INSTRUCTIONS

- Students are requested to take care of the answer sheet.ie do not fold or damage it.
- Use only blue/black ball point pen to fill the circles.
- Cutting and erasing on this sheet is not allowed.

Khan
ACADEMY
(We Open Doors)

DETAILS

- No. of MCQs = 200
- Total Marks = 200
- No Negative Marks .
- Time = 9:00 to 11:30 am
- Best of Luck.

Name:_____   Roll No: _____   **Date: 25th April, 2021**

BIOLOGY

1. **The capacity to increase the size of an object is:**
   (a) Magnification   (b) Resolution
   (c) Micrometry   (d) Microscopy

2. **Lignin is present commonly in:**
   (a) Primary wall   (b) Secondary wall
   (c) Middle lamella   (d) Both b & c

3. **Which of the following compounds is present in the cell wall of the bacteria?**
   (a) Cellulose   (b) Cutin
   (c) Murine   (d) Chitin

4. **Secondary wall is present only in tissues:**
   (a) Parenchyma   (b) Collenchyma
   (c) Sclerenchyma   (d) Chlorenchyma

5. **Pectic acid is found in:**
   (a) Primary wall   (b) Secondary wall
   (c) Middle lamella   (d) Cell membrane

6. **According to Fluid Mosaic Model the embedded molecules are:**
   (a) Protein   (b) Lipids
   (c) Glycolipids   (d) Cholesterol

7. **The end of phospholipids on the surface of membrane is:**
   (a) Hydrophobic   (b) Hydrophilic
   (c) Tails   (d) Both a and b

8. **The molecules controlling fluidity of membrane is :**
   (a) Protein   (b) Lipids
   (c) Glycolipids   (d) Carbohydrates

9. **The molecules stabilizes membrane is :**
   (a) Protein   (b) Lipids
   (c) Cholesterol   (d) Carbohydrates

10. **Trans face of Golgi complex is:**
    (a) Convex
    (b) Concave
    (c) Flat
    (d) One side concave one convex

11. **Phragmoplast is formed by:**
    (a) ER   (b) Ribosome
    (c) Golgi complex   (d) Mitochondria

12. **Intracellular digestion is done by:**
    (a) Lysosome   (b) SER
    (c) Ribosome   (d) Golgi complex

13. **Glyoxysomes are found in :**
    (a) Seeds   (b) Starchy seeds
    (c) Oily seeds   (d) All of these

14. **Poisonous compounds for protection of plants are stored in:**
    (a) Glyoxysomes   (b) Peroxisomes
    (c) Vacuole   (d) Lysosome

15. **Protein absent in microfilament is:**
    (a) Actin   (b) Tubulin
    (c) Troponin   (d) Tropomyosin

16. **Protein tubulin is found in:**
    (a) Microtubule
    (b) Microfilament
    (c) Both
    (d) Intermediate filament.

17. **Axoneme is composed of number of microtubules.**
    (a) 4   (b) 5
    (c) 9   (d) 11

18. **Choose the pair of terms that correctly completes the sentence: Nucleotides are to…………….as……………..are to proteins.**
    (a) Nucleic acids, amino acids
    (b) Amino acids; polypeptides
    (c) Glycosidic linkages; Polypeptide linkages
    (d) Polymers; Polypeptides

19. **The oxygen in furanose links**
    (a) C_1 and C_4 (b) C_1 and C_5
    (c) C_2 and C_4 (d) C_2 and C_5

20. **Compound formed by nitrogenous base and pentose sugar is called:**
    (a) Nucleotide   (b) Nucleoside
    (c) Polypeptide   (d) Polysaccharide

21. **Anticodes are present on:**
    (a) tRNA   (b) mRNA
    (c) rRNa   (d) DNA

22. Aspartame is an artificial sweetener it is a.
(a) Monosaccharide (b) Disaccharide
(c) Polysaccharide (d) None of these.

23. Wax found in sheep wool is:
(a) Cutin (b) Lanolin
(c) Suberin (d) Bee wax

24. Vitamin D is:
(a) Waxes (b) Prostaglandin
(c) Terpenes (d) Steriods

25. Which of the following is not inhibitor;
(a) Cyanides (b) Penicillin
(c) Sulphonamid (d) Hormone

26. Non-competitive inhibitor bind to site of enzyme:
(a) Active site (b) Binding site
(c) Catalytic site (d) Allosteric site

27. Which of the following is irreversible non-competitive inhibitor:
(a) Cyanides (b) Silver ion
(c) Mercury ion (d) All of these

28. The binding site of the enzyme is that site which:
(a) Recognize the substrate
(b) Bind with the cofactor
(c) Change substrate into product
(d) None of the above

29. The Catalytic site of the enzyme is that site which:
(a) Recognize the substrate
(b) Bind with the cofactors
(c) Change substrate into product.
(d) None of the above

30. Combination of apoenzyme and coenzyme produces.
(a) Prosthetic group (b) Holoenzyme
(c) Enzyme (d) Isoenzyme

31. The Specificity of enzyme is due:
(a) Surface configuration
(b) PH
(c) Hydrogen bonding
(d) High molecular weight

32. An essential feature of a competitive inhibitor s its ability to:
(a) Occupy allosteric site
(b) Combine with prosthetic group
(c) Modify a substrate
(d) Occupy active site

33. Water is liquid at room temperature due to:
(a) Covalent bonding (b) Hydrogen bonding
(c) Ionic bonding (d) All of these

34. Heat of vaporization of water is:
(a) 74 calories per gram
(b) 274 calories per gram
(c) 674 calories per gram
(d) 574 calories per gram

35. A change in pH affect the enzyme reaction rate by:
(a) ionizing the active site of the enzyme
(b) Decreasing the movement of the molecules of the enzymes
(c) Destroying the globular structure of the enzyme
(d) None of the above

36. Heterogeneous group of compounds are:
(a) Proteins (b) Lipids
(c) Nucleic acid (d) Carbohydrates

37. Cholesterol is:
(a) Simple lipid (b) Complex lipid
(c) Derived lipid (d) All of these.

38. Which structure is found in all the proteins?
(a) Primary structure
(b) Secondary structure
(c) Tertiary structure
(d) Quaternary

39. Which of the following diseases is not caused by virus?
(a) Polio (b) Cholera
(c) Hepatitis (d) Influenza

40. Complete body of virus is called.
(a) Phage (b) Capsomeres
(c) Virion (d) Capsid

41. Which of the following stages of lytic cycle is called adsorption?
(a) Attachment (b) Penetration
(c) Multiplication (d) Lysis

42. The change from lysogenic to lytic cycle in phage virus is called.
(a) Lysogeny (b) Lysis
(c) Induction (d) penetration

43. Induction is a process in which:
(a) A viral DNA enters into bacterial DNA
(b) A viral DNA come out of the bacterial DNA
(c) A viral DNA destroys the bacterial DNA
(d) A viral DNA absorb bacterial RNA.

44. Hepatitis may be caused by.
(a) Virus (b) Toxicity
(c) Air (d) Both a & b.

45. Fluid filled sores are formed in.
(a) Herpes simplex (b) Hepatitis
(c) Poliomyelitis (d) AIDS.

46. CLCuD is transmitted by.
(a) Mosquito (b) Fruit fly
(c) White fly (d) House fly

47. The filament of cyanobacteria is called.
(a) Heterocysts (b) trichome
(c) Hormogonia (d) Akintes

48. **The enlarged cells present in the filament of cyanobacteria are called.**
    (a) Heterocysts   (b) Trichome
    (c) Hormogonia   (d) Akintes.

49. **The accessory pigments of the cyanobacteria are called.**
    (a) Chlorophyll   (b) Phycobilins
    (c) Xanthophlls   (d) Carotenes.

50. **The structure giving sticky nature to bacterium is.**
    (a) Capsule   (b) Slime
    (c) Pili   (d) Mesosome

51. **Which of the following structure makes the cell wall of bacteria sticky?**
    (a) Capsule   (b) Slime
    (c) Pili   (d) Mesosome.

52. **Arrange the position of cell membrane, cell wall, slime and capsule from outer to inner.**
    (a) Cell Wall - Cell Membrane – Slime – Capsule
    (b) Capsule - Slime – Cell wall – Cell Membrane
    (c) Slime – Capsule- Cell wall – Cell Membrane
    (d) Cell wall – Capsule –Slime – Cell Membrane.

53. **Which of the following is saprotroph?**
    (a) Azobacter
    (b) Streptococcus pneumonia
    (c) Nitrifying bacteria
    (d) None of these.

54. **Which of the followings is chemoatutroph?**
    (a) Azobacter
    (b) Streptococcus pneumonia
    (c) Nitrifying bacteria
    (d) None of these.

55. **The mycelium is composed of:**
    (a) Hyphae   (b) Thallus
    (c) Cells   (d) Ceonocytes.

56. **Reserve food material in fungi is:**
    (a) Fats   (b) Protein
    (c) Starch   (d) Glycogen.

57. **Which of the following cell structures contains the highest concentration of RNA?**
    (a) Centriole   (b) Lysosome
    (c) Chromosome   (d) Nucleolus.

58. **A tadpole's tail is gradually broken down during metamorphosis into an adult frog. Which organelle increases in number in the cells of the tail at this time?**
    (a) Centriole   (b) Endoplasmic reticulum
    (c) Golgi complex   (d) Lysosomes.

59. **The Number of NADH2 molecules produced in mitochondria from the Breakdown of one glucose molecule is.**
    (a) 4   (b) 6
    (c) 8   (d) 10.

60. **Which of the following are present in prokaryotic cells:**
    (a) Chloroplast, DNA, nuclear envelope
    (b) Chromosome, Mitochondria, nuclear envelope.
    (c) Cytoplasm, DNA, Mitochondria
    (d) Cytoplasm, DNA, ribosome

61. **Glycolipids and lipoprotein are important components of.**
    (a) Cellular membrane (b) Cell Wall
    (c) Both of them   (d) None of them.

62. **Estrogen, vitamin-D and cholesterol are all examples of.**
    (a) Glycolipids   (b) Lipoproteins
    (c) Terpenes   (d) Steroids

63. **Which term includes all others?**
    (a) Carbohydrate   (b) Starch
    (c) Monosaccharide   (d) polysaccharide.

64. **What are the products of the light reactions in photosynthesis?**
    (a) ATP and NADP
    (b) ATP, $NADPH_2$ and oxygen
    (c) ATP, PGA and oxygen
    (d) ATP, PGA and $NADH_2$

65. **In C4 plants, fixation of CO_2 occurs in.**
    (a) Palisade tissue
    (b) Cortex of stem
    (c) Spongy mesophyll and bundle of sheath
    (d) Phloem tissue.

66. **ATP synthesis during light reactions is called.**
    (a) Oxidative
    (b) Photolysis
    (c) Substrate phosphorylation
    (d) Photophosphoryation

67. **Which of the following illness is caused by a retrovirus?**
    (a) Typhoid   (b) Malaria
    (c) AIDS   (d) Sleeping sickness.

68. **Poliomyelitis affects.**
    (a) Motor neurons   (b) Sensory neurons
    (c) Brain   (d) Muscles

69. **Pili are made up of pilin, which is.**
    (a) Carbohydrates   (b) Lipids
    (c) Protein   (d) Triglycerides

70. **Chemosynthetic bacteria.**
    (a) Are autotrophic
    (b) Use the sun rays

(c) Oxidize inorganic compounds to acquire energy

(d) Both A and C are correct.

71. A bacterium with flagella all around is.
(a) Monotrichous   (b) Lophotrichous
(c) Amphitrichous   (d) Peritrichous

72. Conjugation is facilitated by.
(a) Capsule
(b) Pili
(c) Flagella
(d) Both pili and flagella

73. Bacterial membrane differ from eukaryotic membrane in.
(a) Lacking proteins   (b) lacking lipids
(c) Lacking polysaccharide
(d) Lacking cholesterol

74. The cell wall consists of two overlapping shells in.
(a) Euglenoids   (b) Diatoms
(c) Dinoflagellates   (d) Brown algae.

75. Which algal group is mismatched?
(a) Green algae --- closed relatives of land plants
(b) Dinoflagellates --- two part shell
(c) Brown algae --- include the larges seaweed
(d) Diatoms --- phytoplankton

76. The feeding stage of a slime mold is called.
(a) Hyphae   (b) Plasmodium
(c) Rhizoids   (d) Mycelium

77. Fungi resemble animals because they are.
(a) Saprotrophs   (b) autotrophs
(c) Heterotrophs   (d) heterosporous

78. Fungi cell walls contain chitin, which is also found in exoskeleton of.
(a) Arthropods   (b) Molluscs
(c) Echinoderms   (d) Chordates.

79. Which of the following is associated with asexual reproduction in fungi.
(a) Zygospores   (b) Ascospores
(c) Basidiospores   (d) Conidia.

80. Which of the following is called mitospore.
(a) Zygospores   (b) Ascospores
(c) Basidiospores   (d) Conidia

← **CHEMISTRY** →

81. Calculate the volume occupied by 2.8 g of nitrogen gas at STP:
(a) 22.4 dm^3 (b) 2.4 dm^3
(c) 44.8 dm^3 (d) 4.4 dm^3

82. Calculate the number of moles NaCl in 75.0 g of table salt?
(a) 0.643   (b) 0.799
(c) 28.0   (d) 1.28

83. How many moles of NaCl are produced from the reaction of 6.022×10^{23} molecules of HCl with one mole of NaOH?
(a) 6.022×10^{23} mol   (b) 0.5 mol
(c) 3.011×10^{23} mol   (d) 1 mol

84. If 28.0 g nitrogen gas is reacted with 8.0 g hydrogen to form ammonia, the limiting reactant among the two will be:
(a) N_2 (b) H_2
(c) Both (a) & (b)   (d) None of these

85. A gas at STP contains only 6.02×10^{23} atoms and is monoatomic, it will occupy:
(a) 1.2 L   (b) 22.4 L
(c) 30.5 L   (d) 44.8 L

86. Correct value of l for an electron in 2d orbital is_____.
(a) 1   (b) 2
(c) 3   (d) Note possible.

87. How many hydrogen atoms are present in one mole of water?
(a) 1.086×10^{74} atoms
(b) 1.204×10^{24} atoms
(c) 3.01×10^{23} atoms
(d) 6.02×10^{23} atoms

88. The energy of electron in same shell of an atom:
(a) P.E > K.E   (b) P.E = K.E
(c) P.E < K.E   (d) Not predictable

89. 1 a.mu is equal to 1.661×10^{-24} g, then 1.0 g will be equal to:
(a) 6.02×10^{23} a.mu
(b) 6.02×10^{-23} a.mu
(c) 6.02×10^{-24} a.mu
(d) 6.02×10^{24} a.mu

90. The numbers of atoms in 18 g of H_2O are equal to?
(a) 6.02×10^{23} atoms
(b) 6.02×10^{24} atoms
(c) 1.806×10^{24} atoms
(d) 3.052×10^{23} atoms

91. Mass of 1 molecule of oxygen is:
(a) 32 g   (b) 16 g
(c) $32/6.02 \times 10^{23}$ g
(d) $32/6.02 \times 10^{-23}$ g

92. Which of the following series is observed in the visible region of electromagnetic radiation?
(a) Pfund series   (b) Ballmer series
(c) Lyman series   (d) Bracket series

93. Transition from n = 4,5,6 ….. to n = 3 in hydrogen spectrum gives:
(a) Pfund series   (b) Lyman series
(c) Paschen series   (d) Bracket series

94. **Number of unit cell in 936 amu of NaCl is:**
    (a) 4   (b) 16
    (c) 16 N_A (d) 4 N_A

95. **In the discharge tube emission the cathode rays require:**
    (a) Low potential and low pressure
    (b) Low potential and high pressure
    (c) High potential and high pressure
    (d) High potential and low pressure

96. **If an atom exists in the excited state n = 5, the maximum number of transition takes place is:**
    (a) 6   (b) 5
    (c) 10   (d) 3

97. **Which pair of gases can't undergo the process of diffusion?**
    (a) H_2 & He   (b) N_2 & CH_4
    (c) HCL & NH_3 (d) All can diffuse.

98. **The part of electromagnetic spectrum in which Lyman series lies is:**
    (a) Visible region
    (b) Infrared region
    (c) Ultra violet region
    (d) X – rays

99. **How many different values can m, assume in the electron sub – shell designated by quantum number n = 5, l = 4?**
    (a) 4   (b) 5
    (c) 6   (d) 9

100. **Two atoms X and Y have the electronic configuration given below:**
     $$X= 1S^2 2S^2 SP^6 3S^1$$
     $$Y= 1S^2 2S^2 SP^5$$
     Which compound is formed.
     (a) XY   (b) XY_2
     (c) X_1Y (d) XY_3

101. **Which of the following color have largest wavelength?**
     (a) Red   (b) Blue
     (c) Green   (d) Orange

102. **In the main postulate of Bohr atomic theory the angular momentum of electron in hydrogen atom is given by the relationship:**
     (a) mv = h/2π   (b) $r = {Ze^2}/{4\pi\varepsilon_o mv}$
     (c) mvr = nh/2π   (d) hvc

103. **Select the one having half – filled p orbital's on losing an electron:**
     (a) Nitrogen   (b) Lithium
     (c) Oxygen   (d) Fluorine

104. **An X – rays photon due to transition from M – shell to the vacancy in the k – shell is called:**
     (a) K α characteristic of X – ray
     (b) Kβ characteristic of X –rays
     (c) Kγ characteristic of X – ray
     (d) K characteristic of X – rays.

105. **Which of the following contain one unpaired electron?**
     (a) Zn^{+2} (b) K^{+1}
     (c) Cu^{+2} (d) Na^{+1}

106. **The rays with a particle nature are:**
     (a) y – rays   (b) x – rays
     (c) Cathode rays   (d) Cosmic rays

107. **Which electronic level will allow the hydrogen atom to absorb a photon but not emit?**
     (a) 1s   (b) 2s 2p 3d
     (c) 2p 3d   (d) 3d

108. **Which one of the following closely resembles an ideal gas?**
     (a) Xe   (b) H_2
     (c) CO_2 (d) He

109. **Which thermodynamic temperature is equivalent to 501.85°C?**
     (a) 775.00 K   (b) 774.85 K
     (c) 228.85 K   (d) 228.70 K

110. **Choose the correct order of the rate of diffuse of the given four gases?**
     (a) $CO > NO_2 > Cl_2 > SO_2$
     (b) $CO > SO_2 > NO_2 > Cl_2$
     (c) $CO > NO_2 > SO_2 > Cl_2$
     (d) $SO_2 > Cl_2 > CO > NO_2$

111. **Total no of nodes for 5 f orbital is ____.**
     (a) 3   (b) 4
     (c) 0   (d) 7

112. **Helium shows negative joule Thomson effect duet to its:**
     (a) Low viscosity
     (b) Inert nature
     (c) Resistance to polarize
     (d) Low density

113. **A gas diffuse ½ times as fast as hydrogen gas, its molecular mass is:**
     (a) 32 amu   (b) 25 amu
     (c) 8 amu   (d) 16 amu

114. **A flask contains 6 grams of hydrogen gas and 64 gram oxygen at RTP the partial**

pressure of hydrogen gas in the flask of the total pressure [P] will be:

(a) 2/3p   (b) 3/5p

(c) 2/5p   (d)1/3p

115. The ratio of rate of diffusion of equal volume ($500cm^3$) of hydrogen and oxygen under same condition of temperature and pressure?

(a) 4:1   (b) 8 : 1

(c) 16 : 1   (d) 2 : 1

116. Atmospheric pressure is measured by:

(a) Hygrometer   (b) Barometer

(c) Pyrometer   (d) Spherometer

117. When electric current is passed through neon gas it produces:

(a) Plasma   (b) Light

(c) Plasma & light   (d) Plasma, light &sound

118. A pseudo solid among the following is _____.

(a) NaCl   (b) Copper

(c) Glass   (d) Diamond

119. Regarding liquefaction of gases the highest critical temperature at a fixed pressure is of:

(a) H_2O (b) NH_3

(c) Cl_2 (d) CO_2

120. Which of the following gases has the highest rate of diffuse at the same temperature and pressure?

(a) HCl   (b) CO_2

(c) C_2H_2 (d) C_2H_6

121. A certain gas takes three times as long to effuse out as Helium. Its molar mass will be:

(a) 36 amu   (b) 64 amu

(c) 27 amu   (d) None.

122. If we allow water liquid ammonia and liquid hydrofluoric acid in 3 stalaigmometres to flow down from point X to Y, maximum no of drops will be produced by.

(a) Water   (b) Amonia

(c) HF   (d) Same by all.

123. Choose the compound in which hydrogen bonding is not possible:

(a) H_2O (b) HCl

(c) CH_3COOH (d) CH_3CH_2OH

124. Hydrogen bonding do not exist in_____.

(a) Hydrogen   (b) Proteins

(c) Carbohydrates   (d) Ammonia

125. The liquid with highest rate of evaporation among the following is:

(a) Water   (b) Ethyl alcohol

(c) Ammonia   (d) n – pentane

126. Vapour pressure of a liquid does not depend on:

(a) Temperature

(b) Intermolecular forces

(c) Amount of liquid

(d) Amount of solid dissolved in the liquid

127. In ice the water molecules are bonded by:

(a) Ionic bonds   (b) Hydrogen bonds

(c) Covalent bonds   (d) Metallic bonds

128. At high altitude the boiling point of water is less than 100°C this is because of:

(a) High atmospheric pressure

(b) Weak hydrogen bonding

(c) No change in atmospheric pressure

(d) Lower atmospheric pressure

129. The type of intermolecular forces present in solid mercury is:

(a) Covalent bond   (b) Ionic bond

(c) Metallic bond   (d) H – Bond

130. The electrical conductivity of NaCl crystal is:

(a) More than NaBr crystal

(b) Less than NaBr crystal

(c) Equal to NaBr crystal

(d) NaCl crystal doesn't conduct electric current

131. The shape or appearance in which a crystal grows is called:

(a) Crystal geometry   (b) Crystal lattice

(c) Crystal habit   (d) None of these

132. Which one of the following characteristics is not usually attributed to ionic substances?

(a) High melting points

(b) Deform when struck

(c) Fragility

(d) Crystalline.

133. Most magnetic among the following is_____.

(a) O_2^{-2} (b) N_2

(c) N_2^{-2} (d) None.

134. Correct geometry and shape of NH_3 molecule are_____.

(a) Pyramidal & pyramidal

(b) Tetrahedral & pyramidal

(c) Pyramidal & Tetrahedral

(d) Tetrahedral & tetrahedral.

135. **The melting point of a crystalline solid by the addition of impurities:**
    (a) Increases
    (b) Decreases
    (c) Remain the same
    (d) 1st decreases then increase

136. **In ice there are H – bonds and covalent bonds. What type of solid is it?**
    (a) Ionic
    (b) Covalent
    (c) Molecular
    (d) metallic

137. **The partial pressure of oxygen in a flask containing 32 g of O_2 and 32 g of SO_2 is:**
    (a) $\frac{Pt}{16}$
    (b) $\frac{Pt}{2}$
    (c) $\frac{3}{2}Pt$
    (d) $\frac{2}{3}Pt$

138. **If pressure on a gas is doubled and its temperature is reduced to half the volume of the gas will be_____.**
    (a) Remains same
    (b) Increases 4 time
    (c) Decreases 4 time
    (d) P and T can't be variable at same time.

139. **Substance that has sharp melting point in the following is:**
    (e) Gemstone
    (b) Coal tar
    (c) Glass
    (d) Diamond

140. **Contribution of atoms present at the face of cube:**
    (a) $\frac{1}{2}$
    (b) $\frac{1}{8}$
    (c) $\frac{1}{4}$
    (d) $\frac{1}{3}$

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PHYSICS

141. **The ratio of absolute uncertainties in 20.60 and 5.206 is:**
    (a) 10
    (b) 5
    (c) 0.1
    (d) 0.01

142. **A 120 g mass has velocity of $V = (2\hat{i} + 5\hat{j})$ m/sec at a certain instant. Its K.E is:**
    (a) 3 J
    (b) 4 J
    (c) 5 J
    (d) 1.74 J

143. **A wheel is turning at a speed of 2 rev/sec and is then allowed to come to rest. If it does so in 3 sec, how far did it turn in the process? Assume uniform deceleration:**
    (a) π rad
    (b) 2π rad
    (c) 4π rad
    (d) 6π rad

144. **if 34.51 is cutted from a meter rod the remaining length is:**
    (a) 65.49 cm
    (b) 65.5 cm
    (c) 65.4 cm
    (d) 66 cm.

145. **When a 6 N force is applied on a body of mass 2 kg for 4 sec to move, then the K.E of the body:**
    (a) 12 J
    (b) 144 J
    (c) 210 J
    (d) 0 J

146. **If the velocity of a body is doubled then % age increase in K.E is:**
    (a) 100 %
    (b) 200 5
    (c) 300 %
    (d) 400 %

147. **The momentum and velocity of a body is given as $2\hat{i} + \hat{j} + \hat{k}$ & $0\hat{i} + \hat{j} + \hat{k}$ then K.E is:**
    (a) 0 J
    (b) 1 J
    (c) 2 J
    (d) 4 J

148. **Escape velocity depends upon:**
    (a) Mass of the planet
    (b) Density of the planet
    (c) Radius of the planet
    (d) All of these

149. **The K.E given to a body at the earth surface to escape it from influence of earth gravity:**
    (a) mgR
    (b) 2mgR
    (c) mgR/2
    (c) $\sqrt{mgR}$

150. **A stone tied to the end of 20 cm long string is whirled in a horizontal circle. If the centripetal acceleration is 9.8 m/sec², its angular speed in rad/sec is:**
    (a) 22/7
    (b) 7
    (c) 14
    (d) 20

151. **The ratio of escape velocity to orbital velocity is:**
    (a) 2 : 1
    (b) $\sqrt{2} : 1^1$
    (c) $1 : \sqrt{2}$
    (d) 1 : 2

152. **The ratio of rotational K.E to translational K.E of solid sphere is:**
    (a) 1 : 1
    (b) 2 : 4
    (c) 2 : 5
    (d) 5 : 2

153. **A ball is just allowed to fall from the window of a moving train, it will hit the ground following:**
    (a) Circular path
    (b) Hyperbolic
    (c) Straight line path
    (d) Parabolic path

154. **The motion of the rocket in space in according to law of conversation of:**
    (a) Energy
    (b) Charge

(c) Mass   (d) Momentum

155. **Bodies which fall freely under action of gravity is an example of:**
(a) Uniform acceleration
(b) Variable acceleration
(c) Uniform velocity
(d) Average acceleration

156. **A missile is fired with speed of 98 m/sec at 30^0 with horizontal. The missile is airborne is:**
(a) 10 sec   (b) 20 sec
(c) 30 sec   (d) 40 sec

157. **A person throws a ball vertically upward while standing in a train moving with uniform velocity. The ball will fall:**
(a) In his hand   (b) Behind him
(c) In fornt   (d) Beside him

158. **Which one is more accurate?**
(a) 10.21 cm   (b) 20.21 cm
(c) 30.21 cm   (d) All same.

159. **At maximum height the velocity of projectile is:**
(a) Zero   (b) Minimum
(c) Maximum   (d) Inbetween min & Max

160. **The no of significant zeros in 0.0003 are.**
(a) 1   (b) 2
(c) 3   (d) None.

161. **A helicopter of mass 3.0×10^3 kg rises vertically with a constant speed of 2 m/sec, what resultant force acts on the helicopter?**
(a) 3×10^4 N downward
(b) 4.5 N upward
(c) Zero
(d) 7.5×10^4 N upwards

162. **The measured length of an object lies between 20.25 cm and 20.35 cm then the maximum uncertainty in the measurement is equal to.**
(a) ± 0.01 (b) ± 0.10 cm
(c) ± 0.02 (d) ± 0.05

163. **A stationary nucleus has nucleon number A. The nucleus decay by emitting a proton with speed v to form a new nucleus with speed u. The new nucleus and the proton move away from one another in opposite direction. Which equation gives v in term of A and u?**
(a) v = (A/4 -1) u   (b) v = (A-1)u
(c) v = Au   (d) v = (A +1) u

164. **A boy walks to his school at a distance of 6 km with a speed of 3 km/h and walks back with a constant speed of 2 km/h. His average speed for round trip in km/h is:**
(a) 2.5   (b) 2.4
(c) 5   (d) 2.3

165. **A train is 200 m long and is moving with uniform velocity of 36 km/h, the time it will take to cross a bridge of 1 km is:**
(a) 100 sec   (b) 120 sec
(c) 60 sec   (d) 50 sec

166. **When a projectile is projected at an angle of $65°$ then its.**
(a) R = H   (b) R > H
(c) R < H   (d) R ≥ H

167. **Two bodies with masse m_1 and m_2 have equal K.Es. If P_1 and P_2 are their momentum, then the ratio between P_1 and P_2 is:**
(a) $m_1 : m_2$ (b) $\sqrt{\dfrac{m_1}{m_2}}$
(c) $m_1{}^2 : m_2{}^2$ (d) $\sqrt{m_1} : \sqrt{m_2}$

168. **If $\vec{A}=\vec{B}$ which of the following Is not correct?**
(a) $\vec{A}.\vec{B} = \hat{A}.\hat{B}$ (b) $|\vec{A}|=|\vec{B}|$
(c) $|\hat{A}| = |\hat{B}|$ (d) $A\hat{B} = B\hat{A}$

169. **The resultant of two vectors $\vec{A}$ and $\vec{B}$ may be.**
(a) Positive only   (b) Negative Only
(c) Zero only   (d) Positive, negative or zero all.

170. **Two sphere is a metallic and wooden of the same mass. which one will rotate faster.**
(a) Metallic   (b) wooden
(c) Both at same speed
(d) cannot be compared.

171. **Under the action of α constant force a particle is moving with a constant acceleration. Its power will be.**
(a) Positive   (b) negative
(c) Zero   (d) Increasing.

172. **When a particle moves in a circle with uniform speed its**.
(a) Velocity and acceleration are both constant
(b) Velocity and acceleration are both variable
(c) Velocity is constant but acceleration varies
(d) Velocity varies but acceleration is constant.

173. A body is moving in a circle of radius r with a variable speed, the acceleration of the body is:
(a) Centripetal acceleration
(b) Tangential acceleration
(c) Angular acceleration
(d) All of these

174. A projectile has maximum range of 20m when projected with velocity (V). if it is projected at angle of 15° with the same velocity then its range will be.
(a) 20 m   (b) 15 m
(c) 10 m   (d) 5 m.

175. A vector $\vec{A}$ is along positive x-axis if $\vec{B}$ is another vector such that $\vec{A}x\vec{B} = 0$ then $\vec{B}$ could be.
(a) 4j   (b) -4î
(c) -(î+ĵ)   (d) (ĵ + k̂) .

176. The paratrooper of mass 80 kg descends vertically at a constant velocity of 3.0 m/sec taking the acceleration of free fall as 10 m/sec. Find out what is net force acting on him?
(a) Zero   (b) 800 N upward
(c) 800 N downward (d) 240 N downward

177. Two bodies on displacement-time graph making an angle of 30º and 60º with time axis. The ratio of their velocities:
(a) 1 : 3   (b) 3 : 1
(c) 1 : 2   (d) 2 : 1

178. If at summit point the K.E & P.E become equal, the angle of projection will be:
(a) 45º   (b) 60º
(c) 90º   (d) 30º

179. Which of the following is correct for couple force?
(a) $\sum F = 0$ (b) $\sum F \neq 0$
     $\sum \tau = 0$ $\sum \tau \neq 0$
(c) $\sum F = 0$ (d) None of these
     $\sum \tau \neq 0$

180. A body is projected with velocity 4iˆ+3j. The ratio of the maximum to minimum velocity is:ˆ
(a) 1 : 1   (b) 2 : 3
(c) 5 : 4   (d) 4 : 5

ENGLISH

181. The teacher _____ completed this chapter.
A. Have   B. Has
C. Is   D. Are

182. Ram and Shyam _____ business partners.
A. Have   B. Has
C. Are   D. Had

183. Neither you nor your sister should _____ to them.
A. Talk   B. Talks
C. Talked   D. Talking

184. Either of the two dresses shall _____ good.
A. Looking   B. Look
C. Looks   D. Looked

185. Each and every member _____ to vote.
A. Has   B. Have
C. having   D. Are

186. A large number of soldiers _____ died for the country.
A. Has   B. Is
C. Are   D. Have

187. Physics _____ difficult to understand.
A. were   B. Are
C. Is   D. Have been

188. My mother, along with others, _____ worried.
A. were   B. Are
C. Have   D. was

189. None of the candidates _____ responded.
A. were   B. Have
C. Has   D. Is

190. The book 'Management Principles' _____ quite insightful.
A. Are   B. Is
C. Have   D. Has

191. Politics _____ been one of the debatable topics.
A. Is   B. Are
C. Have   D. Has

192. My glasses _____ nowhere to be found.
A. Is   B. Are
C. Have   D. Has

193. There _____ plenty of space for guests at the venue.
A. Was   B. Were
C. Are   D. Have been

194. The ruler and the minister _____ killed.
    A. Was   B. Have been
    C. Has been   D. Is

195. The government will _____ the order soon.
    A. Passed   B. Passes
    C. Pass   C. Has passed

196. Many people _____ registered for the course.
    A. Have   B. Has
    C. Having   D. Is

197. Many an issue …….. been resolved
    A. Is   B. Are
    C. Has   D. Have

198. Placidly means
    A. In a quiet and tranquilly manner
    B. Noisy
    C. Commotion
    D. Attractive.

199. Groggy and …… are synonyms
    A. Lethargic   B. Active
    C. Delayed   D. Persistent

200. Occasionally is the antonym of
    A. Regularly
    B. From time to time
    C. Now and again
    D. Once in a while

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Date	Physics	Chemistry	Biology	English
25/04/2021	Chapter # 01-05	Chapter # 01-06	Chapter # 01-07	Subject verb agreement + vocabulary
02/05/2021	Chapter # 06-10	Chapter # 07-12	Chapter # 08-13	Tenses+ Article +vocabulary
09/05/2021	1st year full course	1st year full curse	1st year full course	1st year full grammar
23/05/2021	Chapter # 11-15	Chapter # 13-18	Chapter # 14-20	Preposition+ sentence + vocabulary
30/05/2021	Chapter # 16-20	Chapter # 19-24	Chapter # 21-27	Capitalization spelling + punctuation mark vocabulary
06/06/2021	2nd year Full course	2nd year Full course	2nd year Full course	2nd year full Grammar
13/06/2021	1st & 2nd year Full length test	1st & 2nd year Full length test	1st & 2nd year Full length test	1st & 2nd year Full grammar test