

## NEET 2016 PHASE – I

91. Nomenclature is governed by certain universal rules. Which one of the following is contrary to the rules of nomenclature ?
- 1) The names are written in Latin and are italicized
  - 2) **When written by hand the names are to be underlined.**
  - 3) Biological names can be written in any language.
  - 4) The first word in a biological name represents the genus name and the second is a specific epithet.
92. The primitive prokaryotes responsible for the production of biogas from the dung of ruminant animals , include the
- 1) **Methanogens**
  - 2) Eubacteria
  - 3) Halophiles
  - 4) Eubacteria
  - 5) Thermoacidophiles.
93. Which one of the following statements is wrong ?
- 1) **Eubacteria are also called false bacteria**
  - 2) Phycomycetes are also called algal fungi
  - 3) Cyanobacteria are also called blue-green algae.
  - 4) Golden algae are also called desmids.
94. Which of the following statements is wrong for viroids ?
- 1) They cause infections.
  - 2) **Their RNA is of high molecular weight**
  - 3) They lack a protein coat
  - 4) They are smaller than viruses.
95. One of the major components of cell wall of most fungi is
- 1) Cellulose
  - 2) Hemicelluloses
  - 3) **Chitin**
  - 4) Peptidoglycan
96. Chrysophytes, Euglenoids, Dinoflagellates and Slime moulds are included in the kingdom
- 1) Fungi
  - 2) Animalia
  - 3) Monera
  - 4) **Protista**

97. Select the correct statement
- 1) ***Sequoia* is one of the tallest trees**
  - 2) The leaves of gymnosperms are not well adapted to extremes of climate.
  - 3) Gymnosperms are both homosporous and heterosporous.
  - 4) *Salvinia*, *Ginkgo* and *Pinus* all are gymnosperms.
98. In bryophytes and pteridophytes, transport of male gametes requires
- 1) Birds
  - 2) **Water**
  - 3) Wind
  - 4) Insects
99. Which one of the following characteristics is not shared by birds and mammals ?
- 1) **Viviparity**
  - 2) Warm blooded nature
  - 3) Ossified endoskeleton
  - 4) Breathing using lungs
100. Which of the following characteristic features always hold true for the corresponding group of animals ?
- |    |   |                       |
|----|---|-----------------------|
| a) | Possess a mouth with an upper and a lower jaw             | Chordata              |
| b) | 3-chambered heart with one incompletely divided ventricle | Reptilia              |
| c) | <b>Cartilaginous endoskeleton</b>                         | <b>Chondrichthyes</b> |
| d) | Viviparous  | Mammalia              |
101. Which of the following features is not present in the Phylum Arthropoda ?
- 1) **Parapodia**
  - 2) Jointed appendages
  - 3) Chitinous exoskeleton
  - 4) Metameric segmentation
102. Which of the following is not a stem modification ?
- 1) Tendrils of cucumber
  - 2) Flattened structures of *Opuntia*
  - 3) **Pitcher of *Nepenthes***
  - 4) Thorns of citrus
103. Stems modified into flat green organs performing the functions of leaves are known as
- 1) **Phylloclades**
  - 2) Scales
  - 3) Cladodes
  - 4) Phyllodes

104. Cotyledon of maize grain is called
- 1) Coleoptiles
  - 2) **Scutellum**
  - 3) Plumule
  - 4) Coleorhizae
105. Tricarpellary, syncarpous gynoecium is found in flowers of
- 1) Fabaceae
  - 2) Poaceae
  - 3) **Liliaceae**
  - 4) Solanaceae
106. The standard petal of a papilionaceous corolla is also called
- 1) **Vexillum**
  - 2) Corona
  - 3) Carina
  - 4) Pappus
107. Specialised epidermal cells surrounding the guard cells are called
- 1) Bulliform cells
  - 2) Lenticels
  - 3) Complementary cells
  - 4) **Subsidiary cells**
108. Which type of tissue correctly matches with its location ?
- | <b>Tissue</b>              | <b>Location</b>          |
|----------------------------|--------------------------|
| 1) Transitional epithelium | Tip of nose              |
| 2) Cuboidal epithelium     | Lining of stomach        |
| 3) <b>Smooth muscle</b>    | <b>Wall of intestine</b> |
| 4) Areolar tissue          | Tendons                  |
109. Which of the following features is not present in *Periplaneta americana*?
- 1) Exoskeleton composed of N-acetylglucosamine
  - 2) Metamerically segmented body
  - 3) Schizocoelom as body cavity
  - 4) **Indeterminate and radial cleavage during embryonic development**

110. Mitochondria and chloroplast are
- (A) Semi-autonomous organelles
  - (B) Formed by division of pre-existing organelles and they contain DNA but lack protein synthesizing machinery.
- Which one of the following options is correct ?
- 1) **(A) is true but (B) is false**
  - 2) Both (A) and (B) are false
  - 3) Both (A) and (B) are false
  - 4) Both (A) and (B) are correct.
  - 5) (B) is true but (A) is false.
111. Microtubules are the constituents of
- 1) Centrioles, spindle fibres and chromatin
  - 2) Centrosome, nucleosome and centrioles
  - 3) Cilia, flagella and peroxisomes
  - 4) **Spindle fibres, centrioles and cilia.**
112. Which one of the following cell organelles is enclosed by a single membrane?
- 1) **Lysosomes**
  - 2) Nuclei
  - 3) Mitochondria
  - 4) Chloroplasts
113. A typical fat molecule is made up of
- 1) One glycerol and one fatty acid molecule
  - 2) Three glycerol and three fatty acid molecules
  - 3) Three glycerol molecules and one fatty acid molecule
  - 4) **One glycerol and three fatty acid molecules**
114. Which one of the following statements is wrong
- 1) Uracil is a pyrimidine
  - 2) **Glycine is a sulphur containing amino acid**
  - 3) Sucrose is a disaccharide
  - 4) Cellulose is a polysaccharide.
115. Spindle fibres attach on to
- 1) Centromere of the chromosome
  - 2) Kinetosome of the chromosome
  - 3) Telomere of the chromosome
  - 4) **Kinetohore of the chromosome**

116. Which of the following is not a characteristic feature during mitosis in somatic cells ?
- 1) Chromosome movement
  - 2) **Synapsis**
  - 3) Spindle fibres
  - 4) Disappearance of nucleolus
117. In meiosis crossing over is initiated at
- 1) Zygotene
  - 2) Diplotene
  - 3) **Pahytene**
  - 4) Leptotene
118. In which of the following all three are macronutrients ?
- 1) Molybdenum, magnesium, manganese
  - 2) Nitrogen, nickel, phosphorus
  - 3) Boron, Zinc, manganese
  - 4) Iron, Copper, molybdenum
119. Water vapour comes out from the plant leaf through the stomatal opening. Through the same stomatal opening carbon dioxide diffuses into the plant during photosynthesis. Reason out of the above statements using one of the following options.
- 1) The above processes happen only during night time.
  - 2) One process occurs during day time and the other at night.
  - 3) Both processes cannot happen simultaneously.
  - 4) **Both processes can happen together because the diffusion coefficient of water and CO<sub>2</sub> is different.**
120. In a chloroplast the highest number of protons are found in
- 1) Intermembrane space
  - 2) Antennae complex
  - 3) Stroma
  - 4) **Lumen of thylakoids.**
121. Emerson's enhancement effect and Red drop have been instrumental in the discovery of
- 1) **Photophosphorylation and cyclic electron transport**
  - 2) Oxidative phosphorylation
  - 3) Photophosphorylation and non-cycle electron transport
  - 4) Two photosystems operating simultaneously.
122. A plant in your garden avoids photorespiratory losses, has improved water use efficiency, shows high rates of photosynthesis at high temperatures and has improved efficiency of nitrogen utilization. In which of the following physiological groups would you assign this plant ?
- 1) CAM
  - 2) Nitrogen fixer
  - 3) C<sub>3</sub>
  - 4) **C<sub>4</sub>**

123. Water soluble pigments found in plant cell vacuoles are
- 1) Carotenoids
  - 2) **Anthocyanins**
  - 3) Xanthophylls
  - 4) Chlorophylls.
124. The avena curvature is used for bioassay of
- 1) **IAA**
  - 2) Ethylene
  - 3) ABA
  - 4) GA<sub>3</sub>
125. Which of the following guards the opening of hepatopancreatic duct into the duodenum ?
- 1) Pyloric sphincter
  - 2) **Sphincter of Oddi**
  - 3) Semilunar valve
  - 4) Ileocaecal valve
126. In the stomach, gastric acid is secreted by the
- 1) Peptic cells
  - 2) Acidic cells
  - 3) Gastrin secreting cells
  - 4) **Parietal cells.**
127. Reduction in pH of blood will
- 1) **Decrease the affinity of haemoglobin with oxygen**
  - 2) Release bicarbonate ions by the liver
  - 3) Reduce the rate of heart beat
  - 4) Reduce the blood supply to the brain
128. Name of the chronic respiratory disorder caused mainly by cigarette smoking
- 1) Respiratory acidosis
  - 2) Respiratory alkalosis
  - 3) **Emphysema**
  - 4) Asthma
129. Asthma may be attributed to
- 1) Inflammation of the trachea
  - 2) Accumulation of fluid in the lungs
  - 3) Bacterial infection of the lungs
  - 4) **Allergic reaction of the mast cells in the lungs.**

130. Blood pressure in the pulmonary artery is
- 1) **More than that in the pulmonary vein**
  - 2) Less than that in the venae cavae
  - 3) Same as that in the aorta
  - 4) More than that in the carotid.
131. In mammals, which blood vessel would normally carry largest amount of urea ?
- 1) **Hepatic vein**
  - 2) Hepatic Portal Vein
  - 3) Renal Vein
  - 4) Dorsal Aorta
132. Lack of relaxation between successive stimuli in sustained muscle contraction is know as
- 1) **Tetanus**
  - 2) Tonus
  - 3) Spasm
  - 4) Fatigue
133. Photosensitive compound in human eye is made up of
- 1) Opsin and retinol
  - 2) Transducing and retinene
  - 3) Guanosine and retinol
  - 4) **Opsin and retinal.**
134. Which of the following pairs of hormones are not antagonistic (having opposite effects) to each other ?
- 1) Aldosterone      Atrial Natriuretic Factor
  - 2) **Relaxin**      **Inhibin**
  - 3) Parathormone      Calcitonin
  - 4) Insulin      Glucagon
135. The amino acid tryptophan is the precursor for the synthesis of
- 1) Estrogen and progesterone
  - 2) Cortisol and cortisone
  - 3) **Melatonin and serotonin**
  - 4) Thyroxine and triiodothyronine
136. The coconut water from tender coconut represents
- 1) Free nuclear proembryo
  - 2) **Free nuclear endosperm**
  - 3) Endocarp
  - 4) Fleshy mesocarp

137. Which one of the following statements is not true?
- 1) Pollen grains of many species cause severe allergies
  - 2) Stores pollen in liquid nitrogen can be used in the crop breeding programmes.
  - 3) **Tapetum helps in the dehiscence of anther**
  - 4) Exine of pollen grains is made up of sporopollenin
138. Seed formation without fertilization in flowering plants involves the process of
- 1) Somatic hybridization
  - 2) **Apomixes**
  - 3) Sporulation
  - 4) Budding
139. Which of the following statements is not correct ?
- 1) Pollen germination and pollen tube growth are regulated by chemical components of pollen interacting with those of the pistil
  - 2) Some reptiles have also been reported as pollinators in some plant species.
  - 3) **Pollen grains of many species can germinate on the stigma of a flower, but only one pollen tube of the same species grows into the style**
  - 4) Insects that consume pollen or nectar without bringing about pollination are called pollen/nectar robbers.
140. Proximal end of the filament of stamen is attached to the
- 1) Placenta
  - 2) **Thalamus or petal**
  - 3) Anther
  - 4) Connective.
141. Changes in GnRH pulse frequency in females ? controlled by circulating level of
- 1) Progesterone only
  - 2) Progesterone and inhibin
  - 3) **Estrogen and progesterone**
  - 4) Estrogen and inhibin.
142. Fertilisation in humans is practically feasible only if
- 1) The ovum and sperms are transported simultaneously to ampullary-isthmic junction of the cervix
  - 2) The sperms are transported into cervix within 48 hrs of release of ovum in uterus
  - 3) The sperms are transported into vagina just after the release of ovum in Fallopian tube
  - 4) **The ovum and sperms are transported simultaneously to ampullary-isthmic junction of the Fallopian tube.**
143. Select the incorrect statement.
- 1) **LH and FSH decrease gradually during the follicular phase**
  - 2) LH triggers secretion of androgens from the Leydig cells.
  - 3) FSH stimulates the Sertoli cells which help in spermiogenesis
  - 4) LH triggers ovulation in ovary



144. Identify the correct statement on 'inhibin'.

- 1) Is produced by granulosa cells in ovary and inhibits the secretion of LH
- 2) Is produced by nurse cells in testes and inhibits the secretion of LH
- 3) Inhibits the secretion of LH, FSH and prolactin
- 4) **Is produced by granulosa cells in ovary and inhibits the secretion of FSH**

145. Which of the following approaches does not give the defined action of contraceptive ?

|     |                         |   |
|-----|-------------------------|---|
| (a) | Hormonal contraceptives | Prevent/retard entry of sperms, prevent ovulation and fertilization                         |
| (b) | <b>Vasectomy</b>        | <b>Prevents spermatogenesis</b>   |
| (c) | Barrier methods         | Prevent fertilization   |
| (d) | Intra uterine devices   | Increase phagocytosis of sperms, suppress sperm motility and fertilizing capacity of sperms |

146. In context of amniocentesis, which of the following statements is incorrect ?

- 1) It can be used for detection of Down's syndrome.
- 2) **It can be used for detection of cleft palate**
- 3) It is usually done when a woman is between 14-16 weeks pregnant
- 4) It is used for prenatal sex determination.

147. A cell at telophase stage is observed by a student in a plant brought from the field. He tells his teacher that this cell is not like other cells at telophase stage. There is no formation of cell plate and thus the cell is containing more number of chromosomes as compared to other dividing cells. This would result in

- 1) Somaclonal variation
- 2) Polyteny
- 3) Aneuploidy
- 4) **Polyploidy**

148. Pick out the correct statements.

- 1) Haemophilia is a sex-linked recessive disease.
- 2) Down's syndrome is due to aneuploidy
- 3) Phenylketonuria is an autosomal recessive gene disorder.
- 4) Sickle cell anaemia is an X-linked recessive gene disorder.

(a) (1), (3) and (4) are correct

**(b) (1), (2) and (3) are correct**

(c) (1) and (4) are correct.

(d) (2) and (4) are correct.

149. A tall true breeding garden pea plant is crossed with a dwarf true breeding garden pea plant. When the  $F_1$  plants were selfed the resulting genotypes were in the ratio of
- 3:1 = Tall : Dwarf
  - 3:1 = Dwarf : Tall
  - 1:2 : 1 = Tall homozygous : Tall heterozygous : Dwarf**
  - 1:2:1 = Tall heterozygous : Tall homozygous : Dwarf

150. Match the terms in column I with their description in column II and choose the correct option.

|    | Column I              |       | Column II  |
|----|-----------------------|-------|--|
| A. | Dominance             | (i)   | Many genes govern a single character                             |
| B. | Codominance           | (ii)  | In a heterozygous organism only one allele expresses itself      |
| C. | Pleiotropy            | (iii) | In a heterozygous organism both alleles express themselves fully |
| D. | Polygenic inheritance | (iv)  | A single gene influences many characters                         |

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

151. In a test cross involving  $F_1$  dihybrid flies, more parental-type offspring were produced than the recombinant-type offspring. This indicates

- 1) The two genes are linked and present on the same chromosome**
- 2) Both of the characters are controlled by more than one gene
- 3) The two genes are located on two different chromosomes
- 4) Chromosomes failed to separate during meiosis.

152. Which of the following most appropriately describes haemophilia ?

- 1) Chromosomal disorder
- 2) Dominant gene disorder
- 3) Recessive gene disorder
- 4) X-linked recessive gene disorder**

153. Which one of the following is the starter codon ?

- 1) UAA
- 2) UAG
- 3) AUG**
- 4) UGA

154. Which of the following is required as inducer(s) for the expression of *Lac* operon ?
- 1) **Lactose**
  - 2) Lactose and Galactose
  - 3) Glucose
  - 4) Galactose
155. A complex of ribosomes attached to a single strand of RNA is known as
- 1) Polypeptide
  - 2) Okazaki fragment
  - 3) **Polysome**
  - 4) Polymer.
156. Which of the following structures is homologous to the wing of a bird ?
- 1) Hindlimb of rabbit
  - 2) **Flipper of whale**
  - 3) Dorsal fin of a shark
  - 4) Wing of a moth
157. Analogous structures are a result of
- 1) Shares ancestry
  - 2) Stabilizing selection
  - 3) Divergent evolution
  - 4) **Convergent evolution**
158. Following are the two statements regarding the origin of life.
- (A) The earliest organisms that appeared on the earth were non-green and presumably anaerobes.
- (B) The first autotrophic organisms were the chemoautotrophs that never released oxygen.
- Of the above statements which one of the following options is correct ?
- (a) **Both (A) and (B) are correct**
  - (b) Both (A) and (B) are false
  - (c) (A) is correct but (B) is false
  - (d) (B) is correct but (A) is false
159. Antivenom injection contains performed antibodies while polio drops that are administered into the body contain
- 1) Gamma globulin
  - 2) **Attenuated pathogens**
  - 3) Activated pathogens
  - 4) Harvested antibodies
160. Which of the following statements is not true for cancer cells, in relation to mutations ?
- 1) Mutations inactivate the cell control.
  - 2) **Mutations inhibit production of telomerase.**
  - 3) Mutations in proto-oncogenes accelerate the cell cycle.
  - 4) Mutations destroy telomerase inhibitor.

161. In higher vertebrates, the immune system can distinguish self-cell and non-self. If this property is lost due to genetic abnormality and it attacks self-cells and non-self. If this property is lost due to genetic abnormality and it attacks self-cells, then it leads to
- 1) **Autoimmune disease**
  - 2) Active immunity
  - 3) Allergic response
  - 4) Graft rejection.
162. A system of rotating crops with legume or grass pasture to improve soil structure and fertility is called
- 1) Strip farming
  - 2) Shifting agriculture
  - 3) **Ley farming**
  - 4) Contour farming.
163. Which of the following is wrongly matched in the given table ?

|     | <b>Microbe</b>               | <b>Product</b> | <b>Application</b>                |
|-----|------------------------------|----------------|-----------------------------------|
| (a) | Streptococcus                | Streptokinase  | Removal of clot from blood vessel |
| (b) | <b>Clostridium butylicum</b> | <b>Lipase</b>  | <b>Removal of oil stains</b>      |
| (c) | Trichoderma polysporum       | Cyclosporin A  | Immunosuppressive drug            |
| (d) | Monascus purpureus           | Statins        | Lowering of blood cholesterol     |

164. Which of the following is not a feature of the plasmids ?
- 1) Transferable
  - 2) **Single-stranded**
  - 3) Independent replication
  - 4) Circular structure
165. The Taq polymerase enzyme is obtained from
- (a) *DBacillus subtilis*
  - (b) *Pseudomonas putida*
  - (c) ***Thermus aquaticus***
  - (d) *Thiobacillus ferrooxidans*
166. Which of the following is a restriction endonuclease ?
- 1) DNase I
  - 2) RNase
  - 3) **Hind II**
  - 4) Protease
167. Which of the following is not required for any of the techniques of DNA fingerprinting available at present ?
- 1) Restriction enzymes
  - 2) DNA – DNA hybridization
  - 3) Polymerase chain reaction
  - 4) **Zinc finger analysis**

168. The two polypeptides of human insulin are linked together by
- 1) Covalent bond
  - 2) **Disulphide bridges**
  - 3) Hydrogen bonds
  - 4) Phosphodiester bond
169. Which part of the tobacco plant is infected by *Meloidogyne incognita* ?
- 1) Stem
  - 2) **Root**
  - 3) Flower
  - 4) Leaf
170. It is much easier for a small animal to run uphill than for a large animal, because
- 1) Small animals have a lower O<sub>2</sub> requirement
  - 2) **The efficiency of muscles in large animals is less than in the small animals**
  - 3) It is easier to carry a small body weight
  - 4) Smaller animals have a higher metabolic rate.
171. When does the growth rate of a population following the logistic model equal zero? The logistic model is given as  $dN/dt = rN(1-N/K)$
- 1) When N/K equals zero
  - 2) When death rate is greater than birth rate
  - 3) **When N/K equals zero**
  - 4) When death rate is greater than birth rate
  - 5) When N/K is exactly one
  - 6) When N nears the carrying capacity of the habitat.
172. Gause's principle of competitive exclusion states that
- 1) **No two species can occupy the same niche indefinitely for the same limiting resources**
  - 2) Larger organisms exclude smaller ones through competition
  - 3) More abundant species will exclude the less abundant species through competition
  - 4) Competition for the same resources exclude species having different food preferences.
173. Which of the following would appear as the pioneer organisms on bare rocks ?
- 1) Mosses
  - 2) Green algae
  - 3) **Lichens**
  - 4) Liverworts
174. Which one of the following is a characteristic feature of cropland ecosystem ?
- 1) Absence of weeds
  - 2) Ecological succession
  - 3) Absence of soil organisms
  - 4) **Least genetic diversity**

175. The term ecosystem was coined by
- 1) E.Haeckel
  - 2) E.Warming
  - 3) E.P. Odum
  - 4) **A.G. Tansley**
176. Which is the National Aquatic Animal of India ?
- 1) Blue whale
  - 2) Sea-horse
  - 3) Gangetic shark
  - 4) **River dolphin**
177. Which of the following is the most important cause of animals and plants being driven extinction ?
- 1) **Habitat loss and fragmentation**
  - 2) Co-extinctions
  - 3) Over-exploitation
  - 4) Alien species invasion.
178. Depletion of which gas in the atmosphere can lead to an increased incidence of skin cancer ?
- 1) Ammonia
  - 2) Methane
  - 3) Nitrous oxide
  - 4) **Ozone**
179. Joint Forest Management Concept was introduced in India during
- 1) **1980s**
  - 2) 1990s
  - 3) 1960s
  - 4) 1970s
180. A river with an inflow of domestic sewage rich in organic waste may result in
- 1) An increased production of fish due to biodegradable nutrients
  - 2) **Death of fish due to lack of oxygen**
  - 3) Drying of the river very soon due to algal bloom
  - 4) Increased population of aquatic food web organisms.