

CATEGORY - III

PART - 3

Natural Science

Question Numbers 71 to 150

71. An amino acid that is basic in nature is :

- (A) Lysine ✓
- (B) Valine
- (C) Tryptophan
- (D) Phenyl alanine

74. In C_4 plants, CO_2 fixation initially results in the formation of :

- (A) Malic acid
- (B) OAA ✓
- (C) PEP
- (D) PGA

72. Which one of the following acts as a hormone that regulates blood pressure and blood flow ?

- (A) Nitric acid
- (B) Nitric oxide ✓
- (C) Sulphur dioxide
- (D) Hydrogen sulphide ✓

75. GEAC stands for :

- (A) Genetic Engineering Approval Committee ✓
- (B) Genome Engineering Action Committee
- (C) Genetic and Engineering Approval Council
- (D) Global Environmental Action Council

73. Which one of the following is not excretory in function ?

- (A) Malpighian tubules ✓
- (B) Flame cells ✓
- (C) Nephridia ✓
- (D) Clitellum ✓

76. Southern hybridization technique is used for the analysis of chromosomal DNA. One among the following is NOT involved in this technique. It is.....

- (A) Autoradiography
- (B) Electrophoresis ✓
- (C) PCR ✓
- (D) Blotting ✓

77. The breakdown of alveoli that reduces the surface area for gas exchange leads to a disease called :

- (A) Asphyxia
- (B) Hypoxia
- (C) Anorexia
- (D) Emphysema ✓

80. Connecting link between Annelida and Arthropoda is :

- (A) Limulus
- (B) Peripatus ✓
- (C) Tubifex
- (D) Enterobius

78. The region in which the DNA is wrapped around a cluster of histone proteins is called :

- (A) Nucleosome ✓
- (B) Mesosome
- (C) Desmosome
- (D) Centrosome

81. When there is no consumption of oxygen in respiration, the respiratory quotient will be ?

- (A) 0.9
- (B) 1
- (C) 3 ✓
- (D) infinity ✓

79. Human Y chromosome is :

- (A) Telocentric
- (B) Metacentric
- (C) Submetacentric
- (D) Acrocentric ✓

82. A hyperglycemic hormone is :

- (A) Thymosin
- (B) Insulin
- (C) Glucagon ✓
- (D) Vasopressin

83. Which among the following traits is applicable to monocot stem?

- (A) Phloem parenchyma
(B) Interfascicular cambium
(C) Centrifugal xylem
(D) Conjoint collateral closed bundles with sclerenchymatous bundle caps

86. Diffuse porous woods are characteristic of plants growing in :

- (A) Alpine region
(B) Tropics ✓
(C) Temperate climate
(D) Cold winter region ✓

84. Which among the following terminologies are NOT related to pest resistance breeding?

- (A) Epiphytotic ✓
(B) Luxuriance
(C) Gene-for-gene hypothesis
(D) Non-preference

85. Among those given below which comes under the vulnerable category of IUCN Red list?

- (A) Pigmy hog
(B) Lion tailed monkey ✓
(C) Black Buck
(D) Red panda

87. Fill the blanks with the pool of choices given :

- (a) The four pyrrole rings in the porphyrin head are linked by _____.
(b) Carotenoids have _____.
(c) Chlorophyll-b has _____.
(d) Chlorophyll-a has _____.

- (1) Conjugate double bonds, -
(2) Formyl (-CHO) group,
(3) -CH₃ group,
(4) Methene bridges (-CH=)

(a) (b) (c) (d)

- (A) (4) (1) (2) (3) ✓
(B) (1) (2) (4) (3)
(C) (4) (3) (1) (2)
(D) (1) (2) (3) (4)

88. How many chromosomes the primary protonema of *Funaria* will have, if its leaf has 5 chromosomes?

- (A) 5 chromosomes ✓
- (B) 10 chromosomes
- (C) 15 chromosomes
- (D) 20 chromosomes

89. Natural selection leads to the evolution of desired traits at which of the following level?

- (A) Level of community
- (B) Level of species ✓
- (C) Level of population
- (D) Tissue level

90. The dry schizocarpic fruit developing from a tricarpeal gynoecium and splitting into three one-seeded cocci.

- (A) Cremocarp
- (B) Lomentum
- (C) Regma
- (D) Samara ✓

91. Select the genus and order of housefly.

- (A) Genus - Musca, Order - Muscidae
- (B) Genus - Diptera, Order - Muscidae
- (C) Genus - Musca, Order - Diptera ✓
- (D) Genus - Diptera, Order - Insecta

92. Which one of the following is not a clone?

- (A) Dolly ✓
- (B) CopyCat ✓
- (C) Polly ✓
- (D) Hinny ✓

93. If the sequence of bases in DNA is ATTCGATG, the sequence of bases in the transcript is:

- (A) TAAGCTAC ✓
- (B) UAAGCUAC
- (C) TUUGCTUG
- (D) UUUGCUUC

94. Yoshinori Ohsumi got Nobel Prize for :

- (A) Discovering a novel therapy against malaria
- (B) Work on autophagy
- (C) Discovering a novel therapy against roundworm infection
- (D) Cryo electron microscopy

97. Raphe is a structure seen associated with :

- (A) Pollen grain
- (B) Ovule
- (C) Stamen
- (D) Embryosac

95. Secondary growth does not take place in majority of the living pteridophytes, _____ being an exception.

- (A) *Adiantum*
- (B) *Equisetum*
- (C) *Isoetes*
- (D) *Pteridium*

98. Select the wrongly matched pair :

- (A) Cerebral aqueduct - Canal passes through the mid brain
- (B) Corpora quadrigemina - Lobes in the dorsal portion of mid brain
- (C) Arachnoid - Inner layer of cranial meninges
- (D) Corpus callosum - Connects cerebral hemispheres

96. Select the correct choice from the following :

- (a) Ca (i) Tea yellow disease
- (b) Zn (ii) Black heart of celery
- (c) B (iii) Brown heart of turnip
- (d) Cu (iv) Khaira disease of rice
- (v) Exanthema of *Citrus*

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

99. Which one of the following is an inflammation of joints due to accumulation of uric acid crystals ?

- (A) Myasthenia gravis
- (B) Arthritis
- (C) Sprain
- (D) Gout

100. An example of loose connective tissue is :

- (A) Cartilage
- (B) Adipose tissue ✓
- (C) Tendon
- (D) Blood

101. Natality, a characteristic of population refers to :

- (A) The increase in number of individuals in a population during a given period. ✓
- (B) Total number of individuals present per unit area at a given time. *Birth*
- (C) The number of individuals that have come into the habitat during a given period.
- (D) The maximum number of individuals of a population that can be sustained indefinitely in a given habitat.

102. Programmed cell death is called :

- (A) Plasmolysis
- (B) Necrosis
- (C) Apoptosis ✓
- (D) Perolysis

103. 70 S ribosomes are seen in :

- (A) Bacteria, Centriole, Chloroplast
- (B) Chloroplast, Centriole, Mitochondria
- (C) Centriole, Mitochondria, Bacteria
- (D) Bacteria, Mitochondria, Chloroplast ✓

104. Double fertilisation, a unique feature of angiosperms was first observed by :

- (A) Camerarius
- (B) Hofmeister
- (C) S.G. Nawaschin ✓
- (D) Strasburger

105. The largest salivary gland is :

- (A) Sublingual
- (B) Sub-maxillary
- (C) Parotid ✓
- (D) Submandibular

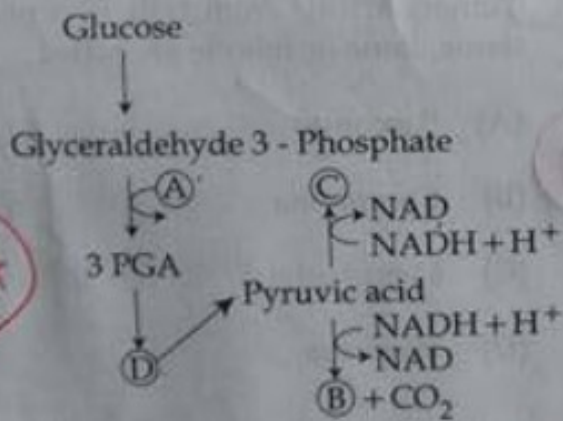
106. A genetic disease caused by frame shift mutation is :

- (A) Muscular dystrophy ✓
- (B) Albinism
- (C) Sickle cell anaemia^h

07. Out of the following statements related to osmosis, one is WRONG. Select the WRONG statement :

- (A) OP of a solution is equivalent to the pressure which must be exerted upon it to prevent the flow of solvent across a semi-permeable membrane.
- (B) OP can be measured in Pascals, Bars or Atmospheres.
- (C) OP is numerically equal to Osmotic potential.
- (D) Osmotic potential has a positive value and Osmotic pressure has a negative value.

108. The given diagram indicates steps in the pathway of anaerobic respiration. Identify A, B, C and D.



- (A) A-NAD⁺, B-Ethanol, C-Lactic Acid, D-PEP
- (B) A-NAD⁺, B-Lactic Acid, C-PEP, D-Ethanol
- (C) A-Lactic Acid, B-Glucose, C-Ethanol, D-PEP
- (D) A-NAD⁺, B-DHAP, C-Lactic acid, D-PEP

109. In most higher plants, ammonia is assimilated primarily into _____.

- (A) Alpha-Ketoglutaric acid
- (B) Glutamic acid
- (C) Aspartic acid
- (D) Asparagine

110. In plants, the site of photoperiodic response is :

- (A) Bud
- (B) Flower
- (C) Leaf
- (D) Shoot apex

111. Which among the following statements is NOT applicable to filiform apparatus ?

- (A) It is a special cellular thickening at the tip of the antipodals.
- (B) It guides the pollen tube into synergids.
- (C) Useful for absorption and transportation of materials from the nucellus to embryo sac.
- (D) It helps in the liberation of male gametes from the pollen tube.

112. One of the following is a carotenoid derivative. Which is that?

- (A) ABA ✓
(B) IAA⁺
(C) GA⁺
(D) IBA ✓

116. Father of biodiversity is:

- (A) Edward O. Wilson ✓
(B) Ernst Haeckel
(C) Karl Ereky
(D) Charles Elton⁺

113. Dachigam National Park is in:

- (A) Himachal Pradesh
(B) Uttarakhand ✓
(C) Kashmir ✓
(D) Rajasthan

117. Which one of the following is not a variety of cattle?

- (A) Gir ✓
(B) Sahiwal ✓
(C) Vechoor ✓
(D) Ancona ✓

114. Species confined to a particular area and not found anywhere else is called:

- (A) Invasive species ✓
(B) Endemic species ✓
(C) Exotic species
(D) Alien species

118. Tumors arising from cells in connective tissue, bone or muscle are called:

- (A) Sarcoma ✓
(B) Carcinoma
(C) Lymphoma
(D) Myeloma

115. One of the following characters can be represented by floral formula but not by floral diagram.

- (A) Position of gynoecium ✓
(B) Aestivation ✓
(C) Placentation ✓
(D) Fusion of stamens ✓

119. Which one of the following is not related to homologous organs?

- (A) Doing similar functions ✓
(B) Similar in anatomy ✓
(C) Inherited from a common ancestor ✓
(D) Similar developmental pattern

120. The larvae of *Taeniasolium* are called :

- (A) Planulae
- (B) Cercariae
- (C) Cysticerci ✓
- (D) Rediae

121. An educational software for making simulation in a Biology class :

- (A) Geogebra
- (B) PhET ✓
- (C) Stellarium
- (D) Sunclock

122. If a test differentiate between good, average and poor students, then it is said to exhibit :

- (A) Discrimination ✓
- (B) Objectivity
- (C) Reliability
- (D) Validity

123. Mammals produce milk to feed their babies. Tiger is a mammal, therefore tiger produces milk to feed their babies. The logical basis of the statement is :

- (A) Analogy
- (B) Deduction ✓
- (C) Induction
- (D) Improvisation

124. Which one is an objective of a criterion reference test ?

- (A) To classify and grade learners in various categories
- (B) To make a comparative decision regarding individuals
- (C) To measure individual difference
- (D) To measure the effectiveness of a programme or instruction ✓

125. While teaching the functioning of human eye the teacher casually compares it with the working of a camera. This is an example for :

- (A) Inter correlation
- (B) Internal correlation
- (C) Incidental correlation ✓
- (D) Systematic correlation.

126. Which of the following does **not** come under the objectives of affective domain ?

- (A) Articulation ✓
- (B) Organization
- (C) Receiving
- (D) Valuing

127. NCF 2005 recommended :

- (A) One language formula
- (B) Two language formula
- (C) Three language formula ✓
- (D) Four language formula

131. Which is the first step in problem solving method ?

- (A) Collecting the relevant data
- (B) Formulation of hypothesis ✓
- (C) Sensing the problem ✓
- (D) Testing hypothesis

128. Which among the following is NOT a feature of 'MOODLE' ?

- (A) Limited to small community of users and developers ✓
- (B) Online discussion and chat
- (C) Random access
- (D) Upload and share materials

132. IT@ school project was launched in :

- (A) 1981
- (B) 1991
- (C) 2001 ✓
- (D) 2011 ✓

129. Which of the following prefers development of values such as respect and concern for others ?

- (A) Learning to be
- (B) Learning to do
- (C) Learning to know
- (D) Learning to live together ✓

133. "The curriculum should preserve and transmit the traditions and culture of human race." Which principle of curriculum is most suited to substantiate this statement ?

- (A) Forward looking principle
- (B) Conservative principle ✓
- (C) Creative principle
- (D) Motivation principle

130. A Biology teacher asks the students to carry out a project to find out the cause of spreading typhoid in their locality. This project comes under :

- (A) Consumer type
- (B) Drill type
- (C) Producer type ✓
- (D) Problem type ✓

134. Head Quarters of NCTE :

- (A) Bangalore
- (B) Hyderabad
- (C) New Delhi ✓
- (D) Thiruvananthapuram

135. Select a process skill in science

- (A) Classifying
- (B) Concluding
- (C) Remembering
- (D) Responding

136. Which among the following is NOT a function of SCERT ?

- (A) Conduct NET examination
- (B) Execute curricular reforms in school education.
- (C) Implementation of new educational techniques and methodologies.
- (D) Organize inservice training programmes for teachers.

137. Content analysis is compulsory in :

- (a) Lesson plan
- (b) Unit plan
- (c) Year plan

- (A) (a) and (b)
- (B) (b) and (c)
- (C) (c) only
- (D) (a), (b) and (c)

138. Which among the following is a 3D learning aid ?

- (A) Black board
- (B) Bulletin board
- (C) Diorama
- (D) Graph

139. A man with scientific attitude will NOT have :

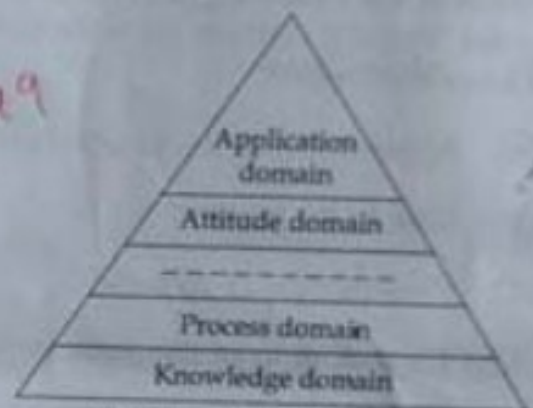
- (A) Curiosity
- (B) Intellectual honesty
- (C) Open mindedness
- (D) Subjectivity

140. Merits of lecture method :

- (a) Covering syllabus slowly.
- (b) Easy to execute
- (c) Helpful in introducing a unit
- (d) Time and effort is more.

- (A) (a) and (b)
- (B) (b) and (c)
- (C) (c) and (d)
- (D) (a) and (c)

141. Fill in the blanks :



McCormack and Yager (1989)

- (A) Affective domain
- (B) Creativity domain
- (C) Cognitive domain
- (D) Psychomotor domain

142. The Operating system used in 'UBUNTU' :

- (A) Boss
- (B) Linux
- (C) Mac
- (D) Microsoft windows

143. Select the correct statement :

- (A) Curriculum and syllabus are entirely different.
- (B) Curriculum and syllabus are the same.
- (C) Curriculum include syllabus.
- (D) Syllabus includes curriculum.

144. "Lesson plan is an outline of the important points of a lesson arranged in the order in which they are presented." This definition is given by :

- (A) Carter Victor Good
- (B) Carter V Thomas
- (C) John Carter ✓
- (D) Kevin Carter

145. Which of the following is NOT included under Vogel's criteria for selection of Science text book ?

- (A) Appearance of the text-book ✓
- (B) Cost of the book ✓
- (C) Presentation of materials ✓
- (D) Qualification of the author ✓

146. Open source audio editing can be done through :

- (A) Audacity ✓
- (B) Gimp
- (C) K den live
- (D) Open shot

147. "The degree of consistency with which it measures what it is intended to measure". This quality of the test is :

- (A) Objectivity ✓
- (B) Reliability
- (C) Practicability
- (D) Validity ✓

148. Find out the word pair relation and fill the blanks :

Projected aids : Over Head Projector (OHP)

Activity aids : _____

- (A) Black board
- (B) Charts ✓
- (C) Tape recorder ✓
- (D) Vivarium ✓

149. Select the most appropriate teaching situation on the topic locomotion of fishes :

- (A) Chart showing locomotion of fishes ✓
- (B) Multimedia presentation showing various phases of locomotion of fishes. ✓
- (C) Observing fishes in an aquarium pond.
- (D) Using working model of locomotion in fishes.

150. Which among the following is NOT a pillar of KCF 2007 ?

- (A) Critical pedagogy
- (B) Issue based curriculum
- (C) Social curriculum
- (D) Teacher centred curriculum ✓

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