BOTANY

101. Suspension of isolated thylakoids in culture medium containing CO_2 and H_2O does not produce hexose due to absence of which of the following
(1) ATP (2) Enzyme
(3) Proteins (4) Hill reagent

102. What is the quantum yield of photosynthesis
(1) 8% (2) 12%
(3) 9% (4) 33%

103. For chlorophyll formation in plants, which of the two elements are needed ?
(1) Iron and calcium (2) Iron and magnesium
(3) Sodium and copper
(4) Calcium and potassium

104. The photosynthetic unit to trap the light energy is known as:
(1) Quantasome (2) Mesosome
(3) Nucleosome (4) Oxysome

105. Which of the following is the first step of photosynthesis:
(1) Photoexcitation of chlorophyll pigment electron
(2) Photoexcitation of water
(3) CO_2 reduction
(4) Photophosphorylation

106. For the process of photosynthesis which one of the following is not essential:
(1) Light and chlorophyll (2) CO_2 and light
(3) Oxygen and glucose (4) Water and minerals

107. During non-cyclic photophosphorylation ATP molecules are produced through electron flow:
(1) From H_2O to P.S.II
(2) From P.S.II to P.S.I
(3) From PS I to NADP
(4) From P.S.I to ferredoxine

108. Discovery of Emerson effect has clearly shown the existence of
(1) Two distinct photochemical processes
(2) Photorespiration
(3) Light and dark reactions in photosynthesis
(4) Photophosphorylation

109. "Enhancement effect" for the rate of photosynthesis observed by Emerson is possible in the presence of:
(1) Shorter wavelength of light
(2) Longer wavelength of light
(3) Infrared wave length
(4) a combination of longer and shorter wavelength of light

110. Radioactive isotope of oxygen (O^{18}) was used to know the source of oxygen released through photosynthesis by:
(1) Hill (2) Neil
(3) Ruben and Kamen (4) Hatch and Slack

111. Which of the following constitute the assimilatory power of photosynthesis:
(1) Glucose and fructose (2) NAD and FAD
(3) ATP and $NADPH_2$ (4) P.S. I & P.S.II

112. Which of the following is used as the hydrogen acceptor during light reaction of photosynthesis?
(1) ATP (2) NADP
(3) FAD (4) RUDP

113. In non-cyclic photophosphorylation the ultimate electron acceptor is
(1) P_{680} (2) P_{700}
(3) NADP (4) ATP

114. The CO_2 compensation point is
(1) Higher in C_4-plants (2) Higher in CAM-plants
(3) Higher in C_3-plants (4) Same in all plants

115. Action spectrum of photosynthesis was described in 1883 by :
(1) Robert Hill (2) M. Calvin
(3) T.W. Englemann (4) Hatch and Slack

116. Phaeophytin is
(1) Primary electron acceptor of PSI
(2) Primary electron acceptor of PSII
(3) It is chlorophyll - a without Mg^{2+}
(4) Both (2) and (3)

117. In PSI, the carrier that picks up electrons from P_{700} is
(1) Fe-protein (2) Fe-S protein
(3) Fe-Cu-Protein (4) Fe-Mg Protein

118. If the concentration of oxygen is increased the photosynthetic rate decreases and this phenomenon is called
(1) Pasteur effect (2) Blackman effect
(3) Emerson effect (4) Warburg effect

119. Red drop in photosynthesis in green algae refers to decrease in the rate of photosynthesis in
(1) Blue light
(2) Green light
(3) Red light greater than 680 nm
(4) Red light less than 680 nm

120. Wilmott's bubbler is meant for proving that
(1) Chlorophyll is essential for photosynthetic activity
(2) Oxygen is liberated during the process of photosynthesis
(3) Light is necessary for photosynthesis
(4) CO_2 is essential for photosynthesis

121. Photosynthetically acive radiation is represented by the range of wavelength of
(1) 640-650 nm (2) 600-960 nm
(3) 400-700 nm (4) 340-450 nm

122. Which of the following inhibits O_2 release in light phase ?
(1) PMA (2) Zeatin
(3) DCMU (4) None of these

123. The disease heart rot of sugar beet is caused by
(1) accumalation of B (2) deficiency of B
(3) accumalation of Zn (4) deficiency of Zn

124. Active salt absorption theory proposed by Lundegarh states that
(1) Anion absorption is independent of cation absorption
(2) Oxygen concentration gradient exists on the outer surface of the membrane
(3) The actual transport of the anion occurs through a cytochorome system
(4) All of these

125. Deficiency of potassium usually causes
(1) stunted growth due to shortening of internodes
(2) grey speck of oats
(3) formation of anthocyanin
(4) little leaf disease

126. Deficiency of Cu in plants usually causes
(1) chlorosis (2) necrosis
(3) brown heart disease (4) dieback of shoots

127. The four elements that make up 99% of all elements found in the living system are
(1) H, O, C & N (2) C, H, O & S
(3) C, H, O & P (4) C, N, O & P

128. A plant is showing symptoms like chlorosis of younger or older leaves, production of sterile flowers and disorganisation of thylakoid membrane. It may be due to the deficiency of
(1) B (2) K
(3) Ca (4) Mn

129. In root nodules of leguminous plants, the leghaemoglobin is present in the
(1) Intercellular spaces
(2) Cytosol of bacteroids
(3) Inside the peribacterial space
(4) Outside the peribacterial space in the cytosol of nodule cells

130. According to Relay pump theory proposed by Godlewski, the ascent of sap is possible through the activity of
(1) tracheids (2) vessels
(3) xylem fibre (4) xylem parenchyma

131. Frankia occurs in root nodules of
(1) *Cicer* (2) *Pisum*
(3) *Casuarina* (4) All of these

132. Which is essential for root hair growth?
(1) Zn (2) Ca
(3) Mo (4) S

133. Which one is not a parasite ?
(1) *Striga* (2) *Balanophora*
(3) *Monotrapa* (4) *Arcenthobium*

134. The most freely available ion in cell is
(1) Na^+ (2) K^+
(3) Ca^{++} (4) Mg^{++}

135. Whiptail disease is caused due to deficiency of:
(1) Magnesium (2) Manganese
(3) Molybdenum (4) Boron

136. Which of the following is required for nitrogen fixation?
(1) Mg & Fe (2) Fe & Mo
(3) Mo & Cu (4) Cu & Fe

137. Zinc is required for:
(1) Stomatal opening
(2) Stomatal closing
(3) Oxidation of carbohydrates
(4) Biosynthesis of IAA

138. Salt respiration is a term associated with
(1) Active water absorption
(2) Passive mineral uptake
(3) Ascent of sap
(4) None of these

139. The enzyme nitrite reductase converts
(1) $NO_3 \rightarrow NO_2$ (2) $NO_2 \rightarrow N_2$
(3) $NO_2 \rightarrow NH_3$ (4) $NH_3 \rightarrow NO_2$

140. The type of stomata found in submerged hydrophytes is

(1) Water lily type (2) Equisetum type
(3) Alfalfa type (4) Potamogeton type

141. Levitt's synthetic proton transport hypothesis states that opening and closing of stomata is controlled by
(1) Accumulation of Ca^{++} in the guard cells
(2) Conversion of starch □□□ sugar
(3) Active K^+ transport and pH of guard cells
(4) Active Ca^+ transport and pH of guard cells

142. Which among the following is a trace element?
(1) Ca (2) K
(3) Mn (4) Mg

143. Which of the following are wrongly matched?
(1) K, Ca, Mg : Balancing elements
(2) C, H, O : Frame work elements
(3) N, P, S : Catalytic elements
(4) N, P, K : Critical elements

144. Which among the following elements facilitates translocation of sugar in plants and its deficiency causes death of shoot tip and stunted root growth?
(1) Potassium (2) Magnesium
(3) Boron (4) Chlorine

145. Exanthema exuding gummy substance and reclamation disease are caused due to the deficiency of
(1) Potassium (2) Phosphorous
(3) Copper (4) Zinc

146. Match the following :

(i) White bud of maize	(a) Molybdenum
(ii) Water core in turnip	(b) Boron
(iii) Marsh spot of pea	(c) Zinc
(iv) Whip tail of Cauliflower	(d) Manganese

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

147. The name of Tribe ending with suffix
(1) –opsida (2) –ini
(3) –oideae (4) –aceae

148. Chlorophyll-e is found in
(1) Green algae (2) Red algae
(3) Yellow green algae (4) Brown algae

149. Unicellular biwalled rhizoids are found in
(1) *Riccia* (2) *Funaria*
(3) *Polytrichum* (4) *Sphagnum*

150. According to Engler and Prantle's system of classification which of the following is considered as the most advanced family of Dicots?
(1) Solanaceae (2) Asteraceae
(3) Rutaceae (4) Zingiberaceae