NATIONAL UNIVERSITY OF MEDICAL SCIENCES

ENTRANCE TEST - 2015

For F.Sc. and Non-F.Sc. Students Time Allowed: 3 Hours Total MCQs: 200

Instructions:

i. Read the instructions on the MCQ Response Form carefully. - '

ii. Choose the Single Best Answer for each question.

iii. Candidates are strictly prohibited from giving any identification mark except Roll No. & Signature in the specified columns only.

COMPULSORY QUESTION FOR IDENTIFICATION

Q-ID. What is the color of your Question Paper?

A) WHITE C) PINK

C) BLUE D) GREEN

Ans: Color of your question Paper is blue. Fill the Circle corresponding to letter 'B' Against 'ID' in your MCQ response form

1. Y chromosome in humans:

(A) Is completely inert

(B) Carries few genes

(C) Carries many genes

(D) Contains genes for hemophilia and colour blindness

2. Wood is not formed in:

(A) Monocots (B) Dicots

(C) Gymnosperms (D) All of Given

3. Which type of chlorophyll is found in all types of algae?

(A) Chlorophyll a (B) Chlorophyll b

(C) Chlorophyll c (D) Chlorophyll d

4. Which of the following is not related with apoptosis?

(A) loss of tail of developing human embryos

(B) loss of tissue between developing digits

(C) Controlling the number of neurons

(D) None of Given

5. Which of the following is not parasitic fungus of plants?

(A) Rust (B) Mildews

(C) Armillaria (D) None of Given

6. Which of the following is not component of extra-cellular matrix in bacteria?

(A) Cell wall (B) Slime

(C) Capsule (D) Cell membrane

7. Which of the following is not an infection of the lungs/ respiratory tract?

(A) Histoplasmosis (B) Tuberculosis

(C) Cystic fibrosis (D) None of Given

8. Which of the following is correct in humans?

(A) Both sperm and egg contain Yolk

(B) All genetic information comes from sperm

(C) Sperm contains little cytoplasm

(D) Fertilization commonly occurs in uterus

9. The organism having wings with claws.

(A) Eagle (B) Kestrel

(C) Archaeopteryx (D) Mallard

10. The fungus provides chemotherapeutic agent that is used to inhibit fungal growth?

(A) Penicillium notatum (B) Aspergillus

(C) Penicillium griseofulvum (D) Claviceps purpurea

11. Which of the following feature is not related to vexillium in pea family?

(A) Large (B) Single

(C) Outermost (D) Anterior

12. Which of the following does not belong to same linkage group?

(A) Sickle cell anemia (B) Albinism

(C) Leukemia (D) Gout

13. Which of the following correctly explains the structure of myoglobin:

(A) 4 polypeptide chains + 4 haeme portions

(B) 4 polypeptide chains + 1 haeme portions

(C) 1 polypeptide chains + 4 haeme portions

(D) 1 polypeptide chains + 1 haeme portions

14. The leg of cockroach which acts as 'prop' during walking?

(A) Anterior leg (B) Posterior leg

(C) Middle leg (D) All Given

15. Which component enters into mitochondria after glycol sis?

(A) Pyruvate (B) Acetate

(C) Oxaloacetate (D) Acetyl-CoA

16. **What will be the approximate length of a DNA strand having 500 nucleotides?**

(A) 100 nm (B) 130 nm

(C) 170 nm (D) 150 nm

17. **Viral disease that is widely spread and caused by enveloped RNA virus is:**

(A) AIDS (B) Hepatitis

(C) Measles (D) Influenza

18. **Vaccination can be done against:**

(A) Bacterial diseases only (B) Viral diseases only

(C) Both Viral and Bacterial (D) All type of disease causing organisms

19. **Useful bacteria at large intestine of humans produce:**

(A) Vitamin K (B) Vitamin E

(C) Vitamin D (D) Vitamins C

20. **Undigested food in cockroach is stored in:**

(A) Crop (B) Rectum

(C) Gizzard (D) Crop & Rectum

21. **Type of sclerenchyma cells found in seed coats are:**

(A) Fibers (B) Tracheids

(C) Sclerids (D) Vessels

22. **Type of lichen which is leaf-like in appearance is:**

(A) Lecanor (B) Ramalina

(C) Parmelia (D) Bacida

23. **Trichome of Nostoc is surrounded by:**

(A) Pellicle (B) Capsule

(C) Mucilaginous sheath (D) None of Given

24. **The ultimate source of all changes is:**

(A) Mutation (B) Migration

(C) Genetic drift (D) Change in allelic frequency

25. **The lymph vessels empty in:**

(A) Arteries (B) Viens

(C) Cappileries (D) None of given

26. **The helical structure of a protein is kept by formation of hydrogen bond between amino acid molecules which are :**

(A) Adjacent to each other

(B) In successive turns of spiral

(C) Between two different polypeptide chains

(D) None of Given

27. Tail can be regenerated in:

(A) Larvae of amphibian (B) Lizard

(C) Both lizard and larvae of amphibian (D) None of Given

28. Symptoms of malaria occur specifically due to formation of:

(A) Sporozoit (B) Merozoit

(C) Gametocyte (D) Oocyte

29. Such inflorescence in which main axis is elongated and bears sessile flowers is called

(A) Raceme (B) Spike

(C) Cyme (D) Panicle

30. Semilunar valves are not present:

(A) At base of pulmonary trunk (B) At base of aorta

(C) In veins (D) Coronary artery

31. Second major form of hepatitis is:

(A) Hepatitis A (B) Hepatitis B

(C) Hepatitis C (D) Hepatitis D

32. Scales are present in:

(A) Fishes (B) Amphibians

(C) Birds (D) Reptiles

33. Reduction division is:

(A) Amitosis (B) Mitosis

(C) Meiosis I (D) Meiosis II

34. Reactive parts of an amino acid are:

(A) Alpha carbon & amino group (B) Amino group & carboxyl group

(C) Carboxyl group & R group (D) R group & alphacarbon

35. Ptyalin can convert starch into:

(A) Monosaccharide form (B) Oligosaccharide form

(C) Polysaccharide form (D) All Given Options

36. Process of aging:

(A) Can be slowed down by adequate sleep

(B) Can be slowed down by regular meal

(C) Cannot be slowed down in any way

(D) Both by Adequate Sleep and Regular meal

37. Plant protects itself from rapid chilling through:

(A) Increasing unsaturated fatty acids

(B) Increasing protein contents

(C) Both Increasing protein contents and unsaturated fatty acids

(D) None of Given

38. Plant on which teliospores attack produces.....in its seeds.

(A) Teliospores (B) Dikaryotic hyphae

(C) Monok4ryotic hyphae (D) None Of Given

39. Pick the mismatched pair for birds:

(A) Air spaces - lighter body

(B) Pectoral muscles - strong pull of wings

(C) Urinary bladder, producing semisolid urine

(D) Keel - attachment of muscles

40. Pick the correct option about Drosophila?

(A) Male is larger with pointed abdomen

(B) Female has sex combs on front legs

(C) It has generation time of just eight weeks

(D) Salivary gland cells have giant chromosomes in their nuclei

41. Percentage of magnesium by mass of a human being is:

(A) 0.005% (B) 0.25%

(C)0.15% (D) 0.35%

42. Pectoral fins are enlarged in:

(A) Whale (B) Shark

(C) Skates (D) Plaice

43. Oxygen is transported by combining with.....in Hb.

(A) Nitrogen (B) Iron

(C) Carbon (D) Hydrogen

44. Only one ovary is functional at a time in:

(A) Human (B) Eagle

(C) Pigeon (D) Pigeon and human

45. Nitrogen fixing bacteria in root nodules fix nitrogen in soil air into:

(A) Ammonia (B) Nitrite

(C) Nitrate (D) Amino acid

46. Metabolically dormant body produced within the bacterial cell membrane is:

(A) Capsule (B) Spore

(C) Cyst (D) Cyst and spore

47. Menstrual cycle can be divided into:

(A) Single phase (B) Two phases

(C) Three phases (D) Four phases

48. Maximum mammalian characters are present in these:

(A) Metatheria (B) Prototheria

(C) Eutheria (D) None of Given

49. Leptocardii is group of:

(A) Urochordata (B) Cephalochordata

(C) Vertebrata (D) Mollusca

50. Leaves of.....are used to cure cough and cold in horses:

(A) Glycyrrhiza glabra (B) Cassia alata

(C) Bamboo (D) Both Bamboo and Glycyrrhiza glabra

51. J.Seiler in 1914 discovered which type of sex determination in moths?

(A) XO-XX (B) XY-XX

(C) ZZ-ZW (D) None of Given

52. It is the most critical phase of mitosis:

(A) Prophase (B) Tellophase

(C) Anaphase (D) Metaphase

53. In which of the following, mitotic division is involved:

(A) Oogonium to primary oocyte (B) Primary oocyte to secondary oocyte

(C) Secondary oocyte to egg (D) None of Given

54. In Maxam-Gilbert method, DNA threads are:

(A) Chemically synthesized

(B) Synthesized from mRNA

(C) Synthesized by using terminating nucleotides

(D) Chemically cut into pieces

55. If allele frequency for a dominant allele is 0.4. What will be number of hetrogeneous individuals if population is of 100 individuals with diploid traits.

(A) 36 (B) 48

(C) 52 (D) 74

56. How much carbon dioxide is transported through blood proteins?

(A) 5% (B) 20%

(C) 25% (D) 70%

57. Highest blood pressure is found in:

(A) Arteries (B) Veins

(C) Capillaries (D) None of Given

58. Green house gases are those that:

(A) Prevent entry of ultraviolet rays (B) Prevent rain fall

(C) Prevent heat to escape (D) All Given Options are Correct

59. Grassland of Argentina is:

(A) Praries (B) Savana

(C) Boreal (D) Pampas

60. Genetic recombination in bacteria can occur through :

(A) Conjugation (B) Transformation

(C) Transduction (D) All Given

61. Founder of cell biology is:

(A) Schleiden & Schwann (B) Galileo

(C) Robert Hooke (D) Robert Brown

62. Etioplasts found in plants are actually one of the type of:

(A) Chloroplasts (B) Chromoplasts

(C) Leucoplasts (D) None of Given

63. Drosophila sperm cell contains:

(A) 4 chromosomes (B) 8 chromosomes

(C) 8 pair of chromosomes (D) 3 chromosomes

64. DNA fingerprinting is basically done for:

(A) DNA cloning (B) DNA analysis

(C) DNA sequencing (D) DNA slicing

65. Diameter of DNA double helix is:

(A) 3.4 nm (B) 0.3 nm

(C) 2 nm (D) 0.2 nm

66. Diameter of an artery can be changed by:

(A) nervous stimulation

(B) Chemical stimulation

(C) Both Chemical and Nervous Stimulation

(D) None of Given

67. **Dermal, denticle scales of fishes are called:**

(A) Placoid scales (B) Ganoid scales

(C) Ctenoid scales (D) Cycloid scales

68. **Dark purple or black spore case of Claviceps purpurea is:**

(A) Smut (B) Rust

(C) Ergot (D) Aspergin

69. **Continuous variations in a population were first observed by:**

(A) Mendel (B) Correns

(C) Nilsson (D) Darwin

70. **Condensation of chromosomes reaches to maximum during:**

(A) Zygote (B) Pachytene

(C) Diplotene (D) Diakinesis

71. **Cloning is production of genetically identical copies of organisms/ cells by:**

(A) Sexual reproduction (B) Asexual reproduction

(C) Both sexual and asexual (D) None of Given

72. **Carotenoids are related to:**

(A) Vitamin A (B) Vitamin B

(C) Vitamin C (D) Vitamin D

73. **Bryophytes and ferns both require water for fertilization but ferns are not placed in bryophyte because they have:**

(A) Ciliated spermatozoa instead of flagellated spermatozoa

(B) sporpohyte as main generation instead of gametophyte generation

(C) Vascular tissue

(D) None of Given

74. **Blood group of a person having and hh genotypes:**

(A) have AB phenotype

(B) Only be Rh-ive

(C) Do not have antigens attached on RBCs

(D) None of Given

75. **Annually.....%of fruit is lost due to fungi.**

(A) 15-20% (B) 35-70%

(C) 25-35% (D) 15-50%

76. **Amylase is not produced by following type of salivary gland:**

(A) Parotid (B) Submandibular

(C) Sublingual (D) None of Given

77. **Among invertebrates, which possesses the greatest power of regeneration?**

(A) Sponges (B) Platyhelminthes

(C) Annelids (D) Echinoderms

78. **All of the photosynthetic bacteria use except**

(A) Purple sulphure bacteria (B) Green sulphure bacteria

(C) Purple non-sulphure bacteria (D) None of Given

79. **75% osmotic pressure of blood is maintained by:**

(A) Globulin (B) Prothrombin

(C) Fibrinogen (D) Albumin

80. **1 NADH in respiratory chain produces:**

(A) 1 ATP (B) 2 ATP

(C) 3 ATP (D) 4 ATP

81. **A 500g tooth paste sample has 0.2 g fluoride concentration. What is the concentration of fluoride in terms of ppm level?**

(A)2509 (B)200

(C)400 (D)1000

82. **Acetone and Chloroform are soluble into each other due to:**

(A) Hydrogen Bonding (B) Dipole-dipole interaction

(C) London forces (D) Both (a) and (b)

83. **An element M forms a hydride which contains 90% of M by mass. What is the relative atomic mass of M?**

(A) 27 (B) 30

(C) 87 (D) 90

84. **An ionic compound is most likely to be formed when**

(A) ionization energy of A is high but electron affinity of B is low

(B) The ionization energy of A is low but electron affinity of B is high

(C) Both ionization energy of A and electron affinity of B are high

(D) Both ionization energy of A and electron affinity of B are low

85. **Basicity of H_3PO_4 is:**

(A) 1 (B) 2

(C) 3 (D) 4

86. **Boiling of dilute HCL acid does not increase its concentration beyond 22 percent because HCI acid:**

(A) Is very volatile (B) Highly soluble in water

(C) Forms boiling mixture (D) Forms saturated at this concentration

87. Both ionic and covalent bonds are present in:

(A) CH_4 (B) SO_2

(C) KCl (D) NaOH

88. Half life period of the first order reaction depends upon:

(A) Initial Concentration (B) Temperature

(C) Catalyst (D) All of above

89. Hydrocarbons which burn with smoky flame are called:

(A) Aliphatic (B) Aromatic

(C) Alicyclic (D) None of these

90. If the compressibility factor for one mole of an ideal gas is 1, then what will be the

(A) Same (B) Different

(C) Zero (D) None of the above

91. In Beta elimination reaction , nucleophile attacks on:

(A) Alpha hydrogen (B) Beta hydrogen

(C) Hydrogen (D) Alpha carbon

92. In which of the following cases , the benzene rings are isolated?

(B) Phenanthrene (D) Triphenylmethane

(A) Napthalene (C) Anthracene

93. Ninhydrin reacts with amino acid to form product which has colour:

(A) Blue (B) Violet

(C) Bluish Violet (D) Red

94. Sod-Benzoate on reacting with soda lime forms:

(A) Benzoic Acid (B) Benzene

(C) Toluene (D) Benzaladehyde

95. Starch is a polymer of:

(A) Fructose (B) d-D Glucose

(C) B-D Glucose (D) Sucrose

96. The C-H bond distance is the longest in:

(A) C_2H_4 (B) C_2H_2

(C) C_2H_6 (D) C_2H_2Br

97. The decreasing order of second ionization energy of K,Ca,Ba is:

(A) K>Ca>Ba (B) Ca>Ba>K

(C) Ba>K>Ca (D) K>Ba>Ca

98. The essential condition for Optically Activity of an organic-compound is:

(A) Dextrorotatory (B) Levorotatory

(C) Presence a-symmetric carbon (D) Molecular dy-symmetry

99. The formula of washing soda is:

(A) N_2CO_3 (B) $Na_2CO_3.H_2O$

(C) $Na_2CO_3.7H_2O$ (D) $Na_2CO_3.10H_2O$

100. The maximum number of electrons with n:3 and L:2 is

(A) 10 (B) 6

(C) 18 (D) 0

101. The molecule with zero dipole moment is:

(A) NH_3 (B) H_2O

(C) BF_3 (D) SO_2

102. The number of sigma and pi bonds in l-butene-3-yne?

(A) 5 sigma and 5 pi (B) 7 sigma and 3 pi

(C) 8 sigma and 2 pi (D) 6 sigma and 4 pi

103. The overall positive reaction potential value predicts that process is:

(A) **Not** feasible (B) Feasible

(C) Impossible (D) No indication

104. The radiation from a naturally occurring radioactive substance, as seen after deflection by a magnetic field in one direction, are:

(A) Definitely a-rays (B) Definitely B-rays

(C) Both Alpha and Beta rays (D) Either Alpha or Beta rays

105. The rate of a reaction in general can be increased by all the following factors except:

(A) By increasing temperature

(B) Using a suitable catalyst

(C) By an increase in activation energy

(D) By increasing conc. of reactants

106. The Sweetest of All Sugars is :

(A) Glucose (B) Maltose

(C) Sucrose (D) Fructose

107. The vapour pressure of water at room temperature is 23.8mm Hg. The vapour pressure of an aqueous solution of sucrose with mole fraction 0.2 is equal to:

(A) 19.04 mm Hg (B) 24.2 mm of Hg

(C) 21.42 mm of Hg (D) 21.4 mm of Hg

108. The number of moles of N02 which contains 16 g of Oxygen :

(A) 0.25 (B) 0.50

(C) 1.0 (D) 1.50

109. Tincture of Iodine is :

(A) in alcohol CHI_3 (B) in alcohol I_2

(C) in KI I_2 (D) in KI CH_3I

110. Transition Elements Usually show:

(A) Para magnetism (B) Diamagnetism

(C) Ferromagnetism (D) Both Ferromagnetism and Para magnetism

111. What is the mass of same no of atoms of potassium as are present in 11.5 grams of sodium?

(A) 19 g (B) 19.5 g

(C) 39 g (D) 78 g

112. What is the molarity of 25 % NaOH solution?

(A) 5.0 (B) 6.25

(C) 3.125 (D) 2.5

113. When ethylene ozonide is treated with Zn-dust we get:

(A) Ethanal (B) Methanal

(C) Methanol (D) Ethanol

114. When fused PbBr2 is electrolyzed:

(A) Bromine appears at the cathode (B) Lead is deposited at the cathode

(C) Lead appears at the anode (D) None of Given

115. Which compound shows maximum hydrogen bonding with water?

(A) C_6H_5OH (B) C_2H_50

(C) $CH_3 - O - CH_3$ (D) n-hexagonal

116. Which is the configuration of Cr?

(A) $3d^4\ 4s^2$ (B) $3d^5\ 4s^1$

(C) $3d^6\ 4s^1$ (D) $2d^1\ 4s^2$

117. Which of the following contains the co-ordinate covalent bond?

(A) $BaCI_2$ (B) NH^+

(C) BF_3^+ (D) Both B and C

118. Which of the following do not have variable valency?

(A) Cobalt (B) Iron

(C) Manganese (D) Zinc

119. Which of the following gas is more ideal at STP?

(A)SO_2 (B) NH_3

(C) H_2 (D) H_2S

120. Which of the following gas is not present in coke:

(A) Carbon dioxide (B) Carbon monoxide

(C) Oxygen (D) Hydrogen

121. Which of the following has maximum Hydration power?

(A) Na+ (B) K^+

(C) Mg+ (D) $Ca+^2$

122. Which of the following has the maximum no of unpaired electrons?

(A) Mg^{-2} (B) V^{3-}

(C) Ti^3+ (D) Fe^{2+}

123. Which of the following is having inert gas configuration?

(A) Pb^{+4} (B) As^{+3}

(C) Zn^{+2} (D) Ti^{+4}

124. Which of the following is not locating agent?

(A) H_2S (B) CS_2

(C) Rubenaic acid (D) Ninhydrin

125. Which of the following is the reducing agent:

(A) C_3H_8 (B) C_2H_5CHO

(C) C3H7OH (D) $(CH_3)_2CO$

126. Which of the following transition metals in it's ground state have unpaired electron in an s-orbital?

(A) Cr (B) CO

(C) Fe (D) Cu

127. Which one is not related with evaporation?

(A) Continuous (B) Endothermic

(C) Exothermic (D) Spontaneous

128. The property of liquid that is measured by polarimeter?

(A) Conductance (B) Refractive Index

(C) Optical activity (D) Change in Volume

129. $NaN0_3$, on heating gives:

(A) O_2 (B) NO_2

(C) $O_2 + NO_2$ (D) $NaNO_2$

130. How many ballons of capacity $0.25dm^3$ at atm can be filled from hydrogen.

(A) 50 (B) 90

(C) 180 (D) 200

131. The bonds present in N2O5 are:

(A) Only Ionic (B) Covalent and Coordinate

(C) Only Covalent (D) Covalent and Ionic

132. A crystal system having all sides (a, b, and c) unequal and angles $\alpha = \beta = \gamma = 90$ is:

(A) Cubic (B) Rhombohedral

(C) Orthorhombic (D) Hexagonal

133. SN_2 can be best carried out with:

(A) Primary alkyl halide (B) Secondary alkyl halide

(C) Tertiary alkyl halide (D) All of the above

134. 15g of urea is dissolved in $180cm^3$ of water. The relative lowering of vapour pressure:

(A) 0.024 (B) 25.024

(C) 2.5 (D) 10.25

135. The KSP of AgCl is 2.0×10^{-10} $mol^2.dm^{-6}$. The maximum concentration of Ag^+ ions:

(A) $2.0x10^{-10}$ $mol.dm^{-6}$ (B) $1.41 x10^{-5}$ $mol.dm^{-3}$

(C) $1.0x10^{-5}$ $mol.dm^{-3}$ (D) $4.0x10^{-20}$ $mol.dm^{-3}$

136. Which of the following has least electron affinity value?

(A) ${}^{12}_{6}C$ (B) ${}^{14}_{7}N$

(C) ${}^{16}_{7}8$ (D) ${}^{19}_{9}F$

137. The shape of $SnCl_2$ is:

(A) Linear (B) Teterahedral

(C) Angular (D) Trignoal Planar

138. IUPAC name for $[Pt\ Cl\ Br(NO_2)(NH_3)_3]Cl$ is:

(A) Triammine chlorobromonitro platimum (iv) Chloride

(B) Triammine chlorobromonitro platimate (iv) Chloride

(C) Triammine chlorobromonitro platimum (iv) Chloride

(D) Triammine chlorobromonitro platimum (vi) Chloride

139. Rate = $K[A]^2[B]$ for the reaction $2A + 3B + C \rightarrow$ product where A and B are present in:

(A) 1^{st} (B) 2^{nd}

(C) 3^{rd} (D) 4^{th}

140. P_2O_5 is Hygroscopic powder which sublimes at:

(A) 260 Degree Celsius (B) 360 Degree Celsius

(C) 630 Degree Celsius (D) 690 Degree Celsius

141. A body of mass of 2 kg absorbed 10j of radioactive radiations then absorbed dose of radiation in rad is

(A) 5 (B) 5×10^{-2}

(C) 500 (D) 20

142. A disc, a hoop and a sphere of same mass and radius are rolled down from a Frictionless……..inclined plane. Which has greater speed on reaching the ground?

(A) Disc (B) Loop

(C) Sphere (D) All have same speed

143. A logic gate has four inputs, its possible input combination will be:

(A) 4 (B) 16

(C) 32 (D) 64

144. A maintenance crew is working on a section of a three-lane highway only lane open to traffic. The result is much slower of traffic flow. Do cars on a highway behave like:

(A) The molecules of an incompressible fluid

(B) The molecules of a compressed fluid

(C) Both (A) and (B)

(D) None of the above

145. A square coil of side 16 cm has 200 turns and rotates in a uniform magnetic field of magnitude 0.05 T. If the peak emf is 12 V, what is the angular velocity of the coil?

(A) 43 rad s^{-1} (B) 49 rad s^{-1}

(C) 47 rad s^{-1} (D) 45 rad s^{-1}

146. According to Einstein bodies and Light rays follow:

(A) Rectilinear Path (B) Circular Path

(C) Geodesics (D) Parabolic

147. An A.C emf of V=200 sin (100 ^t) volt is concerned to a choke of negligible resistance. In order to produce current of amplitude 1 A, the inductance of choke should be:

(A) 200 H (B) 2π H

(C) $\frac{1}{\pi}$H (D) $\frac{2}{\pi}$H

148. Aero plane is flying in a straight line at a constant altitude. If a wind gust strikes and raises the nose of the airplane, the nose will bob up and down until the plane eventually return's to it's original position altitude. Are these oscillation's are:

(A) Undamped (B) Underdamped

(C) Critically damped (D) Overdamped

149. An electron describes a circular orbits of radius 2 cm in a uniform magnetic field. If speed of electron is doubled then radius of the orbit will:

(A) 0.5 cm (B) 1 cm

(C) 2 cm (D) 4 cm

150. An electron is moving along the axis of a solenoid carrying a current which of the following is a correct statement about the electromagnetic force acting on the electron?

(A) The force acts perpendicular to its motion

(B) The force acts anti-parallel to its motion

(C) The force acts in the direction of motion

(D) No force acts

151. As temperature of the black body is raised the black body radiations become richer in :

(A) Intermediate Wavelenths (B) Longer Wavelengths

(C) Shorter Wavelengths (D) Low Frequencies

152. At which of the following places, motion of simple pendulum becomes slowest:

(A) Murree (B) Karachi

(C) K-2 (D) Peshawar

153. Equation of SHM, with amplitude 'a' is given by:

(A) $X = a(\sin^2 \omega t + \cos^2 \omega t)$ (B) $X = a(\sin \omega t \cos^2 \omega t)$

(C) $X = a \sin \omega t$ (D) $X = a^2 \sin(\sin \omega t)$

154. How much more thumb pressure must a nurse use to administer an injection with a hypodermic needle of inside diameter 0.30 mm compared to one with inside diameter 0.60 mm? Assume that the two needles have the same length and that the volume flow rate is the same in both cases.

(A) Twice as much (B) 4 times as much

(B) 8 times as much (D) 16 times as much

155. If the length of a second's pendulum is L, then the length of pendulum having a period 1 sec will be:

(A) L/2 (B)2L

(C)4L (D) L/4

156. In RLC series circuit at resonance the voltage across R, L and C are 10 V, 30 V and 30 V respectively then applied voltage will be:

(A) 30 V (B) 10 V

(C) 40 V (D) 20 V

157. Let an emf of 120 volt of negligible internal resistance connected across a resistance of 1000 ohm. Then the current flowing through the circuit will be:

(A) 120 A (B) 120×10^3A

(C) 120×10^{-3}A (D) None

158. A glider moves on a horizontally surface back and fourth.

(A) v_x -> u and $a_x > u$ (B) $v_x = 0$ and $a_x < 0$

(C) $v_x < u$ and $a_x < u$ (D) $v_x = u$ and $a_x < u$

159. The first excitation energy of H atom will be:

(A) 10.2eV (B) 3.4 eV

(C)-136eV (D)13.6eV

160. The number of LED segments used in a Calculator Display:

(A) 8 (B) 10

(C) 7 (D) None

161. The ratio of angular speed of moon around the Earth to its angular speed about its own axis is :

(A) 2:1 (B) 1 : 6

(C) 1 : 30 (D) 1 : 1

162. The six strings of a guitar are the same length under nearly the same tension, but they have different thickness. On which string do waves travel the fastest?

(A) The thickest string

(B) The thinnest string

(C) The wave speed is the same on all the strings

(D) None of the above

163. To double the total energy for a mass spring system oscillating in SHM, by what factor must the amplitude increase?

(A) 4 (B) 2

(C) $\sqrt{2}$ =1.414 (D) $\sqrt[4]{2}$ = 1.189

164. Two points charges of +5 C and -12 C attract each other with a force of 1.48 N. charge of -5C is added to each of these charges. Now the force will be:

(A) 1.48 N(attractive) (B) 1.48 N(repulsive)

(C) 2.96 (repulsive) (D) Zero

165. Two spheres of the same size, one of mass 5 kg and other of mass 50 g are dropped simultaneously from a tower. When they are about to touch the ground, they have the same:

(A) Kinetic Energy (B) Potential Energy

(C) Momentum (D) Acceleration

(E) All Given Options

166. When an observer move with velocity of light relative to a timing device at rest, he would notice:

(A) Absolute time (B) Improper time

(C) Infinite time (D) Proper time

167. When brakes of a car are applied, angular velocity of a flywheel reduces from 900 cycle/min to 720 cycle/min. in 6 sec. Angular retardation is:

(A) π rad/s^2 (B) 9π rad/s^2

(C) 8π rad/s^2 (D) $\frac{2}{3}\pi$ rad/s^2

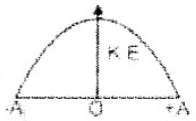
(E) Insufficient Data

168. When the output power equals to one-half of the input power, efficiency of the transformer becomes:

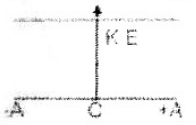
(A) 0 % (B) 100 %

(C) 50 % (D) 200%

169. Which Graph in SHM show K.E of body:

(A) 

(B) 

(C) 

(D) None

170. Which of the following represent $\tan\theta$?

(A) $\frac{\vec{A}.\vec{B}}{\vec{A}\times\vec{B}}$ (B) $\frac{\vec{A}\times\vec{B}}{\vec{A}\times\vec{B}}$ (C) $\frac{\vec{A}\times\vec{B}}{\vec{A}.\vec{B}}$ (D) $\frac{|\vec{A}\times\vec{B}|}{\vec{A}.\vec{B}}$

171. Which one has proper use of preposition?

(A) "If I am lying, the curse of Allah be on me and may I be drowned in some period. May I even be deprived from a decent burial!"

(B) "If I am lying, the curse of Allah be on me and may I be drowned in some period. May I even be deprived at a decent burial!"

(C) "If I am lying, the curse of Allah be on me and may I be drowned in some period. May I even be deprived off a decent burial!"

(D) "If I am lying, the curse of Allah be on me and may I be drowned in some period. May I even be deprived of a decent burial!"

172. Voracious means…….

(A) Excitable (B) Honest

(C) Greedy (D) Circular

173. The secretary_____agreed to____ __the president's decision, knowing that the information was less than factual and against her basic beliefs regarding deceptive sales practices.

(A) Willingly. . . support (B) Maliciously. . sway

(C) Secretively. . . acknowledge (D) Furtively. . . foster

(E) Grudgingly. . . abide by

174. The parade route was down the main boulevard.

(A) Alley (B) Highway

(C) Avenue (D) Driveway

175. The chess master promised to_____havoc upon his opponent's pawn for **taking his bishop.**

(A) Endow (B) Placate

(C) Ensue (D) Warrant

(E) Wreak

176. The boy was incorrigible and a constant source of trouble to his mother.

(A) Truant (B) Bad Beyond correction

(C) Rash (D) Dishonest

177. Shakespeare, a (an)_____ writer, entertained audiences by writing many tragic and comic plays.

(A) Numeric (B) Obstinate

(C) Dutiful (D) Prolific

(E) Generic

178. Read the Passage and Answer the Question: Poetry begins in trivial metaphors, petty metaphors, "grace" metaphors, and goes on to the profoundest thinking that we have. Poetry provides the one permissible way of saying one thing and meaning another. People say, "Why don't you say what you mean?" We never do that, do we, being all of us too much poets. We like to talk in parables and in hints and in indirections whether from diffidence or some other instinct. What selection best describes the word "diffidence" as used in the passage?

(A) Shyness (B) Consternation

(C) Bewilderment (D) Reservations

(E) Caution

179. Point Out the correct one:

(A) A pair of shoes for his first born, Mehrunnisa, had cost him one rupee.

(B) A pair of shoes for his first born, Mehrunnisa, had costed him one rupee.

(C) A pair of shoes for his first born, Mehrunnisa, had costed him one rupee.

(D) A pair of shoe for his first born, Mehrunnisa, had cost him one rupee.

180. Mongoose : mammal : granite :_____

(A) Marker (B) Mineral

(C) Headstone (D) Bird

181. Mitigate means:

(A) Aggravate (B) Attenuate

(C) Contemplate (D) Virulent

182. Identify Correct One:

(A) Now observe it's effect on a human being

(B) Now observe its effect on a human being

(C) Now observe its affect on a human being

(D) Now observe it effect on a human being

183. His credulous nature often landed him in touble:

(A) Dreamy (B) Naughty

(C) Innocent (D) Willing to believe easily

184. Her_____demeanor was understandable given the loss of her brother; indeed, most of us were rather_____.

(A) Lachrymose.. . dolorous (B) Reprehensible. . . enigmatic

(C) Subtle... raucous (D) Determined. . . committed

(E) Displaced. .. focused

185. **Given Below is a Paragraph. Read it and Answer the Question:! fretted the other night at the hotel at the stranger who broke into my chamber after midnight, claiming to share it. But after his lamp had smoked the chamber full and I had turned round to the wall in despair, the man blew out his lamp, knelt down at his bedside, and made in low whisper a long earnest prayer. Then was the relation entirely changed between us. I fretted no more, but respected and liked him. The probable purpose of the author using the phrase, "lamp had smoked the chamber full" is to**

(A) Establish a period of time

(B) Show a low grade fuel was used

(C) Establish the faultiness of the lamp

(D) indicate the lamp was turned up too high

(E) Utilize figurative language.

186. Football players, generally known for their elevated testosterone levels, would see crying as unmanly rather than a humanistic trait by either sex.

(A) inherently. .. experienced (B) inexplicably. . . enjoyed

(C) Intentionally... fostered (D) Plausibly. .. envisioned

(D) Sickeningly. . . thwarted

187. DISSENSION has the same meaning as

(A) Discord (B) Analysis

(C) Swelling (D) Injury

188. Choose the correct one:

(A) She reminded me the nice days of my childhood

(B) She reminded me of the nice days of my childhood

(C) She reminded me for the nice days of my childhood

(D) She reminded me on the nice days of my childhood

189. Choose the best match According to given relation:

DWELL : DENIZEN

(A) Shun : outcast

(B) Inherit: heir

(C) Squander: miser

(D) Obey : autocrat

(E) Patronize: protege

190. Ballet was_____ delighting the children with its imaginative characters and unpredictable sets.

(A) Prosaic

(B) Archaic

(C) Soporific

(D) Whimsical

(E) Inimical

191. Which word does not belong to the group in each of the following questions?

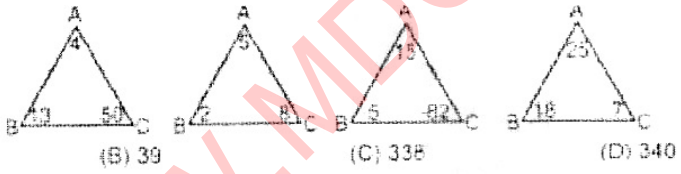
(A) chest

(B) Ear

(C) Lip

(D) Nose

192. What is the missing number in the triangle on the right?



(A) 448

(B) 39

(C) 338

(D) 340

(E) None of these

193. Suppose in a certain language MADRAS is coded as NBESBT. Then BOMBAY is coded in that language as:

(A) CPNCPZ

(B) CPNCBX

(C) CPOCBZ

(D) CQOCBZ

194. Odd one Out:

(A) Eagle

(B) Cloud

(C) Squirrel

(D) Plane

195. Let UDOMETER is coded as DUMOTERE then how will SUBLEASE be coded?

(A) USBAELES

(B) USLBESAE

(C) USLBAEES

(D) USLBEAES

196. **If EXPLAINING is written as PXEALNIGNI. Then PRODUCED is written in that code as:**

(A) ORPBUDEC (B) ROPUDECD

(C) ORPUDECD (D) None of Given

197. **Identify Which do not possess the same kind of meaning as the others:**

(A) Honesty and Integrity (B) Bondage and Freedom

(C) Risk and Danger (D) Pain and Agony

198. **Find the missing number in the Box Given Below:**

7	10	16
1	22	40
3	58	?

(A) 122 (B) 112

(C) 69 (D) 98

199. **A man walks 3 km northwards and then turns left and goes 2 km. He again turns left and goes on 3 km. He turns right and walks straight. In which direction he is walking?**

(A) EAST (B) WEST

(C) NORTH (D) SOUTH

200. **100 + 11 = 32111 + 1000 = 43100 + 100 = ?**

(A) 224 (B) 245

(C) 22 (D) 25

Answer Key NUMS 2015

1. (C)	2. (A)	3. (A)	4.(D)	5.(D)	6. (D)
7. (D)	8. (A)	9. (C)	10. (C)	11. (D)	12. (D)
13. (D)	14.(C)	15. (D)	16. (C)	17. (D)	18. (C)
19. (A)	20. (B)	21. (C)	22. (C)	23. (C)	24. (A)
25. (B)	26. (B)	27. (C)	28. (C)	29. (A)	30. (C)
31. (B)	32. (B)	33. (C)	34. (B)	35. (B)	36. (D)
37. (A)	38. (A)	39. (C)	40. (A)	41. (A)	42. (C)
43.	44. (C)	**45.** (D)	**46.** (B)	**47.** (D)	**48.** (C)
49. (B)	**50.** (C)	**51.** (C)	**52.** (C)	**53.** (A)	**54.** (D)
55. (A)	**56.** (A)	**57.** (D)	**58.** (A)	**59.** (D)	**60.** (A)
61. (C)	**62.** (A)	**63.** (B)	**64.** (B)	**65.** (C)	**66.** (D)
67. (A)	**68.** (A)	**69.** (D)	**70.** (D)	**71.** (B)	**72.** (A)
73. (C)	**74.** (C)	**75.** (D)	**76.** (C)	**77.** (A)	**78.** (D)
79. (D)	**80.** (C)	**81.** (B)	**82.** (A)	**83.** (A)	**84.** (D)
85. (C)	**86.** (C)	**87.** (D)	**88.** (B)	**89.** (B)	**90.** (A)
91. (B)	**92.** (D)	**93.** (C)	**94.** (B)	**95.** (A)	**96.** (C)
97. (A)	**98.** (C)	**99.** (D)	**100.** (A)	**101.** (C)	**102.** (A)
103. (B)	**104.** (A)	**105.** (A)	**106.** (D)	**107.** (A)	**108.** (B)
109. (B)	**110.** (D)	**111.** (B)	**112.** (B)	**113.** (C)	**114.** (B)
115. (B)	**116.** (A)	**117.** (D)	**118.** (D)	**119.** (C)	**120.** (C)
121. (C)	**122.** (D)	**123.** (A)	**124.** (B)	**125.** (B)	**126.** (A)
127. (C)	**128.** (C)	**129.** (D)	**130.** (D)	**131.** (C)	**132.** (C)
133. (A)	**134.** (A)	**135.** (B)	**136.** (B)	**137.**(C)	**138.**(D)
139. (A)	**140.** (B)	**141.** (C)	**142.** (C)	**143.** (B)	**144.** (A)
145. (C)	**146.** (C)	**147.** (D)	**148.** (B)	**149.** (A)	**150.** (A)
151. (C)	**152.** (C)	**153.** (C)	**154.** (D)	**155.** (D)	**156.** (B)
157. (A)	**158.** (B)	159. (A)	**160.** (C)	161.(D)	162. (A)
163.(C)	**164.** (D)	**165.** (D)	**166.** (C)	**167.** (A)	**168.** (C)
169.(A)	**170. (D)**	**171.** (A)	**172.** (C)	**173.** (E)	**174.** (C)
175. (E)	**176.** (B)	**177. (D)**	**178.** (D)	**179.** (A)	**180.** (C)
181. (B)	**182.** (D)	**183.** (D)	**184.** (A)	**185.** (A)	**186.** (A)
187. (A)	**188.** (B)	**189.** (B)	**190.** (A)	**191.** (A)	**192.** (A)
193. (A)	**194.** (C)	**195.** (A)	**196.** (A)	**197.** (B)	**198.** (B)
199. (A)	**200.** (C)				