NEET(UG)–2017 TEST PAPER WITH ANSWER & SOLUTIONS (HELD ON SUNDAY 07th MAY, 2017)

46. Which one of the following statements is **correct**, with reference to enzymes ?
(1) Holoenzyme = Apoenzyme + Coenzyme
(2) Coenzyme = Apoenzyme + Holoenzyme
(3) Holoenzyme = Coenzyme + Co-factor
(4) Apoenzyme = Holoenzyme + Coenzyme
Ans. (1)

47. A decrease in blood pressure / volume will not cause the release of :
(1) Atrial natriuretic factor (2) Aldosterone
(3) ADH (4) Renin
Ans. (1)

48. Which cells of "Crypts of Lieberkuhn" secrete antibacterial lysozyme ?
(1) Paneth cells (2) Zymogen cells
(3) Kupffer cells (4) Argentaffin cells
Ans. (1)

49. Which of the following are not polymeric ?
(1) Proteins (2) Polysaccharides
(3) Lipids (4) Nucleic acids
Ans. (3)

50. Functional megaspore in an angiosperm develops into ?
(1) Endosperm (2) Embryo sac
(3) Embryo (4) Ovule
Ans. (2)

51. Myelin sheath is produced by :
(1) Astrocytes and Schwann cells
(2) Oligodendrocytes and Osteoclasts
(3) Osteoclasts and Astrocytes
(4) Schwann cells and Oligodendrocytes
Ans. (4)

52. Attractants and rewards are required for :
(1) Entomophily (2) Hydrophily
(3) Cleistogamy (4) Anemophily
Ans. (1)

53. Receptor sites for neurotransmitters are present on :
(1) Pre-synaptic membrane
(2) Tips of axons
(3) Post-synaptic membrane
(4) Membrane of synaptic vesicles
Ans. (3)

54. Coconut fruit is a :
(1) Berry (2) Nut
(3) Capsule (4) Drupe
Ans. (4)

55. Adult human RBCs are enucleated. Which of the following statement(s) is/are **most appropriate** explanation for this feature ?
(a) They do not need to reproduce
(b) They are somatic cells
(c) They do not metabolize
(d) All their internal space is available for oxygen transport
(1) only (a) (2) (a), (c) and (d)
(3) (b) and (c) (4) only (d)
Ans. (4)

56. Capacitation occurs in :
(1) Epididymis
(2) Vas deferens
(3) Female reproductive tract
(4) Rete testis
Ans. (3)

57. Which of the following are found in extreme saline conditions ?
(1) Eubacteria (2) Cyanobacteria
(3) Mycobacteria (4) Archaebacteria
Ans. (4)

58. Asymptote in a logistic growth curve is obtained when :
(1) K = N
(2) K > N
(3) K < N
(4) The value of 'r' approaches zero
Ans. (1)

59. Artificial selection to obtain cows yielding higher milk output represents :
(1) Directional as it pushes the mean of the character in one direction
(2) Disruptive as it splits the population into two, one yielding higher output and the other lower output
(3) Stabilizing followed by disruptive as it stabilizes the population to produce higher yielding cows
(4) Stabilizing selection as it stabilizes this character in the population
Ans. (1)

60. Select the mismatch :
(1) *Rhodospirillum* - Mycorrhiza
(2) *Anabaena* - Nitrogen fixer
(3) *Rhizobium* - Alfalfa
(4) *Frankia* - *Alnus*
Ans. (1)

61. Good vision depends on adequate intake of carotene rich food :
Select the best option from the following statements :
(a) Vitamin A derivatives are formed from carotene
(b) The photopigments are embedded in the membrane discs of the inner segment
(c) Retinal is a derivative of Vitamin A
(d) Retinal is a light absorbing part of all the visual photopigments
Options :
(1) (a), (c) and (d) (2) (a) and (c)
(3) (b), (c) and (d) (4) (a) and (b)

Ans. (1)

62. The DNA fragments separated on an agarose gel can be visualised after staining with :
(1) Acetocarmine (2) Aniline blue
(3) Ethidium bromide (4) Bromophenol blue

Ans. (3)

63. The hepatic portal vein drains blood to liver from :
(1) Stomach (2) Kidneys
(3) Intestine (4) Heart

Ans. (3)

64. The vascular cambium normally gives rise to :
(1) Primary phloem (2) Secondary xylem
(3) Periderm (4) Phelloderm

Ans. (2)

65. Thalassemia and sickle cell anemia are caused due to a problem in globin molecule synthesis. Select the correct statement :
(1) Both are due to a quantitative defect in globin chain synthesis
(2) Thalassemia is due to less synthesis of globin molecules
(3) Sickel cell anemia is due to a quantitative problem of globin molecules
(4) Both are due to a qualitative defect in globin chain synthesis

Ans. (2)

66. The genotypes of a husband and Wife are I^AI^B and $I^A i$.
Among the blood types of their children, how many different genotypes and phenotypes are possible?
(1) 3 genotypes ; 4 phenotypes
(2) 4 genotypes ; 3 phenotypes
(3) 4 genotypes ; 4 phenotypes
(4) 3 genotypes ; 3 phenotypes

Ans. (2)

67. Which of the following facilitates opening of stomatal aperture ?
(1) Decrease in turgidity of guard cells
(2) Radial orientation of cellulose microfibrils in the cell wall of guard cells
(3) Longitudinal orientation of cellulose microfibrils in the cell wall of guard cells
(4) Contraction of outer wall of guard cells

Ans. (2)

68. In Bougainvillea thorns are the modifications of :
(1) Adventitious root (2) Stem
(3) Leaf (4) Stipules

Ans. (2)

69. Which one of the following is related to Ex-situ conservation of threatened animals and plants ?
(1) Biodiversity hot spots
(2) Amazon rainforest
(3) Himalayan region
(4) Wildlife safari parks

Ans. (4)

70. Root hairs develop from the region of :
(1) Elongation (2) root cap
(3) Meristematic activity (4) Maturation

Ans. (4)

71. A disease caused by an autosomal primary non-disjunction is :
(1) Klinefelter's Syndrome (2) Turner's Syndrome
(3) Sickel Cell Anemia (4) Down's Syndrome

Ans. (4)

72. The water potential of pure water is :
(1) Less than zero
(2) More than zero but less than one
(3) More than one
(4) Zero

Ans. (4)

73. Which of the following options gives the correct sequence of events during mitosis ?
(1) Condensation → nuclear membrane disassembly → arrangement at equator → centromere division → segregation → telophase
(2) Condensation → crossing over → nuclear membrane disassembly → segregation → telophase
(3) Condensation → arrangement at equator → centromere division → segregation → telophase
(4) Condensation → nuclear membrane disassembly → crossing over → segregation → telophase

Ans. (1)

74. The process of separation and purification of expressed protein before marketing is called :
(1) Downstream processing
(2) Bioprocessing
(3) Postproduction processing
(4) Upstream processing
Ans. (1)

75. A temporary endocrine gland in the human body is :
(1) Corpus cardiacum (2) corpus luteum
(3) Corpus allatum (4) Pineal gland
Ans. (2)

76. Which of the following is made up of dead cells?
(1) Collenchyma (2) Phellem
(3) Phloem (4) Xylem parenchyma
Ans. (2)

77. An example of colonial alga is :
(1) *Volvox* (2) *Ulothrix*
(3) *Spirogyra* (4) *Chlorella*
Ans. (1)

78. Match the following sexually transmitted diseases (Column-I) with their causative agent (Column-II) and select the correct option :

Column-I		Column-II	
(a)	Gonorrhea	(i)	HIV
(b)	Syphilis	(ii)	*Neisseria*
(c)	Genital Warts	(iii)	*Treponema*
(d)	AIDS	(iv)	Human papilloma-Virus

	(a)	(b)	(c)	(d)
(1)	iii	iv	i	ii
(2)	iv	ii	iii	i
(3)	iv	iii	ii	i
(4)	ii	iii	iv	i

Ans. (4)

79. The function of copper ions in copper releasing IUD's is :
(1) They inhibit gametogenesis
(2) They make uterus unsuitable for implantation
(3) They inhibt ovulation
(4) The suppress sperm motility and fertilising capacity of sperms
Ans. (4)

80. Which of the following in sewage treatment removes suspended solids ?
(1) Secondary treatment (2) Primary treatment
(3) Sludge treatment (4) Tertiary treatment
Ans. (2)

81. An important characteristic that Hemichordates share with Chordates is :
(1) Ventral tubular nerve cord
(2) Pharynx with gill slits
(3) Pharynx without gill slits
(4) Absence of notochord
Ans. (2)

82. The final proof for DNA as the genetic material came from the experiments of :
(1) Hershey and Chase
(2) Avery, Mcleod and McCarty
(3) Hargobind Khorana
(4) Griffith
Ans. (1)

83. Among the following characters, which one was not considered by Mendel in his experiments on pea ?
(1) Trichomes – Glandular or non-glandular
(2) Seed – Green or Yellow
(3) Pod – Inflated or Constricted
(4) Stem - Tall or Dwarf
Ans. (1)

84. Plants which produce characteristic pneumatophores and show vivipary belong to :
(1) Halophytes (2) Psammophytes
(3) Hydrophytes (4) Mesophytes
Ans. (1)

85. The pivot joint between atlas and axis is a type of :
(1) Cartilaginous joint (2) Synovial joint
(3) Saddle joint (4) Fibrous joint
Ans. (2)

86. With reference to factors affecting the rate of photosynthesis, which of the following statements is not correct ?
(1) Increasing atmospheric CO_2 concentration up to 0.05% can enhance CO_2 fixation rate
(2) C_3 plants respond to higher temperatures with enhanced photosynthesis while C_4 plants have much lower temperature optimum
(3) Tomato is a greenhouse crop which can be grown in CO_2 - enriched atmosphere for higher yield
(4) Light saturation for CO_2 fixation occurs at 10% of full sunlight
Ans. (2)

87. DNA fragments are:
(1) Negatively charged
(2) Neutral
(3) Either positively or negatively charged depending on their size
(4) Positively charged
Ans. (1)

88. Which of the following components provides sticky character to the bacterial cell ?
(1) Nuclear membrane
(2) Plasma membrane
(3) Glycocalyx
(4) Cell wall
Ans. (3)

89. Which of the following options best represents the enzyme composition of pancreatic juice ?
(1) amylase, pepsin, trypsinogen, maltase
(2) peptidase, amylase, pepsin, rennin
(3) lipase, amylase, trypsinogen, procarboxypeptidase
(4) amylase, peptidase, trypsinogen, rennin
Ans. (3)

90. Which among these is the correct combination of aquatic mammals ?
(1) Dolphins, Seals, *Trygon*
(2) Whales, Dolphins, Seals
(3) *Trygon*, Whales, Seals
(4) Seals, Dolphins, Sharks
Ans. (2)

91. Fruit and leaf drop at early stages can be prevented by the application of:
(1) Ethylene (2) Auxins
(3) Gibberellic acid (4) Cytokinins
Ans. (2)

92. Select the **correct** route for the passage of sperms in male frogs:
(1) Testes → Vasa efferentia → Kidney → Seminal Vesicle → Urinogenital duct → Cloaca
(2) Testes → Vasa efferentia → Bidder's canal → Ureter → Cloaca
(3) Testes → Vasa efferentia → Kidney → Bidder's canal → Urinogenital duct → Cloaca
(4) Testes → Bidder's canal → Kidney → Vasa efferentia → Urinogenital duct → Cloaca
Ans. (3)

93. In case of a couple where the male is having a very low sperm count, which technique will be suitable for fertilisation ?
(1) Gamete intracytoplasmic fallopian transfer
(2) Artificial Insemination
(3) Intracytoplasmic sperm injection
(4) Intrauterine transfer
Ans. (2)

94. Which ecosystem has the maximum biomass ?
(1) Grassland ecosystem
(2) Pond ecosystem
(3) Lake ecosystem
(4) Forest ecosystem
Ans. (4)

95. Lungs are made up of air-filled sacs, the alveoli. They do not collapse even after forceful expiration, because of:
(1) Inspiratory Reserve Volume
(2) Tidal Volume
(3) Expiratory Reserve Volume
(4) Residual Volume
Ans. (4)

96. Presence of plants arranged into well defined vertical layers depending on their height can be seen best in:
(1) Tropical Rain Forest (2) Grassland
(3) Temperate Forest (4) Tropical Savannah
Ans. (1)

97. Which of the following statements is **correct** ?
(1) The descending limb of loop of Henle is impermeable to water.
(2) The ascending limb of loop of Henle is permeable to water.
(3) The descending limb of loop of Henle is permeable to electrolytes.
(4) The ascending limb of loop of Henle is impermeable to water.
Ans. (4)

98. Alexander Von Humbolt described for the first time:
(1) Laws of limiting factor
(2) Species area relationships
(3) Population Growth equation
(4) Ecological Biodiversity
Ans. (2)

99. Zygotic meiosis is characteristic of;
(1) *Fucus* (2) *Funaria*
(3) *Chlamydomonas* (4) *Marchantia*
Ans. (3)

100. If there are 999 bases in an RNA that codes for a protein with 333 amino acids, and the base at position 901 is deleted such that the length of the RNA becomes 998 bases, how many codons will be altered ?
(1) 11 (2) 33 (3) 333 (4) 1
Ans. (2)

101. Flowers which have single ovule in the ovary and are packed into inflorescence are usually pollinated by:

(1) Bee (2) Wind

(3) Bat (4) Water

Ans. (2)

102. Transplantation of tissues/organs fails often due to non-acceptance by the patient's body. Which type of immune-response is responsible for such rejections ?

(1) Cell - mediated immune response

(2) Hormonal immune response

(3) Physiological immune response

(4) Autoimmune response

Ans. (1)

103. Life cycle of *Ectocarpus* and *Fucus* respectively are:

(1) Diplontic, Haplodiplontic

(2) Haplodiplontic, Diplontic

(3) Haplodiplontic, Haplontic

(4) Haplontic, Diplontic

Ans. (2)

104. A gene whose expression helps to identify transformed cell is known as :

(1) Vector (2) Plasmid

(3) Structural gene (4) Selectable marker

Ans. (4)

105. A dioecious flowering plant prevents both :

(1) Autogamy and geitonogamy

(2) Geitonogamy and xenogamy

(3) Cleistogamy and xenogamy

(4) Autogamy and xenogamy

Ans. (1)

106. Which statement is wrong for Krebs' cycle ?

(1) There is one point in the cycle where FAD^+ is reduced to $FADH_2$

(2) During conversion of succinyl CoA to succinic acid, a molecule of GTP is synthesised

(3) The cycle starts with condensation of acetyl group (acetyl CoA) with pyruvic acid to yield citric acid

(4) There are three points in the cycle where NAD^+ is reduced to NADH+ H^+

Ans. (3)

107. Phosphoenol pyruvate (PEP) is the primary CO_2 acceptor in:

(1) C_4 plants

(2) C_2 plants

(3) C_3 and C_4 plants

(4) C_3 plants

Ans. (1)

108. During DNA replication, Okazaki fragments are used to elongate:

(1) The lagging strand towards replication fork.

(2) The leading strand away from replication fork.

(3) The lagging strand away from the replication fork.

(4) The leading strand towards replication fork.

Ans. (3)

109. Which of the following RNAs should be most abundant in animal cell ?

(1) t-RNA (2) m-RNA

(3) mi-RNA (4) r-RNA

Ans. (4)

110. GnRH, a hypothalamic hormone, needed in reproduction, acts on:

(1) anterior pituitary gland and stimulates secretion of LH and FSH.

(2) posterior pituitary gland and stimulates secretion of oxytocin and FSH.

(3) posterior pituitary gland and stimulates secretion of LH and relaxin.

(4) anterior pituitary gland and stimulates secretion of LH and oxytocin.

Ans. (1)

111. What is the criterion for DN A fragments movement on agarose gel during gel electrophoresis ?

(1) The smaller the fragment size, the farther it moves

(2) Positively charged fragments move to farther end

(3) Negatively charged fragments do not move

(4) The larger the fragment size, the farther it moves

Ans. (1)

112. Hypersecretion of Growth Hormone in adults does not cause further increase in height, because:
(1) Epiphyseal plates close after adolescence.
(2) Bones loose their sensitivity to Growth Hormone in adults.
(3) Muscle fibres do not grow in size after birth.
(4) Growth Hormone becomes inactive in adults.
Ans. (1)

113. DNA replication in bacteria occurs:
(1) Within nucleolus
(2) Prior to fission
(3) Just before transcription
(4) During S phase
Ans. (2)

114. Which one from those given below is the period for Mendel's hybridization experiments ?
(1) 1840 - 1850
(2) 1857 - 1869
(3) 1870 - 1877
(4) 1856 - 1863
Ans. (4)

115. Viroids differ from viruses in having;
(1) DNA molecules without protein coat
(2) RNA molecules with protein coat
(3) RNA molecules without protein coat
(4) DNA molecules with protein coat
Ans. (3)

116. MALT constitutes about _____ percent of the lymphoid tissue in human body.
(1) 20% (2) 70%
(3) 10% (4) 50%
Ans. (4)

117. Which of the following is correctly matched for the product produced by them ?
(1) *Methanobacterium* : Lactic acid
(2) *Penicillium notatum* : Acetic acid
(3) *Sacchromyces cerevisiae* : Ethanol
(4) *Acetobacter aceti* : Antibiotics
Ans. (3)

118. Which among the following are the smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen ?
(1) *Pseudomonas* (2) *Mycoplasma*
(3) *Nostoc* (4) *Bacillus*
Ans. (2)

119. Which of the following represents order of'Horse' ?
(1) Perissodactyla (2) Caballus
(3) Ferus (4) Equidae
Ans. (1)

120. Frog's heart when taken out of the body continues to beat for sometime.
Select the best option from the following statements.
(a) Frog is a poikilotherm.
(b) Frog does not have any coronary circulation.
(c) Heart is "myogenic" in nature.
(d) Heart is autoexcitable
Options:
(1) Only(d) (2) (a) and (b)
(3) (c)and(d) (4) Only(c)
Ans. (3)

121. Homozygous purelines in cattle can be obtained by:
(1) mating of unrelated individuals of same breed.
(2) mating of individuals of different breed.
(3) mating of individuals of different species.
(4) mating of related individuals of same breed.
Ans. (4)

122. Identify the wrong statement in context of heartwood:
(1) It is highly durable
(2) It conducts water and minerals efficiently
(3) It comprises dead elements with highly lignified walls
(4) Organic compounds are deposited in it
Ans. (2)

123. Anaphase Promoting Complex (APC) is a protein degradation machinery necessary for proper mitosis of animal cells. If APC is defective in a human cell, which of the following is expected to occur ?
(1) Chromosomes will be fragmented
(2) Chromosomes will not segregate
(3) Recombination of chromosome arms will occur
(4) Chromosomes will not condense
Ans. (2)

124. Which of the following cell organelles is responsible for extracting energy from carbohydrates to form ATP ?
(1) Ribosome (2) Chloroplast
(3) Mitochondrion (4) Lysosome
Ans. (3)

125. Mycorrhizae are the example of:
(1) Amensalism (2) Antibiosis
(3) Mutualism (4) Fungistasis
Ans. (3)

126. Out of 'X' pairs of ribs in humans only 'Y' pairs are true ribs. Select the option that correctly represents values of X and Y and provides their explanation:

(1) X = 12, Y = 5 — True ribs are attached dorsally to vertebral column and sternum on the two ends.

(2) X = 24, Y = 7 — True ribs are dorsally attached to vertebral column but are free on ventral side.

(3) X = 24, Y = 12 — True ribs are dorsally attached to vertebral column but are free on ventral side.

(4) X = 12, Y = 7 — True ribs are attached dorsally to vertebral column and ventrally to the sternum.

Ans. (4)

127. In case of poriferans, the spongocoel is lined with flagellated cells called:

(1) oscula

(2) choanocytes

(3) mesenchymal cells

(4) ostia

Ans. (2)

128. Which one of the following statements is not valid for aerosols ?

(1) They alter rainfall and monsoon patterns

(2) They cause increased agricultural productivity

(3) They have negative impact on agricultural land

(4) They are harmful to human health

Ans. (2)

129. A baby boy aged two years is admitted to play school and passes through a dental check - up. The dentist observed that the boy had twenty teeth. Which teeth were absent?

(1) Canines

(2) Pre-molars

(3) Molars

(4) Incisors

Ans. (2)

130. Select the mismatch

(1) *Cycas* – Dioecious

(2) *Salvinia* – Heterosporous

(3) *Equisetum* – Homosporous

(4) *Pinus* – Dioecious

Ans. (4)

131. The morphological nature of the edible part of coconut is:

(1) Cotyledon

(2) Endosperm

(3) Pericarp

(4) Perisperm

Ans. (2)

132. Double fertilization is exhibited by :

(1) Algae

(2) Fungi

(3) Angiosperms

(4) Gymnosperms

Ans. (3)

133. Spliceosomes are not found in cells of;

(1) Fungi

(2) Animals

(3) Bacteria

(4) Plants

Ans. (3)

134. The association of histone H1 with a nucleosome indicates:

(1) DNA replication is occurring.

(2) The DNA is condensed into a Chromatin Fibre.

(3) The DNA double helix is exposed.

(4) Transcription is occurring.

Ans. (2)

135. The region of Biosphere Reserve which is legally protected and where no human activity is allowed is known as:

(1) Buffer zone

(2) Transition zone

(3) Restoration zone

(4) Core zone

Ans. (4)

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