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CEE Based Model Questions

(Set-A)

CEE 200 Most Probable MCQs prepared for MBBS, BDS & BSc Nursing Aspirants

Instruction:

Marking Scheme: +1 mark for each correct answer and -0.25 mark for each incorrect answer.

Zoology
40 MCQs | 4 options each
Questions

1. The basic unit of classification is:

A. Genus
B. Species
C. Family
D. Order

2. The presence of a water vascular system is characteristic of:

A. Annelida
B. Arthropoda
C. Echinodermata
D. Mollusca

3. Which of the following is a characteristic feature of Chordata?

A. Jointed appendages
B. Notochord
C. Water vascular system
D. Radial cleavage

4. Which phylum includes organisms having a pseudocoelom?

A. Platyhelminthes
B. Aschelminthes/Nematoda
C. Annelida
D. Arthropoda

5. Homologous organs are evidence of:

A. Convergent evolution
B. Divergent evolution
C. Mutation only
D. Artificial selection

6. The infective stage of *Plasmodium* introduced into humans by a female *Anopheles* mosquito is:

A. Merozoite
B. Gametocyte
C. Sporozoite
D. Ookinete

7. The sexual phase of the life cycle of *Plasmodium* occurs in:

A. Human liver
B. Human RBC
C. Female *Anopheles* mosquito
D. Human intestine

8. The most dangerous form of malaria is commonly associated with:

A. *Plasmodium vivax*
B. *Plasmodium malariae*
C. *Plasmodium falciparum*
D. *Plasmodium ovale*

9. The main function of typhlosole in earthworm is:

A. Excretion
B. Increasing absorptive surface area
C. Respiration
D. Reproduction

10. Excretion in earthworm occurs mainly through:

A. Flame cells
B. Malpighian tubules
C. Nephridia
D. Green glands

11. Earthworm possesses:

A. Open circulation
B. Closed circulation
C. Double circulation
D. No circulatory system

12. The main respiratory organ of an adult frog is:

A. Gills only
B. Lungs only
C. Lungs and skin
D. Trachea

13. The normal pacemaker of the human heart is:

A. AV node
B. SA node
C. Bundle of His
D. Purkinje fibres

14. The left ventricle has a thicker muscular wall because it:

A. Receives blood from the lungs
B. Pumps blood to the whole body
C. Pumps blood only to the lungs
D. Receives deoxygenated blood

15. The universal donor for red blood cell transfusion is generally considered:

A. AB positive
B. A positive
C. O negative
D. B negative

16. Which hormone primarily increases water reabsorption in the kidney?

A. Insulin
B. ADH
C. Thyroxine
D. Glucagon

17. Ultrafiltration of blood in the nephron occurs mainly in the:

A. Loop of Henle
B. Collecting duct
C. Glomerulus
D. Distal convoluted tubule

18. The functional unit of the kidney is:

A. Neuron
B. Nephron
C. Alveolus
D. Sarcomere

19. Fertilization in humans normally occurs in the:

A. Uterus
B. Cervix
C. Vagina
D. Ampulla of fallopian tube

20. Ovulation is primarily triggered by a sudden increase in:

A. FSH
B. LH
C. Estrogen only
D. Progesterone

21. The hormone responsible for lowering blood glucose concentration is:

A. Glucagon
B. Adrenaline
C. Insulin
D. Cortisol

22. The part of the brain primarily responsible for maintaining balance and coordination is:

A. Cerebrum
B. Medulla oblongata
C. Cerebellum
D. Hypothalamus

23. The structural and functional unit of the nervous system is:

A. Nephron
B. Neuron
C. Axon
D. Synapse

24. The oxygen-carrying pigment in human blood is:

A. Myoglobin
B. Haemoglobin
C. Bilirubin
D. Melanin

25. The Bohr effect refers to the effect of increased CO_2 concentration on:

A. Increased haemoglobin affinity for oxygen
B. Decreased haemoglobin affinity for oxygen
C. Increased oxygen production
D. Increased RBC formation

26. Maximum absorption of digested nutrients occurs mainly in the:

A. Stomach
B. Large intestine
C. Small intestine
D. Oesophagus

27. Which immunoglobulin is most abundant in human blood plasma?

A. IgA
B. IgE
C. IgG
D. IgM

28. The antibody that is particularly important in allergic reactions is:

A. IgG
B. IgA
C. IgM
D. IgE

29. The main function of platelets is:

A. Oxygen transport
B. Immunity
C. Blood clotting
D. Hormone transport

30. Simple squamous epithelium is best suited for:

A. Protection from abrasion
B. Diffusion
C. Secretion of mucus
D. Contraction

31. The connective tissue specialized for fat storage is:

A. Areolar tissue
B. Adipose tissue
C. Cartilage
D. Tendon

32. Tuberculosis is caused by:

A. *Vibrio cholerae*
B. *Mycobacterium tuberculosis*
C. *Salmonella typhi*
D. *Streptococcus pneumoniae*

33. The causative organism of cholera is:

A. *Vibrio cholerae*
B. *Plasmodium falciparum*
C. *Entamoeba histolytica*
D. *Salmonella typhi*

34. Vaccination generally provides:

A. Passive natural immunity
B. Active acquired immunity
C. Passive artificial immunity
D. Innate immunity only

35. Which cell is primarily responsible for antibody production?

A. RBC
B. Plasma cell
C. Platelet
D. Neutrophil

36. Which blood cells are mainly involved in cellular immunity?

A. T lymphocytes
B. RBCs
C. Platelets
D. Eosinophils

37. The hormone secreted by the posterior pituitary is:

A. Growth hormone
B. TSH
C. ADH
D. FSH

38. The main function of bile in digestion is:

A. Digestion of proteins
B. Emulsification of fats
C. Digestion of carbohydrates
D. Absorption of amino acids

39. During muscle contraction, calcium ions bind to:

A. Myosin
B. Actin
C. Troponin
D. Tropomyosin

40. The sliding filament theory explains:

A. Transmission of nerve impulses
B. Muscle contraction
C. Blood clotting
D. Kidney filtration

Set 2: Botany

40 MCQs | 4 options each
Questions

41. The primary structural component of the plant cell wall is:

A. Glycogen
B. Cellulose
C. Chitin
D. Pectin

42. The bond joining two amino acids is:

A. Glycosidic bond
B. Peptide bond
C. Ester bond
D. Phosphodiester bond

43. The organelle mainly responsible for aerobic cellular respiration is:

A. Ribosome
B. Chloroplast
C. Mitochondrion
D. Golgi body

44. The chief photosynthetic pigment in green plants is:

A. Carotene
B. Xanthophyll
C. Chlorophyll-a
D. Anthocyanin

45. Which plant group is commonly called the "amphibians of the plant kingdom"?

A. Algae
B. Bryophytes
C. Pteridophytes
D. Gymnosperms

46. The dominant generation in bryophytes is:

A. Sporophyte
B. Gametophyte
C. Embryo
D. Seed

47. Gymnosperms are characterized by:

A. Enclosed seeds
B. Naked seeds
C. Absence of vascular tissue
D. Absence of roots

48. The dominant generation in pteridophytes is:

A. Gametophyte
B. Sporophyte
C. Zygote
D. Endosperm

49. Double fertilization is characteristic of:

A. Bryophytes
B. Pteridophytes
C. Gymnosperms
D. Angiosperms

50. The primary source of energy for most ecosystems is:

A. Soil
B. Water
C. Sunlight
D. Minerals

51. Approximately what percentage of energy is transferred from one trophic level to the next?

A. 1%
B. 10%
C. 50%
D. 90%

52. Which ecological pyramid is always upright?

A. Pyramid of numbers
B. Pyramid of biomass
C. Pyramid of energy
D. All can be inverted

53. Accumulation of toxic substances at progressively higher trophic levels is called:

A. Eutrophication
B. Biomagnification
C. Succession
D. Mineralization

54. The gradual replacement of one community by another over time is:

A. Mutation
B. Ecological succession
C. Migration
D. Adaptation

55. DNA replication occurs during which phase of the cell cycle?

A. G_1
B. S
C. G_2
D. M

56. Crossing over occurs during:

A. Prophase I of meiosis
B. Metaphase II
C. Anaphase I
D. Telophase II

57. Crossing over results in:

A. Reduction in chromosome number only
B. Genetic recombination
C. DNA destruction
D. Asexual reproduction

58. Mendel's law of segregation states that:

A. Alleles separate during gamete formation
B. Genes always remain together
C. Dominant genes destroy recessive genes
D. All offspring are identical

59. A cross between an individual of unknown genotype and a homozygous recessive individual is:

A. Back cross
B. Test cross
C. Dihybrid cross
D. Reciprocal cross

60. The typical phenotypic ratio of a Mendelian dihybrid cross is:

A. 1:1
B. 3:1
C. 9:3:3:1
D. 1:2:1

61. When both alleles express themselves equally in a heterozygote, it is:

A. Incomplete dominance
B. Codominance
C. Epistasis
D. Mutation

62. Which tissue is mainly responsible for secondary growth?

A. Apical meristem
B. Lateral meristem
C. Intercalary meristem
D. Epidermis

63. The main function of xylem is transport of:

A. Food
B. Water and minerals
C. Hormones only
D. Proteins

64. Phloem mainly transports:

A. Water
B. Mineral salts
C. Organic food
D. Oxygen

65. The tissue providing flexible mechanical support to young plant parts is:

A. Sclerenchyma
B. Collenchyma
C. Xylem
D. Phloem

66. Loss of water vapour from aerial parts of plants is called:

A. Respiration
B. Transpiration
C. Guttation
D. Photosynthesis

67. Opening and closing of stomata is primarily regulated by:

A. Guard cells
B. Companion cells
C. Sieve tubes
D. Root hairs

68. The plant hormone most associated with cell elongation and phototropism is:

A. Auxin
B. Ethylene
C. Abscisic acid
D. Cytokinin

69. The hormone responsible for fruit ripening is:

A. Auxin
B. Gibberellin
C. Ethylene
D. Cytokinin

70. Gibberellins are particularly associated with:

A. Fruit ripening
B. Stem elongation and breaking dormancy
C. Stomatal closure
D. Leaf abscission

71. Abscisic acid generally promotes:

A. Seed dormancy
B. Cell division
C. Fruit ripening
D. Stem elongation

72. Photoperiodism refers to a plant's response to:

A. Gravity
B. Temperature
C. Duration of light and darkness
D. Water availability

73. The Calvin cycle occurs in the:

A. Thylakoid membrane
B. Stroma of chloroplast
C. Cytoplasm
D. Mitochondrial matrix

74. The light-dependent reactions of photosynthesis occur mainly in:

A. Stroma
B. Thylakoid membranes
C. Nucleus
D. Cytoplasm

75. The oxygen released during photosynthesis comes primarily from:

A. CO_2
B. Glucose
C. Water
D. Chlorophyll

76. The first stable product of CO_2 fixation in C_3 plants is:

A. Pyruvic acid
B. Oxaloacetic acid
C. 3-phosphoglyceric acid
D. Acetyl-CoA

77. The enzyme responsible for CO_2 fixation in the Calvin cycle is:

A. Amylase
B. RuBisCO
C. Pepsin
D. DNA polymerase

78. The powerhouse of a plant cell is:

A. Chloroplast
B. Mitochondrion
C. Ribosome
D. Vacuole

79. The middle lamella is mainly composed of:

A. Cellulose
B. Calcium pectate
C. Chitin
D. Lignin

80. Which structure regulates gas exchange in leaves?

A. Trichome
B. Stoma
C. Lenticel only
D. Root hair

Chemistry
50 MCQs | 4 options each
Questions

81. One mole of any substance contains approximately:

A. 6.022×10^{20} particles
B. 6.022×10^{23} particles
C. 3.011×10^{23} particles
D. 9.81×10^{23} particles

82. The empirical formula represents:

A. Actual number of atoms
B. Simplest whole-number ratio of atoms
C. Molecular mass
D. Structural arrangement

83. The limiting reagent is the reactant that:

A. Has the greatest mass
B. Is consumed first and limits product formation
C. Has the highest molecular mass
D. Remains after reaction

84. Which quantum number determines the shape of an orbital?

A. Principal
B. Azimuthal
C. Magnetic
D. Spin

85. The maximum number of electrons in one orbital is:

A. 1
B. 2
C. 6
D. 10

86. Pauli exclusion principle states that:

A. Electrons fill lower energy orbitals first
B. No two electrons in an atom have the same four quantum numbers
C. Electrons occupy degenerate orbitals singly first
D. Electrons cannot move between shells

87. Atomic radius generally decreases across a period because:

A. Number of shells increases
B. Effective nuclear charge increases
C. Nuclear charge decreases
D. Electrons disappear

88. Ionization energy generally:

A. Decreases across a period
B. Increases across a period
C. Remains constant
D. Becomes zero

89. The unusually high first ionization energy of nitrogen compared with oxygen is mainly due to:

A. Nitrogen having fewer protons
B. Half-filled p-subshell stability
C. Oxygen having fewer electrons
D. Nitrogen being a metal

90. The most electronegative element is:

A. Oxygen
B. Fluorine
C. Chlorine
D. Nitrogen

91. A bond formed by transfer of electrons is:

A. Covalent
B. Ionic
C. Coordinate
D. Metallic

92. The hybridization of carbon in methane is:

A. sp
B. sp^2
C. sp^3
D. dsp^2

93. The shape associated with sp^2 hybridization is:

A. Linear
B. Trigonal planar
C. Tetrahedral
D. Octahedral

94. According to Le Chatelier's principle, a system at equilibrium:

A. Always moves toward reactants
B. Opposes an imposed change
C. Stops reacting completely
D. Always produces equal amounts of products

95. Increasing pressure in a gaseous equilibrium generally shifts equilibrium toward:

A. Side with more gas molecules
B. Side with fewer gas molecules
C. Both sides equally
D. The catalyst

96. A solution with pH 3 has a hydrogen ion concentration of:

A. 10^{-3} M
B. 10^{3} M
C. 3 M
D. 10^{-7} M

97. A buffer solution resists changes in:

A. Temperature
B. Pressure
C. pH
D. Volume

98. Oxidation is best defined as:

A. Gain of electrons
B. Loss of electrons
C. Gain of protons only
D. Loss of neutrons

99. Reduction involves:

A. Loss of electrons
B. Gain of electrons
C. Increase in oxidation number
D. Loss of hydrogen always

100. The oxidation number of oxygen in H_2O_2 is:

A. −2
B. −1
C. 0
D. +1

101. A catalyst:

A. Changes equilibrium constant
B. Increases activation energy
C. Provides an alternative pathway with lower activation energy
D. Is permanently consumed

102. For a first-order reaction, half-life is:

A. Dependent on initial concentration
B. Independent of initial concentration
C. Always zero
D. Equal to reaction rate

103. The strongest oxidizing halogen is:

A. I_2
B. Br_2
C. Cl_2
D. F_2

104. $KMnO_4$ contains manganese in oxidation state:

A. +2
B. +4
C. +6
D. +7

105. $K_2Cr_2O_7$ contains chromium in oxidation state:

A. +2
B. +3
C. +6
D. +7

106. A carbonate reacts with an acid to release:

A. O_2
B. H_2
C. CO_2
D. N_2

107. The metal present at the centre of the haem group of haemoglobin is:

A. Mg
B. Fe
C. Ca
D. Zn

108. The central metal ion in chlorophyll is:

A. Fe
B. Mg
C. Cu
D. Na

109. A ligand is a species that:

A. Accepts neutrons
B. Donates an electron pair to a central metal ion
C. Always donates a proton
D. Oxidizes every metal

110. Coordination number refers to:

A. Oxidation state only
B. Number of atoms
C. Number of donor atoms directly bonded to the central metal
D. Number of electrons in d-orbitals

111. The general formula of an alkane is:

A. C_nH_{2n}
B. C_nH_{2n+2}
C. C_nH_{2n-2}
D. C_nH_n

112. Alkenes typically undergo:

A. Addition reactions
B. Neutralization only
C. Substitution only
D. Nuclear reactions

113. Markovnikov's rule is mainly applied to addition of:

A. H_2 to alkanes
B. HX to unsymmetrical alkenes
C. O_2 to alcohols
D. Water to benzene only

114. The major product of addition of HBr to propene under normal conditions is:

A. 1-bromopropane
B. 2-bromopropane
C. Propanol
D. Propane

115. The functional group of alcohol is:

A. –CHO
B. –OH
C. –COOH
D. –CO–

116. The functional group of an aldehyde is:

A. –OH
B. –COOH
C. –CHO
D. $-NH_2$

117. The functional group of a ketone is:

A. Internal carbonyl group
B. Hydroxyl group
C. Carboxyl group
D. Amino group

118. Oxidation of a primary alcohol initially gives:

A. Ketone
B. Aldehyde
C. Ether
D. Alkane

119. Oxidation of a secondary alcohol generally gives:

A. Aldehyde
B. Ketone
C. Carboxylic acid directly
D. Alkane

120. Tollens' reagent is commonly used to identify:

A. Alkanes
B. Aldehydes
C. Ethers
D. Amines

121. Esterification is a reaction between:

A. Alkane and alkene
B. Alcohol and carboxylic acid
C. Amine and alkane
D. Aldehyde and ketone

122. Saponification is:

A. Hydrogenation of alkene
B. Alkaline hydrolysis of an ester
C. Oxidation of alcohol
D. Reduction of ketone

123. The functional group of carboxylic acids is:

A. –OH
B. –COOH
C. –CHO
D. $-NH_2$

124. Amino acids contain both:

A. Hydroxyl and aldehyde groups
B. Amino and carboxyl groups
C. Ketone and ester groups
D. Ether and hydroxyl groups

125. A peptide bond is formed between:

A. Two sugars
B. Two amino acids
C. Two fatty acids
D. Two nucleotides

126. Which nitrogenous base is present in RNA but not normally in DNA?

A. Thymine
B. Uracil
C. Adenine
D. Guanine

127. The major intermolecular force responsible for the unusually high boiling point of water is:

A. Ionic bonding
B. Hydrogen bonding
C. Metallic bonding
D. Coordinate bonding

128. The molarity of a solution is defined as:

A. Moles of solute per kg solvent
B. Moles of solute per litre of solution
C. Grams of solute per litre solvent
D. Moles of solvent per litre solution

129. The ideal gas equation is:

A. PV = nRT
B. P = nRTV
C. PT = nRV
D. PV = RT/n

130. At constant temperature, Boyle's law states:

A. $P \propto V$
B. $P \propto 1/V$
C. $V \propto T$
D. $P \propto T$

Physics
50 MCQs | 4 options each
Questions

131. The SI unit of force is:

A. Joule
B. Newton
C. Watt
D. Pascal

132. Which quantity is a vector?

A. Distance
B. Speed
C. Displacement
D. Mass

133. The slope of a velocity-time graph represents:

A. Displacement
B. Acceleration
C. Momentum
D. Force

134. For uniformly accelerated motion:

A. $v = u + at$
B. $v = u - at^2$
C. $s = ut/a$
D. $F = ma^2$

135. The range of a projectile on level ground is maximum when the angle of projection is:

A. 30°
B. 45°
C. 60°
D. 90°

136. Newton's first law is also known as the law of:

A. Gravitation
B. Inertia
C. Momentum
D. Acceleration

137. Newton's second law gives:

A. $F = ma$
B. $F = mv$
C. $F = m/a$
D. $F = a/m$

138. Linear momentum is:

A. mv
B. ma
C. $\frac{1}{2}mv^2$
D. mgh

139. The momentum of an isolated system remains constant according to:

A. Newton's first law
B. Conservation of momentum
C. Conservation of energy
D. Ohm's law

140. Centripetal acceleration is directed:

A. Away from centre
B. Towards centre
C. Along tangent
D. Vertically upward only

141. The force responsible for keeping a satellite in circular orbit around Earth is:

A. Friction
B. Electrostatic force
C. Gravitational force
D. Magnetic force

142. Work done by a force perpendicular to displacement is:

A. Maximum
B. Minimum but non-zero
C. Zero
D. Infinite

143. Kinetic energy of an object is:

A. mv
B. ½mv^2
C. mgh
D. Fd^2

144. Escape velocity from Earth's surface is approximately:

A. 1.12 km/s
B. 11.2 km/s
C. 112 km/s
D. 0.112 km/s

145. Escape velocity depends on:

A. Mass and radius of the planet
B. Mass of escaping object only
C. Colour of object
D. Shape of object only

146. Specific heat capacity is the heat required to raise the temperature of:

A. Any body by 1°C
B. Unit mass of a substance by 1°C
C. One mole by 10°C
D. One kilogram by 100°C

147. An isothermal process occurs at constant:

A. Pressure
B. Volume
C. Temperature
D. Entropy only

148. An isobaric process occurs at constant:

A. Temperature
B. Pressure
C. Volume
D. Internal energy

149. The first law of thermodynamics is based on conservation of:

A. Momentum
B. Charge
C. Energy
D. Mass only

150. A process with no heat exchange with surroundings is:

A. Isothermal
B. Adiabatic
C. Isobaric
D. Isochoric

151. The efficiency of a Carnot engine increases when:

A. Sink temperature increases while source remains fixed
B. Source temperature increases while sink remains fixed
C. Both temperatures become equal
D. Source temperature decreases

152. Absolute zero corresponds approximately to:

A. 0°C
B. −273.15°C
C. 273°C
D. −100°C

153. Wave velocity is related to frequency and wavelength by:

A. $v = f\lambda$
B. $v = f/\lambda$
C. $v = \lambda/f$
D. $v = f + \lambda$

154. Sound waves in air are:

A. Transverse
B. Longitudinal
C. Electromagnetic
D. Polarized

155. Resonance occurs when:

A. Driving frequency equals natural frequency
B. Driving frequency is zero
C. Amplitude is zero
D. Wavelength is infinite

156. Total internal reflection occurs when light travels:

A. From rarer to denser medium
B. From denser to rarer medium with incidence angle greater than critical angle
C. Only through vacuum
D. At normal incidence

157. The SI unit of lens power is:

A. Tesla
B. Dioptre
C. Weber
D. Ohm

158. Myopia is corrected using:

A. Convex lens
B. Concave lens
C. Cylindrical mirror
D. Plane glass

159. Hypermetropia is corrected using:

A. Concave lens
B. Convex lens
C. Plane mirror
D. Prism only

160. The relation between focal length f (in metres) and lens power P is:

A. $P = f$
B. $P = 1/f$
C. $P = f^2$
D. $P = 2f$

161. Young's double-slit experiment demonstrates:

A. Refraction only
B. Interference
C. Photoelectric effect
D. Nuclear fission

162. Ohm's law is:

A. $V = IR$
B. $V = I/R$
C. $R = VI$
D. $P = IR$

163. If the length of a uniform wire is doubled while its area remains unchanged, its resistance becomes:

A. Half
B. Double
C. Four times
D. Unchanged

164. If the cross-sectional area of a wire is doubled, its resistance becomes:

A. Double
B. Half
C. Four times
D. Unchanged

165. Two identical resistors R connected in series have equivalent resistance:

A. R/2
B. R
C. 2R
D. 4R

166. Two identical resistors R connected in parallel have equivalent resistance:

A. 2R
B. R
C. R/2
D. R^2

167. Electrical power is given by:

A. P = VI
B. P = V/I
C. P = IR
D. P = I/R

168. Kirchhoff's junction rule is based on conservation of:

A. Energy
B. Charge
C. Momentum
D. Mass

169. The magnetic force on a moving charge is maximum when its velocity is:

A. Parallel to magnetic field
B. Perpendicular to magnetic field
C. Zero
D. Opposite to gravity

170. Electromagnetic induction was experimentally demonstrated by:

A. Newton
B. Faraday
C. Einstein
D. Rutherford

171. Lenz's law determines the:

A. Magnitude of charge
B. Direction of induced current
C. Resistance of conductor
D. Speed of light

172. A transformer operates on the principle of:

A. Electrostatic induction
B. Mutual electromagnetic induction
C. Photoelectric effect
D. Nuclear induction

173. Coulomb's law states that electrostatic force is proportional to:

A. Product of charges and inversely proportional to square of distance
B. Sum of charges only
C. Distance squared
D. Mass of charges

174. Electric field intensity is defined as:

A. Force per unit positive test charge
B. Charge per unit force
C. Work per unit mass
D. Energy per unit time

175. Electric potential at a point is:

A. Force per unit charge
B. Work done per unit charge
C. Charge per unit force
D. Power per unit charge

176. In a uniform electric field, electric field and potential are related by:

A. $E = -dV/dr$
B. $E = V^2$
C. $E = V + r$
D. $E = Vr$

177. Inserting a dielectric between capacitor plates generally:

A. Decreases capacitance
B. Increases capacitance
C. Makes capacitance zero
D. Has no effect under all conditions

178. Energy stored in a capacitor is:

A. CV
B. $\frac{1}{2}CV^2$
C. $2CV^2$
D. C/V

179. Capacitors connected in parallel have equivalent capacitance:

A. Less than every individual capacitance
B. Equal to sum of capacitances
C. Equal to reciprocal sum
D. Always zero

180. In the photoelectric effect, increasing the frequency of incident light above threshold generally increases:

A. Maximum kinetic energy of electrons
B. Work function
C. Electron rest mass
D. Threshold frequency

MAT
20 MCQs | 4 options each
Questions

181. If 2, 4, 8, 16, ___, the next number is:

A. 20
B. 24
C. 32
D. 36

182. Find the next number: 3, 6, 11, 18, 27, ___

A. 36
B. 38
C. 40
D. 42

183. If CAT is coded as DBU, then DOG is coded as:

A. EPH
B. EOG
C. FPH
D. DPH

184. A person walks 5 km north and then 3 km east. What is the shortest distance from the starting point?

A. 8 km
B. 6 km
C. $\sqrt{34}$ km
D. 2 km

185. If all doctors are educated and some educated people are researchers, which conclusion is definitely valid?

A. All doctors are researchers
B. Some doctors are researchers
C. All doctors are educated
D. No doctors are researchers

186. A clock shows 3:00. What is the angle between the hour and minute hands?

A. 30°
B. 60°
C. 90°
D. 120°

187. If 5 workers complete a job in 12 days, assuming equal efficiency, how many days will 10 workers require?

A. 3
B. 5
C. 6
D. 8

188. A number is increased by 20% and then decreased by 20%. The final result is:

A. Same as original
B. 4% greater
C. 4% less
D. 8% less

189. The average of 10, 20, 30, 40 and 50 is:

A. 25
B. 30
C. 35
D. 40

190. If x + 5 = 12, x equals:

A. 5
B. 6
C. 7
D. 8

191. Find the odd one out:

A. 2
B. 3
C. 5
D. 9

192. If SOUTH is written as HTUOS, the coding method is:

A. Alphabetical order
B. Reverse order
C. Alternate letters
D. Shift by one

193. A father is 30 years older than his son. If the son's age is 10 years, father's age is:

A. 20
B. 30
C. 40
D. 50

194. A bag contains 3 red and 2 blue balls. The probability of drawing a red ball is:

A. 2/5
B. 3/5
C. 1/2
D. 3/2

195. If all squares are rectangles and all rectangles are quadrilaterals, then:

A. All quadrilaterals are squares
B. All squares are quadrilaterals
C. No square is a quadrilateral
D. Some rectangles are not quadrilaterals

196. Find the next term: A, C, F, J, O, ___

A. S
B. T
C. U
D. V

197. If 25% of a number is 40, the number is:

A. 100
B. 120
C. 160
D. 200

198. A train travels 120 km in 2 hours. Its average speed is:

A. 40 km/h
B. 50 km/h
C. 60 km/h
D. 80 km/h

199. If P > Q, Q > R and R > S, then:

A. S > P
B. P > S
C. Q < S
D. R > P

200. A person facing north turns right, then right again. Which direction is the person facing?

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

__Best Wishes__