

TDC-I

BOTANY HONOURS (PAPER-II)

GROUP-A (120)

1. Who is known as the father of microbiology
 - a. Ivanoski
 - b. Nageli
 - c. Koch
 - d. Leeuwenhoek
2. Which of the following is a rod shaped bacteria
 - a. bacillus
 - b. coccus
 - c. vibrio
 - d. spirillum
3. Spherical bacterium is called
 - a. bacillus
 - b. coccus
 - c. vibrio
 - d. spirillum
4. Shape of vibrio bacteria is
 - a. rod
 - b. comma
 - c. sphere
 - d. spiral
5. Bacteria without flagella are called
 - a. atrichous
 - b. monotrichous
 - c. amphitrichous
 - d. peritrichous
6. Bacteria with a single flagellum present at one end of the cell are called
 - a. atrichous
 - b. monotrichous
 - c. amphitrichous
 - d. peritrichous
7. Bacteria with one flagellum at both the ends are called
 - a. lophotrichous
 - b. monotrichous
 - c. amphitrichous
 - d. peritrichous
8. Which of the following is non-polar flagellation in bacteria
 - a. monotrichous
 - b. lophotrichous
 - c. amphitrichous
 - d. peritrichous
9. Bacteria with two or more flagella at one or both the ends of the cell are called
 - a. monotrichous
 - b. lophotrichous
 - c. amphitrichous
 - d. peritrichous
10. Bacteria with flagella evenly distributed through out the surface of the cell are called
 - a. atrichous
 - b. lophotrichous
 - c. amphitrichous
 - d. peritrichous
11. Bacterial flagellum is made up of the protein
 - a. tubulin
 - b. pilin
 - c. flagellin
 - d. actin
12. Spherical bacteria occurring in irregular group are called
 - a. staphylococci
 - b. sarcinae
 - c. streptococci
 - d. monococci

13. Spherical bacteria occurring in cuboidal arrangement of cells are called
a. staphylococci b. sarcinae c. streptococci d. monococci
14. Extrachromosomal circular DNA molecules present in bacterial cells are called
a. introns b. exons c. plasmids d. nucleoid
15. Bacterial ribosomes are
a. 100 S b. 90 S c. 80 S d. 70 S
16. The larger subunit of bacterial ribosome is
a. 70 S b. 60 S c. 50 S d. 30 S
17. The smaller subunit of bacterial ribosome is
a. 70 S b. 60 S c. 50 S d. 30 S
18. Which of the following flagellation type in bacteria is polar
a. amphitrichous b. lophotrichous c. monotrichous d. all
19. Which of the following two stains are used in Gram staining of bacteria
a. crystal violet and iodine b. crystal violet and bromine
c. crystal violet and safranin d. safranin and iodine
20. Surface appendages in bacteria helping in attachment are called
a. pili b. flagella c. cilia d. spines
21. Which of the following is an example of green sulphur bacteria
a. *Chlorobium* b. *Thiospirillum* c. *Thiobacillus* d. *Pseudomonas*
22. Which of the following is an example of purple sulphur bacteria
a. *Chlorobium* b. *Thiospirillum* c. *Thiobacillus* d. *Pseudomonas*
23. Which of the following is an example of sulphur bacteria
a. *Thiobacillus* b. *Thiospirillum* c. *Nitrosomonas* d. *Pseudomonas*
24. Which of the following is an example of hydrogen bacteria
a. *Thiobacillus* b. *Thiospirillum* c. *Nitrosomonas* d. *Pseudomonas*
25. During the nitrification process, conversion of ammonia to nitrite is carried out by
a. *Nitrosomonas* b. *Nitrobacter* c. *Pseudomonas* d. *Beggiatoa*

26. During the nitrification process, conversion of nitrite to nitrate is carried out by
 a. *Nitrosomonas* b. *Nitrobacter* c. *Pseudomonas* d. *Beggiatoa*
27. Which of the following is an example of iron bacteria
 a. *Ferrobacillus* b. *Thiospirillum* c. *Nitrosomonas* d. *Pseudomonas*
28. *Lactobacillus* is an example of
 a. photosynthetic bacteria b. chemosynthetic bacteria
 c. parasitic bacteria d. saprophytic bacteria
29. Bacteria may be
 i. photosynthetic autotrophic ii. Chemosynthetic autotrophic
 iii. saprophytic heterotrophs iv. Parasitic heterotrophs
 a. i, ii b. ii, iii c. i, ii, iii d. i, ii, iii, iv
30. Which of the following is responsible for the production of biogas from the dung ruminant animals
 a. archaeobacteria b. cyanobacteria c. eubacteria d. mycoplasmas
31. The survival of archaeobacteria in extreme conditions is due to different structure of
 a. cell wall b. cell membrane c. ribosome d. none
32. Methanogens are archaeobacteria which prefer
 a. marshy areas b. salty areas c. hot springs d. all
33. Archaeobacteria known as halophiles prefer to grown in
 a. marshy area b. salty area c. hot spring d. all
34. Thermoacidophiles prefer to grow in
 a. marshy area b. salty area c. hot spring d. all
35. The major difference between archaeobacteria and other bacteria is
 a. difference in cell wall structure b. difference in cell membrane structure
 c. difference in ribosome structure d. none
36. Which of the following is also called blue green algae
 a. eubacteria b. archaeobacteria c. mycoplasmas d. none

37. Genetic recombination in bacteria involves
- a. transformation b. transduction c. conjugation d. all
38. Cyanobacteria have chlorophyll
- a. a b. b c. a & b d. a & c
39. Blue green algae often form ----- in ----- water bodies
- a. bloom, polluted b. bloom, clean c. scum, polluted d. scum, clean
40. Some cyanobacteria can fix atmospheric nitrogen in specialized cells called
- a. hormongia b. oogonia c. akinetes d. heterocysts
41. Which of the following can fix atmospheric nitrogen
- a. *Nostoc* b. *Anabaena* c. *Rhizobium* d. all
42. *Nostoc* is a
- a. unicellular blue green alga b. filamentous blue green alga
- c. spherical bacterium d. spiral bacterium
43. Which of the bacteria are most abundant in nature
- a. photosynthetic autotrophs b. chemosynthetic autotrophs
- c. heterotrophic bacteria d. none
44. Some heterotrophic bacteria fix nitrogen in
- a. legume roots b. legume fruits c. cereal roots d. cereal stems
45. Which of the following is responsible for making curd
- a. bacteria b. mycoplasmas
- c. chemosynthetic bacteria d. heterotrophic bacteria
46. Which of the genetic recombination mechanism in bacteria requires physical contact between two bacterial cells
- a. transformation b. transduction c. conjugation d. transfection
47. Which of the genetic recombination mechanism does not require physical contact between two bacterial cells
- i. transformation ii. transduction iii. Conjugation
- a. i b. ii c. i, ii d. ii, iii

48. Which genetic recombination mechanism in bacteria is mediated by virus
- a. transformation b. transduction c. conjugation d. transfection
49. The arrangement in which flagella are distributed all around the bacterial cell is known as:
- a. amphitrichous b. peritrichous c. monotrichous d. lophotrichous
50. The culture media containing heat labile constituents are best sterilized by
- a. UV-irradiation b. filtration using membrane filter
c. dry heat at 180°C for 30 min d. autoclaving at 15 psi for 30 min
51. The phenomenon of conjugation in bacteria was first discovered by:
- a. Lederberg and Tatum b. Watson and Crick
c. Luria and Delbruck d. Zinder and Lederberg
52. If a bacterial cell divides once every minute and it takes one hour to fill a small cup, how much time will it take to fill half the cup
- a. 29 minutes b. 30 minutes c. 39 minutes d. 59 minutes
53. Time during which bacterial population doubles in number is called
- a. incubation time b. generation time c. culture time d. division time
54. A process that remove or kills all forms of life present in specific object or substances is called
- a. radiation b. autoclave c. sterilization d. tyndallisation
55. Anabaena, a N₂ fixing blue green algae is associated with
- a. *Marsilea* b. *Salvinia* c. *Azolla* d. *Lycopodium*
56. The conversion of nitrogen to ammonia or nitrogenous compounds is called
- a. nitrogen assimilation b. nitrogen fixation
c. nitrification d. denitrification
57. All of the following are free living nitrogen fixers except
- a. *Rhizobium* b. *Azotobacter* c. *Rhodospirillum* d. *Clostridium*
58. Leghaemoglobin creates
- a. anaerobic condition for optimum activity of nitrogenase
b. aerobic condition for optimum activity of nitrogenase
c. suitable environment for nodule formation
d. increase concentration of nitrogen
59. The process of conversion of soil NO₃ to nitrogen is called
- a. nitrification b. renitrification c. denitrification d. nitrogenation

60. The root nodule of legume has a pink pigment which is called
- a. haemoglobin b. superglobin c. leghaemoglobin d. nitrohaemoglobin
61. Leghaemoglobin has affinity for
- a. nitrogen b. nitrate c. ammonia d. oxygen
62. Which of the following N₂ fixer is involved in symbiotic association with legumes forming root nodules
- a. *Rhizobium* b. *Azotobacter* c. *Phodospirillum* d. *Clostridium*
63. Which of the following blue green alga is associated with Azolla
- a. *Nostoc* b. *Anabaena* c. *Spirulina* d. *Rivularia*
64. Symbiotic N₂ fixing cyanobacteria are present in all of the following except
- a. *Anthoceros* b. *Azolla* c. *Cycas* d. *Gnetum*
65. Splitting of dinitrogen molecule (N₂) into free nitrogen atom during N₂ fixation is carried out by
- a. hydrogenase b. nitrase c. dinitrogenase d. nitrogenase
66. Which of the following bacteria is used in the making of the famous roquefort cheese
- a. *Streptococcus lacticus* b. *Bacillus subtilis*
c. *Lactobacillus helveticus* d. *Xanthomonas prunii*
67. Virus contains
- a. either DNA or RNA b. both DNA and RNA
c. ssDNA with ssRNA d. dsDNA with dsRNA
68. The protein coat surrounding the nucleic acid of a virus is
- a. spike b. capsid c. Proteinoid d. Prion
69. The bacterial cells having F factor in the chromosomes were termed as
- a. Hfr b. F⁻ c. Hbr d. F⁺
70. What does not happen during bacterial conjugation
- a. F factor passes from F⁺ cells to F⁻ cells without replication
b. F factor passes from F⁺ cells to F⁻ cells after replication
c. F⁻ cell is converted into F⁺ cells
d. the two conjugating cells are held together through pili

71. Genetic material of T-phages is
- ssDNA
 - dsDNA
 - ssRNA
 - dsRNA
72. Which virus was first observed
- hepatitis virus
 - TMV
 - cauliflower mosaic virus
 - bacteriophage
73. Cyanophage is a virus that attacks
- bacteria
 - mycoplasma
 - blue green algae
 - Plants
74. Which of the following is a biofertilizer
- Rhizobium*
 - Azotobacter*
 - Anabaena*
 - all
75. Transformation in bacteria was discovered by
- Tatum
 - Griffith
 - Stahl
 - Lederberg
76. Transduction in bacteria was discovered by
- Tatum
 - Griffith
 - Stahl
 - Zinder & Lederberg
77. A free living bacterium capable of fixing nitrogen is
- Pseudomonas*
 - Rhizobium*
 - Azotobacter*
 - Streptococcus*
78. Which of the following bacteria causes botulism
- Clostridium*
 - Bacillus*
 - Pseudomonas*
 - Staphylococcus*
79. Which of the following is used for sterilization
- centrifuge
 - autoclave
 - shaker
 - distiller
80. Typhoid is caused by
- Salmonella*
 - Pseudomonas*
 - Clostridium*
 - Botrytis*
81. The credit of discovery of virus goes to
- Ivanovsky
 - Tatum
 - Beadle
 - Luria
82. Who showed that virus can be crystallized
- Stanley
 - Luria
 - Mayer
 - Beijerinck
83. What is not true about viruses
- viruses are nucleoprotein in nature
 - viruses contain both DNA and RNA
 - viruses contain either DNA or RNA
 - viruses reproduce by using the metabolic machinery of the host cell

84. The protein coat that encloses the viral nucleic acid is called
- a. capsid b. capsule c. plasmid d. plasmalemma
85. What is true about viruses
- a. viruses may have double stranded or single stranded DNA
- b. viruses may have double stranded or single stranded RNA
- c. viruses have a protein coat called capsid
- d. all
86. Which of the following is a rod-like virus
- a. TMV b. adenovirus c. poliovirus d. rhinovirus
87. Which of the following is a polyhedral virus
- a. adenovirus b. poliovirus c. rhinovirus d. all
88. The bacteria was first of all cultured by
- a. Lister b. Louis Pasteur c. Robert Koch d. None of these
89. Bacteria were discovered by
- a. Linnaeus b. Pasteur c. Robert Koch d. Leeuwenhoek
90. The term bacterium was given by
- a. Pasteur b. Lister c. Leeuwenhoek d. Ehrenberg
91. Germ theory of disease was given by
- a. Robert Koch b. Theobald Smith c. Lister d. Ehrenberg
92. Theory of spontaneous generation was disproved by
- a. Robert Koch b. Emile Roux c. Lister d. Louis Pasteur
93. Pasteurization is a technique of
- a. isolation b. sterilization c. fermentation d. preservation
94. Cryptogram is the second part of the name of a
- a. alga b. fungus c. bacterium d. virus
95. The coded information about the virus is contained in
- a. spikogram b. cryptogram c. erythrogram d. virogram
96. Protein subunits making the coat of a virus are called
- a. monomers b. capsomeres c. viroids d. spikes

97. Viruses which attack yeast cells are called
- a. bacteriophage b. actinophage c. cyanophage d. zymophage
98. Viruses which attack blue green algae are called
- a. bacteriophage b. actinophage c. cyanophage d. zymophage
99. T-phages are
- a. plant viruses b. animal viruses c. bacteriophages d. cyanophages
100. T-phages are so called because
- a. they are T-shaped b. they have tail
- c. they are temperate phages d. none
101. Viruses which show lysogenic cycle are called
- a. lytic phages b. temperate phages c. prophages d. late phages
102. Phage DNA integrated with the bacterial chromosome in the lysogenic cycle is called
- a. prephage b. postphage c. prophage d. isophage
103. TMV consist of
- a. protein and dsDNA b. protein and ssDNA
- c. protein and ssRNA d. protein and dsRNA
104. Who made the statement "contagium vivum fluidum"
- a. Pasteur b. Beijerinck c. Ivanosky d. Koch
105. Potato dextrose agar medium (PDA) is used for culture of
- a. fungi b. algae c. bacteria d. virus
106. Culture medium is sterilized by use of
- a. oven b. incubator c. autoclave d. fumigation
107. Toxin produced by dinoflagellates
- a. saxitoxin b. aflatoxin d. ochre toxin d. Fusaric acid
108. Environmental factors responsible for the spoilage of agricultural products:
- a. temperature b. humidity c. nutrient level d. All
109. Mycotoxins are poisonous metabolites produced by
- a. algae b. fungi c. bacteria d. viruses
110. Which *Aspergillus* species is responsible for producing aflatoxin
- a. *Aspergillus flavus* b. *Aspergillus ochraceus*
- c. *Aspergillus niger* c. none

111. Aflatoxin contamination mainly affects
a. liver b. lung c. heart d. kidney
112. Turkey X disease is caused by
a. algal toxin b. aflatoxin c. virus d. bacterium
113. Algal toxin is produced by
a. *Gonyaulax* b. *Gymnodinium* c. *Pyrodinium* d. all
114. Paralytic shellfish poisoning is caused by toxin produced by
a. algae b. fungi c. bacteria d. protozoans
115. Algal toxin produced by dinoflagellates usually affects
a. nerves b. liver c. heart d. kidney
116. Aflatoxin is produced by:
a. *Aspergillus* sp. b. *Fusarium* sp. c. *Pithomyces* sp. d. *Penicillium* sp.
117. Which of the following is not a fungal toxin
a. saxitoxin b. fusaric acid c. wild fire toxin d. lycomarasmin
118. Potato dextrose agar medium is
a. synthetic medium b. semi-synthetic medium
c. natural medium d. none
119. Genetic material of TMV is
a. dsDNA b. ssDNA c. dsRNA d. ssRNA
120. Which of the following is algal toxin
a. brevetoxin b. saxitoxin c. microcystin d. all

GROUP-B (180)

121. Study of causes of plant disease is called
a. epidemiology b. pathogenesis c. etiology d. toxicology
122. The sequence of progress in disease development is known as
a. etiology b. pathogenesis c. epidemiology d. toxixology
123. The study of factors affecting the outbreak of an infectious disease is called
a. etiology b. pathogenesis c. epidemiology d. toxicology
124. Who is known as father of plant pathology in India
a. E.J.Butler b. J.F.Dastur c. K.C.Mehta d. R.S.Singh

137. Death of plant tissue due to infection is called
- a. necrosis b. chlorosis c. hypertrophy d. hyperplasia
138. The swollen tip of the germ tube of a spore is called
- a. appresorium b. haustorium c. sclerotium d. rhizomorph
139. Which of the following chemical weapons is used by pathogens to infect the host
- a. enzymes b. toxins c. growth regulators d. all
140. Which of the following toxins is known as wild fire toxin
- a. tabtoxin b. victorin c. tentoxin d. periconin
141. Tabtoxin is produced by
- a. *Pseudomonas* b. *Xanthomonas* c. *Fusarium* d. *Alternaria*
142. Tentoxin is produced by
- a. *Xanthomonas* b. *Fusarium* c. *Alternaria* d. *Pseudomonas*
143. Victorin is produced by
- a. *Helminthosporium* b. *Xanthomonas* c. *Fusarium* d. *Pseudomonas*
144. A fungicide applied to the infected parts of a diseased plant is called
- a. topical fungicide b. local fungicide c. systemic fungicide d. specific fungicide
145. The fungicide which is evenly distributed within the plant is called
- a. local fungicide b. systemic fungicide c. topical fungicide d. specific fungicide
146. Which of the following is a common fungicide named after a city in France
- a. Bordeaux mixture b. Paris mixture c. Ziram d. Ferbam
147. Which of the following types of members are not found among fungi
- a. autotrophs b. saprophytes c. parasites d. symbionts
148. Which is a common component in lichens and mycorrhiza
- a. alga b. blue green alga c. bacterium d. fungus
149. Conidia are means of ----- reproduction in -----
- a. sexual, bacteria b. asexual, bacteria
- c. sexual, fungi d. asexual, fungi

150. Which of the following group of fungi has aseptate coenocytic mycelia
 a. ascomycotina b. basidiomycotina c. deuteromycotina d. mastigomycotina
151. Which of the following is known as fungi imperfectii
 a. zygomycotina b. ascomycotina c. deuteromycotina d. basidiomycotina
152. Which of the following is odd one
 a. mushroom b. bracket fungi c. puffballs d. morels
153. We can not observe hyphae in
 a. *Albugo* b. *Rhizopus* c. *Puccinia* d. *Saccharomyces*
154. Dikaryophase in some fungi are formed
 a. just after fertilization by division of zygotic nucleus into two diploid nuclei
 b. plasmogamy takes place but karyogamy is delayed
 c. some of the cells get their haploid nuclei divided into two
 d. none
155. Which of the following represents dikaryophase
 a. $n + n$ b. $2n$ c. $2n + 2n$ d. $n + 2n$
156. The mycelium is coenocytic in
 a. phycomycetes b. ascomycetes c. basidiomycetes d. deuteromycetes
157. The mycelium is ----- and ----- in -----
 i. branched, aseptate, phycomycetes
 ii. branched, septate, Ascomycetes
 iii. branched, septate, basidiomycetes
 iv. branched, septate, deuteromycetes
 a. i, ii b. ii, iii, iv c. i, ii, iii d. i, ii, iii, iv
158. Main component of cell wall of fungi is
 a. cellulose b. hemicellulose c. chitin d. pectin
159. In Phycomycetes, the zoospores and aplanospores are produced ----- in -----
 a. exogenously, sporangia b. exogenously, conidia
 c. endogenously, sporangia d. endogenously, conidia
160. Coprophilous fungi grow on
 a. bread b. leather c. wood d. dung

161. Ascomycetes reproduce asexually by ----- which are produced ----- on special mycelial branches called -----
- conidia, endogenously, conidiophores
 - conidia, exogenously, conidiophores
 - zoospores, endogenously, sporangiophores
 - zoospores, exogenously, sporangiophores
162. Which of the following structures does not germinate to form a mycelium
- zoospore
 - aplanospore
 - conidium
 - conidiophore
163. Ascospores are ----- spores produced ----- in structures called -----
- sexual, endogenously, asci
 - asexual, endogenously, asci
 - sexual, exogenously, asci
 - asexual, exogenously, asci
164. Which of the following fungal classes is known as “imperfect fungi”
- phycomycetes
 - ascomycetes
 - basidiomycetes
 - deuteromycetes
165. Which of the following fungal classes is known as “sac fungi”
- phycomycetes
 - ascomycetes
 - basidiomycetes
 - deuteromycetes
166. Zygospore is the product of
- fusion of two gametes
 - fusion of two zoospores
 - fusion of two aplanospores
 - meiosis of zygotic nucleus
167. -----, a member of ----- is extensively used in biochemical and genetic studies
- Neurospora*, phycomycetes
 - Neurospora*, ascomycetes
 - Neurospora*, basidiomycetes
 - Neurospora*, deuteromycetes
168. Fruiting bodies of ascomycetes are called
- ascospores
 - asci
 - ascocarps
 - ascogenous hyphae
169. Which of the following is a sac fungus
- Albugo*
 - Puccinia*
 - Alternaria*
 - Neurospora*
170. Which among the following is a parasite and belongs to basidiomycetes
- Puccinia*
 - Synchytrium*
 - Albugo*
 - Mucor*
171. Sex organs are absent but sexual reproduction takes place by plasmogamy in
- phycomycetes
 - ascomycetes
 - basidiomycetes
 - deuteromycetes

172. In basidiomycetes, karyogamy and meiosis take place in
- a. basidiospore b. basidiocarp c. basidium d. ascus
173. Which among the following is a smut fungus
- a. *Puccinia* b. *Ustilago* c. *Albugo* d. *Mucor*
174. Which among the following is a rust fungus
- a. *Puccinia* b. *Ustilago* c. *Albugo* d. *Agaricus*
175. Basidia in basidiomycetes are formed by
- a. monokaryotic mycelium b. dikaryotic mycelium
- c. haploid mycelium d. diploid mycelium
176. In basidiomycetes, the ----- are product of ----- reproduction and produced ----- on the basidia
- a. basidiospores, asexual, endogenously
- b. basidiospores, asexual, exogenously
- c. conidia, asexual, exogenously
- d. basidiospores, sexual, exogenously
177. Which among the following shows asexual reproduction only
- a. phycmycetes b. ascomycetes c. basidiomycetes d. deuteromycetes
178. Ascocarp with no special opening is called
- a. cleistothecium b. apothecium c. perithecium d. pseudothecium
179. A dolipore septum is characteristic feature of
- a. phycmycetes b. ascomycetes c. basidiomycetes d. deuteromycetes
180. Sac fungi are
- a. ascomycotina b. basidiomycotina c. mastigomycotina d. zygomycotina
181. Fungi lacking cross walls in mycelium belong to
- a. phycmycetes b. ascomycetes c. basidiomycetes d. deuteromycetes
182. Imperfect fungi lack
- a. hyphae b. sexual reproduction c. asexual reproduction d. spores
183. Fungi have all the usual cell organelles except
- a. plastids b. nucleus c. mitochondria d. endoplasmic reticulum

184. Ascospores located in asci are found in
 a. conidiocarp b. sorocarp c. ascocarp d..sporocarp
185. *Puccinia graminis tritici* is
 a. macrocyclic, heteroecious b. microcyclic, autoecious
 c. microcyclic, heteroecious d. macrocyclic, autoecious
186. The term heteroecious means
 a. life cycle on two hosts b. presence of heterothallism
 c. presence of heterokaryons d. exhibition of diplanetism
187. Passing of life cycle only on one host is called
 a. heteroecious b. autoecious c. momoecious d. Homoecious
188. Clamp connections are very common in
 a. mastigomycotina b. Ascomycotina c. basidiomycotina d. deuteromycotina
189. Which is not matched correctly
 a. puff balls – *Lycoperdon* b. bracket fungi – *polyporus*
 c. toad stool – *Amantia* c. smut fungi – *Puccinia*
190. The fertile layer in the ascocarp or basidiocarp is called
 a. trama b. hymenium c. subhymenium d. paremchyma
191. Somatogamy is the
 a. fusion of gametes b. fusion of vegetative cells
 c. contact between two gametengia d. copulation between two gametengia
192. Synchytrium has about
 a. 100 species b. 200 species c. 300 species d. 400 species
193. Species of Synchytrium are
 a. obligate parasites b. facultative parasites
 c. obligate saprophytes d. facultative saprophytes
194. What is true about *Synchytrium*
 a. it is endobiotic b. it is holocarpic c. both d. none

195. Black wart disease of potato is caused by
- a. *Synchytrium fulgens* b. *Synchytrium aureum*
c. *Synchytrium austral* d. *Synchytrium endobioticum*
196. Most common species of *Synchytrium* is
- a. *Synchytrium fulgens* b. *Synchytrium aureum*
c. *Synchytrium austral* d. *Synchytrium endobioticum*
197. Who worked out the life history of *Synchytrium endobioticum*
- a. Kurtis b. Butler c. Smith d. Bessey
198. The body of *Synchytrium* is
- a. unicellular b. septate mycelium c. coenocytic mycelium d. multicellular
199. Protorus stage is seen during asexual reproduction of
- a. *Albugo* b. *Puccinia* c. *Alternaria* d. *Synchytrium*
200. Zoospore of *Synchytrium* is
- a. uniflagellate b. biflagellate c. quadriflagellate d. none
201. In the life cycle of *Synchytrium*, the zoospore after infecting the host develops into
- a. summer spore b. winter spore c. late spore d. early spore
202. In the life cycle of *Synchytrium*, the zygote develops into
- a. summer spore b. winter spore c. late spore d. early spore
203. *Synchytrium* belongs to
- a. mastigomycotina b. ascomycotina c. basidiomycotina d. deuteromycotina
204. *Albugo* belongs to
- a. mastigomycotina b. ascomycotina c. basidiomycotina d. deuteromycotina
205. Species of *Albugo* are
- a. obligate parasites b. facultative parasites
c. obligate saprophytes d. facultative saprophytes
206. *Albugo* causes which of the following disease
- a. red rust b. black rust c. white rust d. white smut

207. White rust of crucifers is caused by
- a. *Albugo candida* b. *Albugo platensis* c. *Albugo bilti* d. *Albugo evolvuli*
208. The mycelium of *Albugo*
- a. branched b. aseptate c. coenocytic d. all
209. Hyphae of *Albugo* in the host is
- a. intercellular without haustoria b. intercellular with haustoria
c. intracellular without haustoria d. intracellular with haustoria
210. Haustoria of *Albugo* is
- a. knob like b. finger like c. branched d. peltate
211. Zoospore of *Albugo* is
- a. kidney shaped b. globose c. pear shaped d. spindle shaped
212. Zoospore of *Albugo* has
- a. two equal flagella b. two unequal flagella
c. one flagellum d. three flagella
213. What is true about the zoospore of *Albugo*
- a. it has two equal flagella, both of tinsel type
b. it has two equal flagella, both of whiplash type
c. it has two unequal flagella, the shorter being tinsel type and the longer whiplash type
d. it has two unequal flagella, the shorter being whiplash type and the longer tinsel type
214. The sporangia in *Albugo* are
- a. produced singly on the tip of normal hyphae
b. produced in chains on the tip of normal hyphae
c. produced singly on the tip of sporangiophores
d. produced in chain on the tip of sporangiophore

215. What is true about *Albugo*
- sexual reproduction is oogamous
 - fertilization tube is formed during fertilization
 - oospore is formed as a result of sexual reproduction
 - all
216. *Puccinia* belongs to
- phycomycetes
 - ascomycetes
 - basidiomycetes
 - deuteromycetes
217. *Puccinia* is commonly known as
- rust
 - smut
 - bunt
 - mildew
218. *Puccinia* belongs to the order
- uredinales
 - ustilaginales
 - eurotiales
 - plectascales
219. Species of *Puccinia* are
- obligate parasites
 - facultative parasites
 - obligate saprophytes
 - facultative saprophytes
220. Number of species included in *Puccinia* are about
- 300
 - 3000
 - 400
 - 4000
221. Which species of *Puccinia* causes black stem rust of wheat
- P. graminis tritici*
 - P. recondita*
 - P. striiformis*
 - P. asparagi*
222. Which species of *Puccinia* causes yellow rust of wheat
- P. graminis tritici*
 - P. recondita*
 - P. striiformis*
 - P. asparagi*
223. Which species of *Puccinia* causes orange or brown rust of wheat
- P. graminis tritici*
 - P. recondita*
 - P. striiformis*
 - P. asparagi*
224. *Puccinia graminis tritici* is
- autoecious
 - heteroecious
 - macrocytic
 - microcytic
- i & iii
 - i & iv
 - ii & iii
 - ii & iv
225. Primary host of *Puccinia graminis tritici* is
- rice
 - maize
 - barberry
 - wheat

226. Secondary host of *Puccinia graminis tritici* is
- a. wheat b. barberry c. grass d. parthenium
227. What is true about *Puccinia graminis tritici*
- i. dikaryotic mycelium is present on wheat
- ii. dikaryotic mycelium is present on barberry
- iii. monokaryotic mycelium is present on barberry
- iv. monokaryotic mycelium is present on wheat
- a. i & iii b. ii & iv c. i & ii d. iii & iv
228. Which of the following stages are present in the life cycle of *Puccinia graminis tritici*
- i. uredineal ii. telial iii. basidial iv. pycnidial v. aecial
- a. i & ii b. i, ii, & iii c. i, ii, iii & iv d. i, ii, iii, iv & v
229. Which of the following stages of *Puccinia graminis tritici* are found on wheat
- i. uredineal ii. telial iii. basidial iv. pycnidial v. aecial
- a. i & ii b. i, ii, & iii c. i, ii, iii & iv d. i, ii, iii, iv & v
230. Which of the following stages of *Puccinia graminis tritici* are found on barberry
- i. uredineal ii. telial iii. basidial iv. pycnidial v. aecial
- a. i & ii b. i, ii, & iii c. i, ii, iii & iv d. iv & v
231. Which of the following stages of *Puccinia graminis tritici* is not found on wheat and barberry
- a. uredineal b. telial c. basidial d. pycnidial
232. Binucleate spores in the life cycle of *Puccinia graminis tritici* are
- a. uredospore, teleutospore, aeciospores
- b. uredospore, basidiospore, pycniospore
- c. uredospore, basidiospore, pycniospore
- d. basidiospore, pycniospore

233. Uninucleate spores in the life cycle of *Puccinia graminis tritici* are
- uredospore, teleutospore, aeciospores
 - uredospore, basidiospore, pycniospore
 - uredospore, basidiospore, pycniospore
 - basidiospore, pycniospore
234. Spores of *Puccinia graminis tritici* that germinate on wheat
- uredospore, aeciospores
 - uredospore, teleutospore
 - uredospore, basidiospore, pycniospore
 - basidiospore, pycniospore
235. Spore of *Puccinia graminis tritici* that germinates on barberry
- pycniospore
 - basidiospore
 - uredospore
 - teleutospore
236. Karyogamy in *Puccinia graminis tritici* takes place in
- teleutospore
 - uredospore
 - aeciospores
 - basidiospore
237. Basidial stage in *Puccinia graminis tritici* develops from
- pycniospore
 - basidiospore
 - uredospore
 - teleutospores
238. In *Puccinia graminis tritici* flexuous hyphae can be observed in
- uredinium
 - telium
 - pycnidium
 - aecium
239. Which spore is used for dikaryotization in *Puccinia graminis tritici*
- basidiospore
 - pycniospore
 - aeciospores
 - uredospore
240. Two-celled spore in *Puccinia graminis tritici* is
- uredospore
 - aeciospores
 - teleutospore
 - basidiospore
241. Correct sequence of stages in the life cycle of *Puccinia graminis tritici* is
- uredineal, telial, basidial, pycnidial, aecial
 - telial, uredineal, basidial, pycnidial, aecial
 - telial, uredineal, basidial, aecial, pycnidial
 - basidial, uredineal, pycnidial, aecial, telial

242. *Neurospora* belongs to the class
- a. phycmycetes b. ascomycetes c. basidiomycetes d. deuteromycetes
243. *Neurospora* is commonly known as
- a. red or pink bread mould b. blue bread mould
c. green mould d. all
244. Which among the following is known as *Drosophila* of the plant kingdom
- a. *Alternaria* b. *Albugo* c. *Fusarium* d. *Neurospora*
245. *Neurospora* is also called
- a. bakery mould b. brewing mould c. summer mould d. winter mould
246. Mycelium of *Neurospora* is
- a. septate having multinucleate cells
b. aseptate and coenocytic
c. septate with uninucleate cells
d. septate, pigmented having multinucleate cells
247. Asexual reproduction in *Neurospora* takes place by
- a. uniflagellate zoospore b. biflagellate zoospore
c. aplanospore d. conidia
248. What is true about *Neurospora*
- a. it produces asexually by conidia
b. it produces two types of conidia
c. the conidia are borne on conidiophores
d. all
249. What is true about *Neurospora*
- a. macroconidia are large and multinucleate
b. microconidia are small and uninucleate
c. both macroconidia and microconidia germinate to form new mycelia
d. all

250. In *Neurospora*
- a. male gametangium is not formed
 - b. male nucleus is provided by the conidia
 - c. female gametangium is the ascogonium
 - d. all
251. The ascocarp of *Neurospora* is
- a. cleistothecium
 - b. apothecium
 - c. perithecium
 - d. stroma
252. *Alternaria* belongs to the class
- a. phycomycetes
 - b. ascomycetes
 - c. basidiomycetes
 - d. deuteromycetes
253. Which of the following diseases is caused by *Alternaria*
- a. late blight of potato
 - b. early blight of potato
 - c. wart of potato
 - d. rust of wheat
254. What is true about *Alternaria*
- a. mycelium is septate and branched
 - b. cells are usually multinucleate
 - c. sexual stage is absent
 - d. all
255. Asexual reproduction in *Alternaria* takes place by
- a. zoospore
 - b. ascospore
 - c. basidiospore
 - d. conidia
256. The conidia of *Alternaria* are
- a. unicellular
 - b. multicellular
 - c. beaked
 - d. b & c
257. Which among the following is a sac fungus
- a. *Neurospora*
 - b. *Alternaria*
 - c. *Puccinia*
 - d. *Albugo*
258. Which among the following is a club fungus
- a. *Neurospora*
 - b. *Alternaria*
 - c. *Puccinia*
 - d. *Albugo*
259. Which among the following belongs to fungi imperfectii
- a. *Neurospora*
 - b. *Alternaria*
 - c. *Puccinia*
 - d. *Albugo*

271. In loose smut of wheat, smut spores are formed in the
- leaves
 - stems
 - roots
 - ovaries
272. Smut spores are also called
- brand spores
 - teliospores
 - both
 - none
273. The main symptom of loose smut of wheat is
- the ears bear loose, black, powdery mass instead of flower
 - the leaves are blighted
 - leaves have chlorotic areas
 - leaves are covered with black powdery mass
274. Smut spores formed in loose smut of wheat are
- unicellular, uninucleate
 - unicellular, binucleate
 - two-celled, each cell uninucleate
 - two-celled, each cell binucleate
275. What is true about loose smut of wheat
- it is a systemic disease
 - basidiospores are not formed
 - cells of the basidium produce infection threads
 - all
276. Loose smut of wheat can be controlled by
- hot water treatment of wheat grains before sowing
 - growing resistant varieties
 - use of systemic fungicides
 - all
277. Red rot of sugarcane is caused by a species of
- Ustilago*
 - Puccinia*
 - Alternaria*
 - Colletotrichum*
278. Causal organism of red rot of sugarcane is
- Ustilago maydis*
 - Alternaria tenuis*
 - Colletotrichum falcatum*
 - Colletotrichum capsici*

279. Causal organism of red rot of sugarcane belongs to the class
- a. phycmycetes
 - b. ascomycetes
 - c. basidiomycetes
 - d. deuteromycetes
280. What is true about red rot of sugarcane
- a. earliest symptoms are the yellowing and drooping of the upper leaves
 - b. at advanced stage of disease blood red lesions develop on the mid ribs of leaves
 - c. the lesions become covered with powdery masses
 - d. all
281. What is true about *Colletotrichum falcatum*
- a. mycelium is both intercellular and intracellular
 - b. the conidiophores are unseptate
 - c. the conidiophores are grouped to form acervulus
 - d. all
282. Conidia of *Colletotrichum falcatum* is
- a. unicellular
 - b. sickle-shaped
 - c. hyaline
 - d. all
283. Red rot of sugarcane can be controlled by
- a. collecting and burning of sugarcane trash in the field
 - b. use of healthy seeds and crop rotation
 - c. growing resistant varieties
 - d. all
284. Blast of rice is caused by a species of
- a. *Ustilago*
 - b. *Puccinia*
 - c. *Pyricularia*
 - d. *Colletotrichum*
285. Causal organism of blast of rice is
- a. *Ustilago maydis*
 - b. *Alternaria tenuis*
 - c. *Pyricularia angulata*
 - d. *Pyricularia oryzae*
286. Causal organism of blast of rice belongs to the class
- a. phycmycetes
 - b. ascomycetes
 - c. basidiomycetes
 - d. deuteromycetes

287. Mycelium of *Pyricularia oryzae* is
- a. intercellular
 - b. septate
 - c. multinucleate
 - d. all
288. In blast of rice
- a. the disease produces characteristic leaf spot symptoms in the form of lesions
 - b. conidiophores emerge through stomata bearing the conidia which are usually pyriform and 2-septate
 - c. several toxins including piricularin and pyriculol are formed
 - d. all
289. Blast of rice can be controlled by
- a. use of resistant varieties
 - b. spray of copper fungicides
 - c. use of antibiotics
 - d. all
290. Rust of linseed is caused by a species of
- a. *Puccinia*
 - b. *Albugo*
 - c. *Pythium*
 - d. *Melampsora*
291. Causal organism of rust of linseed is
- a. *Ustilago maydis*
 - b. *Alternaria tenuis*
 - c. *Colletotrichum falcatum*
 - d. *Melampsora lini*
292. *Melampsora lini* is
- a. autoecious & microcyclic
 - b. autoecious & macrocyclic
 - c. heteroecious & microcyclic
 - d. heteroecious & macrocyclic
293. Rust of linseed can be controlled by
- a. use of resistant varieties
 - b. spray of fungicides
 - c. field sanitation
 - d. all

