**Department of Biotechnology**

**Class: T.Y.B.Sc.**

**Semester: VI**

**Subject: Agribiotechnology (Applied Component)**

**Sample Questions**

**Multiple Choice Questions**

1. Horticulture is the study that includes\_\_\_\_\_\_\_\_\_.
2. Fruits, vegetables and flowers
3. All food crops
4. Vegetable gardens and lawns near hotels only
5. Some bush crops and apples
6. In cold places frost damage can be reduced in horticultural crops using these methods except\_\_\_\_\_\_\_.
7. Overhead sprinklers at night
8. Green houses and shade nets
9. Wind breaks placement
10. Appropriate fungicide application
11. These are features of higher energy level and shorter wavelengths\_\_\_\_\_\_\_\_\_.  
     a. infrared radiation  
     b. alpha radiation  
     c. beta radiation  
     d. ultraviolet radiation
12. **\_\_\_\_\_\_\_is the most potent greenhouse gas in terms of efficiency.**  
     a. N2O  
     b. CFC  
     c. C2O  
     d. CH4
13. For successful grafting, stock and scion shall be\_\_\_\_\_\_\_.
14. of different species
15. of same species
16. of similar groups
17. of different class
18. \_\_\_\_\_\_\_\_\_\_\_is the standard type and full-size structure in which the two roof slopes are of equal pitch.
19. Lean-to type greenhouse
20. Even span type greenhouse
21. Uneven span type greenhouse
22. Ridge and furrow type
23. \_\_\_\_\_\_\_\_\_\_ type of greenhouse is constructed on hilly terrain.
24. Lean-to type greenhouse
25. Even span type greenhouse
26. Uneven span type greenhouse
27. Ridge a.nd furrow type
28. Phytotron is a device by which \_\_\_\_\_\_\_\_.
29. Electrons are bombarded
30. Protons are liberated
31. Plants are grown in controlled environment
32. Mutations are produced in plants
33. Modification of natural environment to achieve optimum plant growth is known as\_\_\_\_\_.
34. Protected cultivation
35. sustainable agriculture
36. hydroponics
37. Green house cultivation
38. **Hydroponics is a method of cultivation of plants without the use of\_\_\_\_\_\_\_\_.**  
     a. water  
     b. Air  
     c. Soil  
     d. sunlight
39. Partial regulation of microclimate in the green house will minimize the crop loss due to\_\_\_\_\_.
40. Abiotic stress
41. Biotic stress
42. Natural phenomenon
43. Birds and Insects
44. Covering material used Quonset greenhouse is\_\_\_\_\_\_\_.
45. Wood
46. Grass
47. Polyester
48. Polyethylene
49. In\_\_\_\_\_\_\_\_ two or more A-frame greenhouses connected to one another along the length of the eave.
50. Lean-to type greenhouse
51. Even span type greenhouse.
52. Uneven span type greenhouse.
53. Ridge and furrow type
54. Specific natural ventilation flow path develops in\_\_\_\_\_\_\_\_\_\_\_.
55. Lean-to type greenhouse
56. Even span type greenhouse.
57. Uneven span type greenhouse.
58. saw- tooth type greenhouse
59. **Plants with larger roots can be cultivated with which of the following types of hydroponics\_\_\_\_\_\_\_\_.**  
     a. Ebb and flow system  
     b. Drip system  
     c. Nutrient Film technique  
     d. Static solution culture
60. Water logging refers to a condition where \_\_\_\_\_\_\_\_\_ is present in excess amount than its optimum requirement.
61. Protein
62. Carbohydrate
63. Fat
64. Water
65. \_\_\_\_\_\_\_\_\_\_ is any external factor that negatively influences plant growth, productivity, reproductive capacity of survival.
66. Soil
67. Stress
68. Solvent
69. Water
70. Water stress in natural environment usually arises due to lack of rainfall, a condition is known as \_\_\_\_.
71. Water logging
72. Temperature
73. Drought
74. Cold water
75. Water stressed conditions that cause \_\_\_\_\_\_\_\_\_\_.
76. closure of stomata
77. high temperature
78. decrease in solute concentration
79. cold water condition
80. \_\_\_\_\_\_\_\_\_ is defined as the negative impact of nonliving factors on the living organisms in a specific environment.
81. Biotic stress
82. Abiotic stress
83. Bacterial stress
84. Fungal stress
85. Desert plants \_\_\_\_\_\_\_\_\_\_ their leaves during a drought.
86. drops
87. added
88. increases
89. levels
90. Stomata close during water deficit in response to \_\_\_\_\_\_\_\_\_.
91. Infection
92. Abscisic acid
93. water
94. Protein
95. \_\_\_\_\_\_\_\_\_\_\_\_ content can inhibit the process of photosynthesis by limiting a plants water uptake.
96. High solute
97. Low soil salinity
98. High soil salinity
99. Low solute
100. \_\_\_\_\_\_\_\_\_\_\_ activates various protein kinases and phosphatases that regulate gene expression either by phosphorylating or dephosphorylating transcriptional factors.
101. Protein
102. Calcium
103. Fat
104. DNA
105. \_\_\_\_\_\_\_\_\_\_ is light induced reduction in photosynthetic capacity of plant.
106. Photo inhibition
107. Redox reaction
108. Photo excitation
109. Light reaction
110. Majority of plant viruses possess \_\_\_\_\_\_\_\_\_ genomes.
111. Single stranded RNA
112. Single stranded DNA
113. Double stranded RNA
114. Double stranded DNA
115. Fungi are not \_\_\_\_\_\_\_\_\_.
116. autotrphs
117. parasitic
118. saprophytic
119. heterotrophic
120. Flooding stress is commonly a \_\_\_\_\_\_\_\_ stress.
121. Hydrogen
122. Helium
123. Carbon
124. Oxygen
125. In the laboratory, water stress can be simulated by allowing transpirational loss from leaves, a condition commonly known as \_\_\_\_\_\_\_.
126. Soil stress
127. Water stress
128. Desiccation stress
129. Temperature stress
130. \_\_\_\_\_\_\_\_\_\_ is metabolically dependent and involves essentially a reversal of the ion fluxes that causes opening of the stomata.
131. Hydro active closure
132. Hydro passive closure
133. Drought stress
134. Cell closure
135. The maintenance of steady state results in a Meta stable condition called \_\_\_\_\_\_\_\_\_\_.
136. Homeostasis
137. Biotic stress
138. Plant stress
139. Abiotic stress
140. \_\_\_\_\_\_\_\_\_\_ is a biological insult, to which a plant may be exposed during its lifetime.
141. Homeostasis
142. Biotic stress
143. Temperature stress
144. Abiotic stress
145. Which of the following organism causes rot in vegetable marrow, cucurbit, potato, corn and other plants?
146. *C. michiganense*
147. *E. carotovora*
148. *B. megathericum*
149. *P. savaastanoi*
150. Which of the following organism is non motile?
151. Corynebacterium
152. Bacillus
153. Pseudomonas
154. Erwinia
155. The rust *Puccinia monoica* infects \_\_\_\_\_\_ plant.
156. Mustard
157. Mango
158. Apple
159. Pineapple
160. The parasitic fungus which destroys *Arabis* species of plant is \_\_\_\_\_\_.
161. lice
162. leech
163. Cuscuta
164. *Puccinia*
165. Fungi have no \_\_\_\_\_\_\_\_.
166. Mitochondria
167. Chloroplast
168. Endoplasmic reticulum
169. Golgi apparatus
170. Myoxomycetes from division \_\_\_\_\_\_\_\_\_\_\_\_ are obligate parasites that grow on underground organs of plants and causes cracking.
171. Plasmodiophoromycota
172. Oomycota
173. Ascomycota
174. Zygomycota
175. Some bacteria form \_\_\_\_\_\_ inside the cells, which can withstand harsh environment without losing viability.
176. Golgi comlex
177. Mitochondria
178. Endospores
179. Cell wall
180. \_\_\_\_\_\_\_\_\_\_ Stress induces the synthesis of a new family of low molecular mass proteins known as heat shock proteins.
181. Low temperature
182. Low salinity
183. High salinity
184. High temperature
185. SAR stands for?
186. Simple Acquired Resistance
187. Systemic Acquired Resistance
188. Simple Active Role
189. Systemic Active Resistance
190. Some bacteria form capsules around cells produced due to release of \_\_\_\_\_.
191. Polysaccharides
192. Acids
193. Hormones
194. Amino acids
195. ISR stands for?
196. Important Systemic Resistance
197. Induced Simple Resistance
198. Induced Systemic Resistance
199. Induced Systemic Response
200. Molecular markers are used to construct \_\_\_\_\_\_\_\_\_\_\_.
     1. Chromosome map
     2. Cytogenic map
     3. Physical map
     4. Chromosome, cytogenic and physical maps
201. The variation in the restriction DNA fragment lengths between individuals of a species is called\_\_\_\_\_\_.
     1. RFLP
     2. RAPD
     3. AFLP
     4. SSR
202. RFLP is used to all of the following except\_\_\_\_\_\_\_\_\_\_\_.
     1. Construct high resolution linkage maps
     2. Identify single gene disease
     3. Identify specific protein
     4. Construct QLT maps
203. RFLP involves\_\_\_\_\_\_\_\_\_\_\_\_.
     1. Used to identify specific DNA
     2. Used to identify specific RNA
     3. Used to identify both DNA and RNA
     4. Used to identify specific protein
204. Locations of quantitative genes on chromosome are called\_\_\_\_\_\_\_\_\_\_.
     1. Qualitative trait loci
     2. Quantitative trait loci
     3. Specific trait loci
     4. Simple sequence repeats
205. Specific biomolecule which show detectable differences among different strains of a species or among different species is termed as \_\_\_\_\_\_\_\_\_.
     1. DNA fingerprinting
     2. Molecular markers
     3. Molecular scissors
     4. RFLP
206. Molecular markers include all of the following except\_\_\_\_\_\_\_\_\_\_\_.
     1. RFLP
     2. RAPD
     3. AFLP
     4. PCR
207. RAPD is a\_\_\_\_\_\_\_\_\_\_.
     1. DNA sequencing based method
     2. Restriction digestion based method
     3. PCR based methd
     4. Molecular scissors
208. The variation in number of tandem repeats between two or more individuals is called\_\_\_\_\_\_\_\_\_\_\_\_\_.
     1. variable number of tandem repeats
     2. restriction fragment length polymorphism
     3. simple sequence repeats
     4. amplified fragment length polymorphism
209. Simple sequence repeats all of the following except\_\_\_\_\_\_\_\_\_\_\_.
     1. 1-6 bp long sequences distributed along the chromosome
     2. Also called as micro satellites
     3. Individuals specific in number and position
     4. Differing fragment
210. The set of DNA generated by using general primers in a PCR is called\_\_\_\_\_\_\_\_\_\_\_.
     1. RAPD
     2. RFLP
     3. AFLP
     4. In situ hybridization
211. All the statements are true regarding RFLP & RAPD except\_\_\_\_\_\_\_\_\_\_\_.
     1. RAPD is a quick method compare to RFLP
     2. RFLP is more reliable than RAPD
     3. Species specific primers are required for RAPD
     4. Radioactive probes are not required in RAPD
212. DNA of eukaryotic organisms have several repeating units of short sequence called\_\_\_\_\_\_\_\_\_\_.
     1. Random repeats
     2. Tandem repeats
     3. Mini satellite
     4. Micro satellites
213. AFLP is all of the following except\_\_\_\_\_\_\_\_\_\_.
     1. PCR based method
     2. Method to detect polymorphism in the DNA throughout the genome
     3. Methos that detect presence or absence of fragment
     4. Simple sequence repeats
214. Structural features of chromosomes are used as a marker in\_\_\_\_\_\_\_\_\_\_\_.
     1. Morphological markers
     2. DNA markers
     3. Cytological markers
     4. Biochemical markers
215. Protein marker is an example of \_\_\_\_\_\_\_\_\_\_.
     1. Morphological markers
     2. DNA markers
     3. Cytological markers
     4. Biochemical markers
216. The variant fragment that distinguishes one individual from another one is called\_\_\_\_\_\_\_.
     1. Variant fragment
     2. Marking fragment
     3. Differing fragment
     4. Restriction fragment
217. DNA markers for efficient use in marker-assisted breeding should meet the following criteria except:
     1. High level of polymorphism
     2. Even distribution across the whole genome
     3. Clear distinct allelic features
     4. Multiple copy and pleiotropic effect
218. What is the full form of RFLP?
     1. Restriction Fragment Length Polymorphisms
     2. Random Fragment Length Polymorphism
     3. Restriction Find in Length of DNA Polymer
     4. Restriction Fragment Length Polymers
219. \_\_\_\_\_\_\_\_\_\_\_ is defined in a broad-sense as the use of genetic manipulation performed at DNA molecular levels to improve characters of interest in plants and animals.
     1. Molecular breeding
     2. In situ hybridization
     3. DNA amplification
     4. DNA sequencing
220. Molecular breeding includes all except\_\_\_\_\_\_\_\_\_\_.
     1. Gene manipulation
     2. Molecular marker assisted selection
     3. Genomic selection
     4. Fertilization
221. Classical markers include all except\_\_\_\_\_\_\_\_\_.
     1. Morphological markers
     2. DNA markers
     3. Cytological markers
     4. Biochemical markers
222. Name the mapping technique used to determine the position of restriction sites in a DNA molecule.
     1. Genetic map
     2. Restriction mapping
     3. Biochemical markers
     4. DNA markers
223. Which of the following is considered as a visual marker?
     1. Antibiotic marker
     2. Resistance marker
     3. Selectable marker
     4. Screenable marker
224. Which of the following technique is used for the amplification of DNA fragments?
     1. AFLP
     2. RFLP
     3. RAPD
     4. SSLP
225. Out of the following, which technique detects single nucleotide polymorphism?
     1. AFLP
     2. RFLP
     3. RAPD
     4. SNP
226. Name the first transgenic virus resistant plant?
     1. Rice
     2. Cotton
     3. Tobacco
     4. Tomato
227. \_\_\_\_\_\_\_\_\_\_ is the short gene sequence taken from standardize portion of the genome that is used to identify species.
     1. DNA markers
     2. DNA barcode
     3. Gene map
     4. Protein marker
228. Which of the following describes the dissimilarity in the traits due to the variation in genetic factors?
     1. Polygenic
     2. Heritability
     3. Quantitative trait loci
     4. Maternal effect
229. Polymorphism in RAPD is observed because \_\_\_\_\_\_\_\_\_\_\_\_\_\_
     1. DNA used is from different chromosomes of same species
     2. DNA used is from same chromosomes of same species
     3. DNA used is from different chromosomes of different species
     4. DNA used is from complementary chromosomes of same species
230. \_\_\_\_\_\_\_\_\_\_\_ is the region of the genome that is associated with an effect on a quantitative trait.
     1. QTL
     2. QLT
     3. SIM
     4. CIM
231. Traits which show continuous variation is referred as \_\_\_\_\_\_\_\_\_\_\_
     1. Genetic disorders
     2. Phenotypic variation
     3. Quantitative traits
     4. Qualitative traits
232. Which of the following factor does not contribute to quantitative traits?
     1. Polygenes
     2. Environmental
     3. Genetic
     4. Carbohydrate content
233. Which of the following is used as biocontrol agent against caterpillars of butterflies?
234. *Trichoderma*
235. *Streptococcus*
236. *Bacillus thuringenesis*
237. *Sacchromyces cervisiae*
238. Which of the following is not a biopesticides?
239. *Nucleopolyhedrovirus*
240. *Xanthomonas campestris*
241. *Bacillus thuringenesis*
242. *Trichoderma harzianum*
243. \_\_\_\_\_\_\_\_\_\_\_medium used isolation of phosphate solubilising bacteria.
244. Pikovskayas agar
245. CRYEMA agar
246. Blood agar
247. CLED agar
248. Which medium used for the isolation of Rhizobium?
249. Pikovskayas agar
250. CRYEMA agar
251. Blood agar
252. CLED agar
253. Which is the example of phosphate solubilising bacteria?
254. *Pseudomonas spp.*
255. *E. coli*
256. *Salmonella spp.*
257. *S. aureus*
258. Bt toxin is\_\_\_\_\_\_\_\_\_\_\_\_\_.
259. Intracellular lipid
260. Intracellular protein
261. Extra cellular protein
262. Lipid
263. Azospirillum and azotobacter are example of \_\_\_\_\_\_\_\_\_\_\_.
264. Decomposer
265. Free living nitrogen fixative
266. Symbiotic nitrogen fixative
267. Pathogens
268. Which is the example of carrier material used for preparation of biofertilizers?
269. Charcoal
270. Sodium chloride
271. Ammonium sulphate
272. Sucrose
273. Which of the following is not a biofertilizer?
274. *Mycorrihiza*
275. *Rhizobium*
276. *Agrobacterium*
277. *Nostoc*
278. Which of the following is an endomycorrhiza?
279. *Rhizobium*
280. *Agaricus*
281. *Glomus*
282. *Nostoc*
283. Conversion of nitrogen to ammonia or nitrogenous compound is called as\_\_\_\_\_\_\_\_\_\_.
284. Nitrogen assimilation
285. Nitrogen fixation
286. Denitrification
287. Nitrification
288. Leghaemoglobin creates\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
289. Anaerobic condition for optimum activity of nitrogenase
290. Aerobic condition for optimum activity of nitrogenase
291. Required oxygen concentration for activity of nitrogenase
292. Suitable environment for nodule formation
293. The root nodule of legume contains pink pigment which has high affinity for oxygen is \_\_\_\_\_\_\_\_\_\_\_.
294. Nod haemoglobin
295. Leg haemoglobin
296. Haemoglobin
297. Bacterial haemoglobin
298. Rhizobium has symbiotic association with \_\_\_\_\_\_\_\_\_\_.
299. Legumes
300. Non legume crops
301. Sugarcane
302. Paddy
303. \_\_\_\_\_\_\_\_\_\_it is not a method of biofertilizer application.
304. Seed inoculation
305. Soil application
306. Root treatment
307. Stem treatment
308. In biofertiliser inoculation method biofertiliser are mixed with \_\_\_\_\_\_\_\_\_% solution of jaggary.
309. 5%
310. 10%
311. 6%
312. 9%
313. Basic requirement for N2 fixation are nitrogenase and \_\_\_\_\_\_\_\_\_\_enzyme.
314. Kinase
315. Dehydrogenase
316. Hydrogenase
317. Oxidase
318. Which is not a property of an good carrier material for seed inoculation?
319. Inexpensive
320. Weakly adhesive to seed
321. Non toxic to inoculant bacterial strain
322. Good moisture absorbtion capacity
323. The process of conversion of soil NO3 to N2 is called\_\_\_\_\_\_\_\_\_\_\_.
324. Nitrification
325. Denitrification
326. Ammonification
327. N2 fixation
328. Azolla as a biofertilizer, increase the yield of rice field by \_\_\_\_\_\_\_\_\_\_\_.
329. 10%
330. 20%
331. 40%
332. 50%
333. Bt strain has been used for designing novel\_\_\_\_\_\_\_\_\_\_\_\_\_.
334. Biofertilizers
335. Biominerailization processes
336. Bioinsecticidal plants
337. Biomettaurgical techniques
338. Conversion of NO2 to NO3 is carried out by\_\_\_\_\_\_\_\_\_\_\_\_.
339. *Nitrosomonas*
340. *Nitrosococcus*
341. *Nitrobacter*
342. *Clostridium*
343. \_\_\_\_\_\_\_\_\_\_\_\_\_\_this is known as slow growing rhizobia.
344. *Bradyrhizobium*
345. *Cradyrhizobium*
346. *Lupine*
347. *R. japanicum*
348. \_\_\_\_\_\_\_\_\_\_\_serve as an important biofertilizers in paddy field.
349. *Cyanobacteria*
350. *Clostridium*
351. *Mycorrhiza*
352. *Frankiya*