprene
(D) Vinyl chloride

28. The quantity that is *unchanged* at different magnetic field strengths is



(A) Nuclear spin population in an energy state
(B) Energy difference between two energy states of nuclei with non-zero spin quantum number
(C) Coupling constant
(D) Chemical shift (in hertz)

29. Quantity that does not change during the transition of liquid water to steam as water boils at a temperature of 100 ^{0}C under a pressure of 1 atmosphere is

(A) Gibbs free energy
(B) Entropy
(C) Specific volume
(D) Internal energy

30. Substance used as a moderator for the chain reaction in the Chicago Pile -1 nuclear reactor was

(A) Boron
(B) Cadmium
(C) Water
(D) Graphite

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FORENSIC SCIENCE (CHEMISTRY)
(FINAL)

31. 50% H_2SO_4 can protonate suitable alkenes to give the corresponding stable carbocation intermediates. Choose the correct example of the alcohol that can be prepared by direct hydration of the corresponding alkene having the same number of carbons in the presence of 50% sulphuric acid.

(A) 2-Methylpropan-1-ol
(B) Butan-1-ol
(C) But-3-en-1-ol
(D) 2-Methylpropan-2-ol

32. Both compounds **A** and **B** are only sparingly soluble in water. Both **A** and **B** react with sodium metal with liberation of H_2 and are soluble in 5% aqueous NaOH. Compound **A** liberates CO_2 from sodium bicarbonate while compound **B** is unreactive towards sodium bicarbonate. **A** and **B** are ……. and …….. respectively.

(A) phenol and aromatic amine
(B) phenol and aliphatic carboxylic acid
(C) aliphatic carboxylic acid and aromatic carboxylic acid
(D) aromatic carboxylic acid and phenol

33. Reverse phase liquid chromatography is mainly useful in separation of ……. compounds which bind too strongly to stationary phases used in typical liquid chromatographic separations.

(A) Neutral
(B) Non-Polar
(C) Polar
(D) Chiral

34. A chiral centre is attached to CH_3, OH, Cl, and SO_3H groups. Choose the correct priority order of these groups according to Cahn Ingold Prelog system.

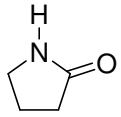
(A) $CH_3 > OH > Cl > SO_3H$
(B) $SO_3H > OH > Cl > CH_3$
(C) $Cl > SO_3H > CH_3 > OH$
(D) $Cl > SO_3H > OH > CH_3$

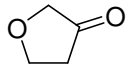
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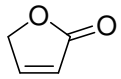
35. In mass spectrometry, positive ions are generally analysed because they are …… than negative ions.

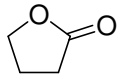
(A) more conveniently generated
(B) more stable
(C) lighter
(D) more easily separated

36. From among the following, pick the compound that shows carbonyl stretching frequency at the highest wave number (cm^{-1}) position in its FTIR spectrum.

(A) 

(B) 

(C) 

(D) 

37. Among the following compounds, which will show M^+ and M+2 peaks in intensity ratio 1:1 in its EI mass spectrum?

(A) CH_3Cl
(B) CH_3Br
(C) CH_3I
(D) CH_3F

38. Which among the following is commonly used as an antifertility drug?

(A) Novestrol
(B) Clomiphene
(C) Letrozole
(D) Seldane

39. In TLC analysis, ninhydrin solution is used as a spraying agent to detect

(A) Amino acids
(B) Carbohydrates
(C) Lipids
(D) Steroids

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40. Pick the wrong statement regarding DNA and RNA.

(A) DNA has higher molecular mass than RNA
(B) DNA being double helical is less stable than RNA
(C) Neucleosides in both RNA and DNA are joined together through phosphate linkages to give their respective nucleotides
(D) RNA has uracil as one among the bases whereas DNA has thymine is one among the bases

41. The frequency of strong yellow line in the spectrum of sodium is 5.09×10^4 s^{-1}. What will be the wavelength in nanometres? (Given C= 3.0×10^8 m/sec)

(A) 589.4 nm
(B) 400 nm
(C) 766.5 nm
(D) 58.94 nm

42. An XPS electron of an element was found to have a K.E. of 1052.6 eV when ejected with an Al Kα source (1486.6 eV) with work function 27.8 eV. What will be the B.E. energy of electrons?

(A) 829.5 eV
(B) 434 eV
(C) 406.2 eV
(D) 510.2 eV

43. A freshly cut piece of wood gives 16.1 counts per minute per gram and the old wooden bowl gives 9.6 counts per minute per gram of carbon the what will be the age of wooden bowl? (Half life of $^{14}C_6$ is 5770 Years)

(A) 4304.18 years
(B) 5770 years
(C) 8604.32 years
(D) 11540 years

44. Continuous X-rays are produced because of

(A) Diffraction
(B) Interference
(C) Bremsstrahlung process
(D) Duane Hunt process

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45. For a certain first order reaction, the time for half change is 72 min the rate constant of reaction is

(A) 9.625×10^{-3} min^{-1}
(B) 6.225×10^{-3} min^{-1}
(C) 5.325×10^{-3} min^{-1}
(D) 4.625×10^{-3} min^{-1}

46. An atom crystalize in FCC crystal lattice and has a density of 10g cm^{-3} with unit cell edge length of 100pm. Then what will be the number of atom present in 1g of crystal

(A) 6.02×10^{23} atoms
(B) 2×10^{23} atoms
(C) 4×10^{23} atoms
(D) 12.04×10^{23} atoms

47. The time required to produce 2F of electricity with a current of 2.5 amperes is

(A) 21.4 h
(B) 1200 min
(C) 5000 sec
(D) 1.5 h

48. The reaction, $2Br^-$ (aq) + Sn^{2+} (aq) $\rightarrow$ Br_2(I) + Sn(s) with standards potential E^0_{Sn} = -0.114 V, E^0_{Br2} = +1.09V is

(A) Spontaneous in reverse direction
(B) Spontaneous in forward direction
(C) At equilibrium
(D) Non-Spontaneous in reverse direction

49. The standard division of the set of analytical results i.e. 1.72, 1.74, 1.68, 1.71, 1.69 gm is

(A) 1.708
(B) 0.2135
(C) 0.02135
(D) 1

50. Which is the radiation emitted by the radioactive elements?

(A) Alpha Rays
(B) Beta rays
(C) Gamma Rays
(D) All of the above

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51. The effective atomic number of $[Pt(NH_3)_4]^{2+}$ complex is

(A) 84
(B) 86
(C) 36
(D) 78

52. Match the compounds and its geometry

Compounds	Geometry
i) XeF_6	w)Square pyramidal
ii) $XeOF_4$	x) Pyramidal
iii) XeO_2F_2	y) Distorted trigonal bipyramidal
iv) XeO_3	z) Distorted Octahedral

(A) i-w, ii-y, iii- x, iv-z
(B) i-x, ii-w, iii- z, iv- y
(C) i-z, ii-x, iii- y, iv- w
(D) i-z, ii-w, iii- y, iv-x

53. The electronic configuration of some neutral atoms is given below. Find the correct answer which having lowest ionisation energy.

(A) $1s^2\ 2s^2\ 2p^6\ 3s^2$
(B) $1s^2\ 2s^2\ 2p^5$
(C) $1s^2\ 2s^2\ 2p^4$
(D) $1s^2\ 2s^2\ 2p^6\ 3s^1$

54. Which of the following has a minimum wavelength?

(A) Gamma rays
(B) Blue light
(C) Infrared rays
(D) Microwave

55. Which among the following is popularly called as "Hypo"?

(A) Silver Bromide
(B) Sodium Thiosulphate
(C) Silver Nitrate
(D) Sodium Phosphate

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56. The spectra can be broadly classified into two categories as

(A) Atomic and molecular spectra
(B) Atomic and electronic spectra
(C) Electronic and molecular spectra
(D) None of the above

57. The presence of a functional group in an organic compound can be studied by using

(A) Chromatography
(B) IR Spectroscopy
(C) Mass Spectroscopy
(D) X-Ray diffraction

58. Which of the following is called as Tincture of Iodine?

(A) Iodine in Ethanol
(B) Iodine in Methanol
(C) Iodine in Hydrogen Peroxide
(D) Iodine in Hydrochloric acid

59. In FT-IR spectroscopy, the peak appears at 1750 cm^{-1} is corresponds to ……. group

(A) –OH stretching
(B) –NH stretching
(C) –C=O stretching
(D) –C=H- stretching

60. Match the following regarding the spectroscopy

(a)	UV	(i)	Neighbouring protons
(b)	FT-IR	(ii)	Chromophores
(c)	NMR	(iii)	Binding energies
(d)	XPS	(iv)	Functional groups

(A) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
(B) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)
(C) (a)-(i), (b)-(iii), (c)-(iv), (d)-(ii)
(D) (a)-(iv), (b)-(i), (c)-(iii), (d)-(ii)

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FORENSIC SCIENCE (BIOLOGY)
(FINAL)

61. The role of G-proteins in cellular signaling is to

(A) The transmit signals directly through the cell membrane
(B) Activate receptor tyrosine kinases
(C) Facilitate the binding of ligands to receptors
(D) Mediate intracellular responses to extracellular signals

62. Which among the following is a characteristic of an autosomal recessive genetic disorder?

(A) Affected individuals typically have unaffected parents
(B) The disorder is more common in males than females
(C) Both parents must be carriers for the disorder to manifest
(D) The disorder is often associated with advanced maternal age

63. The Variable Number Tandem Repeat (VNTR) analysis differs from Short Tandem Repeat (STR) analysis in DNA fingerprinting by

(A) VNTRs involve longer repeating sequences than STRs
(B) STRs involve longer repeating sequences than VNTRs
(C) VNTRs and STRs are interchangeable terms
(D) Both VNTRs and STRs refer to non-repeating sequences



64. The primary role of aldosterone in the body is

(A) Regulation of blood glucose levels
(B) Maintenance of electrolyte balance
(C) Control of body temperature
(D) Stimulation of growth hormone

65. The hormone responsible for promoting water reabsorption in the kidney tubules is

(A) Antidiuretic hormone (ADH)
(B) Aldosterone
(C) Parathyroid hormone (PTH)
(D) Thyroxine

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66. The primary function of cytotoxic T cells in the immune system is

(A) Antibody production
(B) Phagocytosis
(C) Killing infected cells
(D) Inflammatory response

67. The cytokine involved in the regulation of inflammation and immune responses and is often targeted in autoimmune diseases is

(A) Interleukin-2 (IL-2)
(B) Tumor necrosis factor-alpha (TNF-α)
(C) Interferon-gamma (IFN-γ)
(D) Interleukin-4 (IL-4)

68. What is the role of genetic drift in evolution?

(A) Introduction of new genetic variations
(B) Accumulation of beneficial mutations
(C) Random changes in allele frequencies over time
(D) Directional selection for specific traits

69. In the context of fossilization, the term “permineralization” refers to



(A) Preservation of soft tissues
(B) Replacement of organic material with minerals
(C) Formation of molds and casts
(D) Carbonization of plant remains

70. The BLAST (Basic Local Alignment Search Tool) in bioinformatics is used for

(A) Protein structure prediction
(B) Gene expression analysis
(C) Sequence similarity searching
(D) Protein-Protein interaction prediction

71. The purpose of a genome assembly in bioinformatics is

(A) Identifying single nucleotide polymorphisms (SNPs)
(B) Clustering gene expression data
(C) Aligning short reads to reference genomes
(D) Reconstructing complete genomic sequences

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72. The function of the ovipositor in female insects is for

(A) Feeding
(B) Defense
(C) Egg-laying
(D) Sensing environment

73. The phase involved in the replication of DNA is

(A) G1 phase
(B) S phase
(C) G2 phase
(D) M phase

74. The role of the cytoskeleton in cell motility is

(A) Synthesis of ATP
(B) Regulation of cell cycle
(C) Intracellular signaling
(D) Providing structural support and facilitating movement

75. The main purpose of the Casparian strip in plant roots is

(A) Water absorption
(B) Nutrient uptake
(C) Regulation of gas exchange
(D) Control of ions entering the vascular system

76. The role played by phloem in plant vascular tissue is

(A) Water transport
(B) Nutrient transport (mainly sugars)
(C) Structural support
(D) Gas exchange

77. Murein is an important component in

(A) Chloroplast
(B) Plant cell wall
(C) Bacterial cell wall
(D) Animal cell membrane

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78. Which enzyme defect is associated with Sanfilippo's syndrome B?

(A) Succinate dehydrogenase
(B) Esterase
(C) Beta-glucuronidase
(D) Alpha-N-acetylglucosaminidase

79. Inulins and levans are

(A) Proteins
(B) Carbohydrates
(C) Naturally occurring polysaccharides
(D) Isoenzymes

80. Reversible regulation of enzyme activities involves attachment or removal of special groups. This process is also known as

(A) Cascade mechanism
(B) Covalent modification
(C) Redox reaction
(D) Oxidation

81. Cystic fibrosis is caused by a defective allele that

(A) belongs to chromosome no. 8
(B) causes hemoglobin molecules to disrupt
(C) causes defective regulation of chloride-ion transport in exocrine cells
(D) produces a neurotoxin

82. Which of the following is the final product of the Calvin Cycle?

(A) PGA
(B) ADP+NADP
(C) Glucose
(D) ATP

83. Indole-3 acetic acid is similar to

(A) Methionine
(B) Tryptophan
(C) Proline
(D) Phenylalanine

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84. ……. is a Cruciferous type Stomata

(A) Diacytic
(B) Anamocytic
(C) Anisocytic
(D) Actinocytic

85. Type of reproduction in which young ones are produced by larval or pupal stage is known as

(A) Paedogenesis
(B) Viviparity
(C) Polyembryony
(D) None of the above

86. The causative organism of Lyme disease is

(A) *B. burgdorferi*
(B) *H. capsulatum*
(C) *M. tuberculosis*
(D) *C. psittaci*

87. Which of the following is not used as a cancer chemotherapeutic agent?

(A) Cisplatin
(B) Cyclophosphamide
(C) Doxorubicin
(D) Acetaminophen

88. When chemicals A and B are administered simultaneously, their combined effects are far greater than the sum of their effects when given alone. This chemical interaction between chemicals A and B can be described as

(A) Potentiative
(B) Additive
(C) Antagonistic
(D) Synergistic

89. Which of the following is an example of a gram negative bacterium?

(A) Escherichia coli
(B) Staphylococcus aureus
(C) Streptococcus pyogenes
(D) Clostridium difficile

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90. The structure which prevents the entry of food into the respiratory tract is

(A) Epiglottis
(B) Pharynx
(C) Glottis
(D) Larynx

MSC FORENSIC SCIENCE
(FINAL)

91. The word "Podiatry" is related to which of the following?

(A) Foot
(B) Fingerprint
(C) Hair
(D) Nail

92. Which of the following is a metabolite of heroin?

(A) 6-Monoacetylmorphine
(B) N-acetyl-p-benzoquinone imine
(C) Triacetylmorphine
(D) Vanillylmandelic acid

93. CODIS is an acronym for

(A) Convicted Offender DNA Index System
(B) Combined DNA Index System
(C) Code of Detection in Identification of Suspects
(D) Codified Information System

94. Which of the following is the attack that occurs when hackers bombard a site with more requests for service than they can handle, preventing legitimate users from accessing the site?

(A) Denial of service
(B) Trojan
(C) Spam
(D) MiTM

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95. CEDAR-FOX is a software system for the examination of

(A) DNA
(B) Handwriting
(C) Wildlife animals
(D) Hair

96. A person commits burglary in a house by opening the automatic lock of the door using X-ray film. The way he commits the crime is better explained as

(A) Modus operandi
(B) Corpus delecti
(C) Actus reus
(D) Plan of execution

97. The bore of the 12-bore gun is

(A) 0.721 inch
(B) 0.723 inch
(C) 0.727 inch
(D) 0.729 inch

98. Which of the following are level-1 features in the case of fingerprints?

(A) Minutiae
(B) Ridge contours
(C) Sweat pores on the ridges
(D) Delta and core

99. In the Tsuchihashi classification, reticulate grooves belong to which of the following types of lip prints?

(A) Type I
(B) Type II
(C) Type III
(D) Type IV

100. As per Gosta Gustafson's method, which of the following is the single most reliable criterion for the determination of age from teeth in the dead?

(A) Root resorption
(B) Transparency of root
(C) Cementum apposition
(D) Secondary dentin

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101. Organic components of Gun Shot Residue (GSR) are mainly due to

(A) Composition of bullet
(B) Composition of cartridge
(C) Primer discharge residues
(D) Partially and unburnt propellant particles

102. Uncontaminated surface material close to an area where physical evidence has been deposited is known as

(A) Standard Control
(B) Reference Sample
(C) Original Material
(D) Substrate Control

103. Reaction in Barberio's test for the chemical examination of seminal fluid detects the presence

(A) Spermine
(B) Pyruvate
(C) Choline
(D) Ascorbic acid

104. The first fingerprint bureau in the world was established in

(A) London
(B) Lyon
(C) Kolkata
(D) New York

105. …….. is a physiological biometric.

(A) Signature
(B) Gait
(C) Voice
(D) Body Odor

FOR REFERENCE ONLY

106. Analyse the following scenario and answer the question below

A woman gets out of the bed, watches TV, talks on the phone, puts her hat, and then shoots her husband. She hides the gun and runs away.

Which object would be the most useful to the forensic serologist in finding out who the woman was?

(A) Hat
(B) Phone
(C) Window sash
(D) TV

107. Properties of evidence can be attributed to a common source with an extremely high degree of certainty is

(A) Comparison characteristics
(B) Class characteristics
(C) Individual characteristics
(D) Deferential characteristics

108. Amatol is a blasting material which is obtained by mixing

(A) TNT and RDX
(B) TNT and NH_4Br
(C) TNT and NH_4NO_3
(D) TNT and $C_5H_8N_4O_{12}$

109. If blood falls directly downwards so on a flat surface from 2 metre height, the shape of blood stain will be

(A) Almost circular
(B) Almost elliptical
(C) In projected form
(D) Perfect elliptic

110. The percentage of iso-octane in a mixture of iso-octane and n-heptane is called

(A) Cetane number
(B) Knocking number
(C) Anti-knocking number
(D) Octane number

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111. Given two statement namely Assertion (A) and Reason (R)

Assertion (A): The penetration power of shotgun is more than service rifle
Reason (R): Rifle produces more energy inside the barrel as compared to shot gun
Choose the correct alternative from the following based on above.

(A) (A) is correct but (R) is wrong
(B) (A) is wrong but (R) is correct
(C) Both (A) and (R) are wrong
(D) Both (A) and (R) are correct

112. Erasure of a writing using rubber is called

(A) Soft erasure
(B) Magnetic erasure
(C) Hand erasure
(D) Mechanical erasure

113. Alpha nephthoflavon is used for fixing

(A) Latent fingerprints developed with iodine
(B) Latent fingerprints developed with ninhydrin analogues
(C) Latent fingerprints developed with gold-nano particles
(D) Latent fingerprints developed with physical developer

114. How many layers must be matched before the forensic expert conclude that the paints come from same source

(A) 2-3 layers
(B) No criterion
(C) 8 layers
(D) 6 layers

115. An unrotated bullet fired from a country made firearm soon loses it's velocity, because

(A) its mass changes
(B) its caliber changes
(C) its ballistic coefficient reduces
(D) its length coefficient drastically changes

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116. Ten fingerprints classification system is also known as

(A) Fauld's System
(B) Henry's System
(C) Bertillon's System
(D) Galton's System

117. The essential of fingerprints with loop pattern are

(A) A sufficient recurve, a delta, and a ridge count across a looping ridge
(B) A sufficient recurve, a core, and a delta
(C) A sufficient recurve, a core, a ridge count, a dot
(D) A sufficient recurve, a core, and a ridge count across a looping ridge

118. Which of the following bullets is used in firing ranges of police training?

(A) Dum-dum
(B) Explosive
(C) Frangible
(D) Tracer

119. During absorption of drug in human body through passive diffusion, the rate of diffusion is determined by

(A) Fick's law
(B) Henry's law
(C) Beer's law
(D) Schanker's law

120. 'Off-its-feet' is an individual characteristic found in

(A) Typescript typed with manual typewriters
(B) Inkjet printer printout
(C) Typescript typed by electronic typewriter
(D) Laser printer

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121. Which language is directly understood by the computer without translation program?

(A) Machine language
(B) High level language
(C) BASIC language
(D) Assembly language

122. A computer cannot "boot" if it does not have the

(A) Compiler
(B) Loader
(C) Operating system
(D) Assembler

123. …….. are attempts by individuals to obtain confidential information from you by falsifying their identity

(A) Cookies
(B) Computer viruses
(C) Phishing scams
(D) Spyware scams

124. Which key is used in combination with another key to perform a specific task?

(A) Function key
(B) Enter key
(C) Arrow key
(D) Control key

125. What is the primary purpose of an operating system?

(A) To manage hardware and system software resources
(B) To provide a user-friendly interface
(C) To run applications
(D) To store data

126. What is the main advantage of multiprogramming?

(A) Increased CPU utilization
(B) Reduced memory utilization
(C) Faster execution of individual programs
(D) Simplified program development

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127. Which of the following is not a linear data structure?

(A) Stack
(B) Queue
(C) Hash Table
(D) Tree

128. The data structure used to implement recursion is

(A) Queue
(B) Stack
(C) Array
(D) Linked List

129. Which type of memory retains its data even when the power is turned off?

(A) RAM
(B) Cache
(C) ROM
(D) Virtual Memory

130. Which I/O device is commonly used for permanent storage of data in a personal computer?

(A) Keyboard
(B) Monitor
(C) Hard Disk Drive
(D) Printer

131. What is the role of the BIOS (Basic Input/Output System) in a computer system?

(A) Manages network connections
(B) Boots up the operating system
(C) Executes application programs
(D) Controls the display resolution

132. The characteristics which makes the read only memory (ROM) useful is

(A) ROM information can be easily updated
(B) Data in ROM is non volatile, that is, it remains there even without electrical power
(C) ROM provides very large amounts of inexpensive data storage
(D) ROM chips are easily swapped between different brands of computers

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133. The term …… designates equipments that might be added to a computer system to enhance its functionality

(A) Digital device
(B) System add-on
(C) Disk pack
(D) Peripheral device

134. A scheduling algorithm assigns priority proportional to the waiting time of a process. Every process starts with priority zero (the lowest priority). The scheduler re-evaluates the process priorities every T time units and decides the next process to schedule. Which one of the following is TRUE if the processes have no I/O operations and all arrive at time zero?

(A) This algorithm is equivalent to the first-come-first-serve algorithm
(B) This algorithm is equivalent to the round-robin algorithm
(C) This algorithm is equivalent to the shortest-job-first algorithm
(D) This algorithm is equivalent to the shortest-remaining time-first algorithm

135. In C programming, which library function is used for dynamic memory allocation?

(A) malloc()
(B) alloc()
(C) new()
(D) memalloc()

136. The function used to find the length of a list in Python is

(A) size()
(B) count()
(C) length()
(D) len()

137. In Java, what is the purpose of the 'public' keyword in a class declaration?

(A) It indicates that the class is publicly accessible from any package
(B) It specifies that the class is private and can only be accessed within its own package
(C) It declares a public method within the class
(D) It is not a valid keyword in class declarations

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138. The keyword used to prevent a variable from being modified in Java is

(A) final
(B) static
(C) constant
(D) readonly

139. Which traversal technique visits all the vertices of a graph without going back?

(A) Depth-First Search (DFS)
(B) Breadth-First Search (BFS)
(C) Inorder Traversal
(D) Preorder Traversal

140. The step-by-step procedure used to solve a problem is called

(A) Programming
(B) Debugging
(C) Algorithm
(D) Iteration

141. What is the primary function of the DNS (Domain Name System)?

(A) File sharing
(B) IP address assignment
(C) Website name resolution
(D) Network security

142. The protocol commonly used for secure communication over the internet is

(A) FTP (File Transfer Protocol)
(B) SMTP (Simple Mail Transfer Protocol)
(C) HTTPS (Hypertext Transfer Protocol Secure)
(D) DHCP (Dynamic Host Configuration Protocol)

143. What is the purpose of a router in a computer network?

(A) Connects devices within the same local network
(B) Filters and forwards data between different networks
(C) Manages IP addresses within a subnet
(D) Provides physical connectivity to devices

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144. The protocol used for transferring files over the internet in a secure manner is

(A) FTP (File Transfer Protocol)
(B) SSH (Secure Shell)
(C) SNMP (Simple Network Management Protocol)
(D) Telnet

145. The correct syntax for a 'do-while' loop in C is

(A) while { }
(B) do { } while()
(C) do while { }
(D) do { } while

146. …….. virus fools a user into downloading and executing them by pretending to be useful applications.

(A) Trojan horses
(B) Keylogger
(C) Worm
(D) File virus

147. Two devices are in network if



(A) A process is running on both devices
(B) PIDs of the processes running of different devices are same
(C) A process in one device is able to exchange information with a process in another device
(D) All of the above

148. The common name for the crime of stealing passwords is

(A) Spoofing
(B) Surfing
(C) Identity Theft
(D) Speeling

149. Properly arranged data is called

(A) Information
(B) File
(C) Field
(D) Words

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150. The purpose of the SQL WHERE clause is

(A) Specify the columns to be retrieved
(B) Filter rows based on a condition
(C) Join tables
(D) Sort the result set

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ANSWER KEY

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

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