

SECTION B

1. Both fungi and plants.....
 - a. Evolved from the chytrids
 - ☒ b. Have cell walls
 - c. Have chloroplasts
 - d. Synthesize cellulose
2. The following may be edible **except**.....
 - ☒ a. Bracket Fungi
 - b. Morels
 - c. Mushrooms
 - d. Truffles
3. Which of the following drugs obtained from fungi is used for lowering blood cholesterol levels?
 - ☒ a. Cephalosporin
 - b. Cyclosporine
 - c. Fumigallin
 - d. Statins
4. All of the following are uses of fungi **except**:
 - ☒ a. Filtration of alcoholic beverages and juices
 - b. Production of certain cheeses
 - c. Production of antibiotics
 - d. Production of bread.
5. Crustose lichens:
 - ☒ a. Are flat and grow tightly against their substrate
 - b. Grow erect and have many branches
 - c. Have leaf-like lobes and are not tightly pressed to their substrate
 - d. Project above the substrate and are highly branched
6. The main method of asexual reproduction of yeast is by:
 - ☒ a. Budding
 - b. Conjugation
 - c. Fission
 - d. Fragmentation
7. Dimorphism may be found in the following **except**.....
 - ☒ a. Ascomycetes
 - b. Basidiomycetes
 - c. Deuteromycetes
 - d. Zygomycetes
8. Most fungi reproduce sexually and asexually by means of:
 - a. Buds
 - b. Conidia
 - c. Chlamydospores

d. Spores

9. This group of fungi forms the basis of the brewery and baking industries. They are.....
- Ascocarpic ascomycetes.....
 - Boteles
 - Non-ascocarpic ascomycetes
 - Plectomycetidae
10. Which of the following is responsible for the famous Irish Farming?
- Phytophthora palmivora*
 - Phytophthora infestans*
 - Plasmopara viticola*
 - Ceratosystis ulmi*
11. The most effective way of combating *Phytophthora* in the soil is.....
- Addition of lime to the soil
 - Spraying with fungicide
 - Sanitation sweeps
 - Use of soil antagonistic fungi
12. Which of the statements is **invalid**?
- Most hyphae of the Basidiomycetes in nature are dikaryotic
 - Conidia are mostly multinucleate
 - Zygomycetes form a characteristic resting structure called zygospore
 - Asexual reproduction in the Zygomycetes is by means of conidia
13. Which of the following statements is **false**?
- The vegetative phase of most fungi is composed of hypha like in most slime mould
 - The plasmodium of the slime is multinucleate and lacks a cell wall
 - Fungi reproduce mainly by means of spore
 - Oospore is a thick-wall spore that develops from an oosphere through either fertilization or parthenogenesis.
14. The **odd** among the following factors that affect mycotoxin production is
- Moisture
 - Redox potential
 - Substrate
 - Temperature
15. Which of the statements is **invalid**?
- Mantles are associated with ectomycorrhizal fungi ✓
 - Ectomycorrhizal fungi are generally the lower fungi ✓
 - Mycorrhizal fungi improves salt uptake by the plant ✓
 - Lichens do not have efficient excretory system ✓
16. Select the **odd** among the following as regards fungal nutrition
- Vitamin A
 - Vitamin D
 - Vitamin E
 - Vitamin H

- ☒ c. *Cystogenes*
d. *Euellomyces*

13. The black pod fungus attacks all part of the plant **except**
a. Flower
☒ b. Leaves
c. Root
d. Stem bark
14. The black pod fungus belongs to the family.....
a. Mucoraceae
b. Peronosporaceae — downy mildew
c. Phytophthoraceae
☒ d. Pythiaceae
15. Pick the **odd** among the following orders
☒ a. Chytridiomycetes
b. Leptomitales
c. Peronosporales — oomycetes
d. Saprolegniales
16. Which of the following is **not** a characteristic feature of the order *Blastocladales*?
☒ a. A double unit membrane bounded nuclear cap present in the cytoplasm
b. Production of thick walled resistant sporangia
c. A double unit membrane bounded nuclear cap present in the planogametes
d. Zoospores have a complex structure known as side body
17. Ectomycorrhizal fungi generally belong to.....
a. Ascomycetes
☒ b. Basidiomycetes
c. Deuteromycetes
d. Zygomycetes
18. Which of the following statements about four-celled spore is **true**?
☒ a. Each cell is capable of germinating
b. Median cells do not germinate
c. Only one cell is capable of growing
d. Only the apical cell is capable of germinating
19. The Archimycetes.....
☒ a. are chytrids that lack cell wall
b. are chytrids that lack mycelium
c. have cell wall made of cellulose
d. have cell wall made of glucans
20. Which of the following statements about the Mastigomycota is **not true**?
a. Asexual reproduction is typically by zoospores
b. Nutrition is typically absorptive
☒ c. Soma is typically unicellular but there are filamentous forms

- d. Taxonomy is principally based on flagellation
- e. There are only two subdivisions

21. Spores produced by budding are often called.....

- a. Arthrospores
- ☒ b. Blastospores
- c. Mitospores
- d. Soredia

22. Body ringworm is caused by?

- ☒ a. An Ascomycete
- b. A Basidiomycete
- c. A Mastigomycota
- d. A Zygomycete

23. Which among the following mycotoxins is a Neurotoxin?

- ☒ a. Aflatoxin — hepatotoxic
- b. Citrinin — nephrotoxic
- c. Ochratoxin — hepatotoxic
- d. Patulin — dermatotoxic

Mycotoxins are low-molecular weight natural products produced as secondary metabolites by filamentous fungi. These metabolites constitute a frequently and chemically heterogeneous assemblage but are grouped together only because the members can cause disease and death in human beings and other vertebrates.

24. Which among the following mycotoxins affect the kidney?

- a. Aflatoxin
- b. Citreoviridin
- ☒ c. Ochratoxin — nephrotoxic
- d. Rubratoxin

Penicillium produces penitrem which is a neurotoxin.

25. Which of the following statements is false?

- a. There are more species of white rot fungi than there are species of brown rot fungi
- b. The chytridiales are flagellated
- ☒ c. bacteria are more efficient in degrading plant material than fungi
- d. There are more filamentous fungi than there are unicellular ones

26. Which is **not** a necessary requirement for a fungus to cause rot in wood?

- a. Adequate moisture
- b. Micro flora population
- c. Optimum temperature
- ☒ d. Oxygen concentration

Patulin is a metabolite that was first isolated as a substance with antimicrobial properties from the fungus Penicillium patulum, later called Penicillium urticaceum and currently known as Penicillium griseofulvum.

27. Taxonomy of Mucorales is generally based on.....

- ☒ a. Asexual reproductive structures
- b. Nature of the sporangiophore
- c. Sexual reproductive structures
- d. Spore dispersal mechanism

28. Dimorphism refers to;

- a. Alternation of generation
- b. The presence of both haploid and diploid thalli under different environmental conditions

* aflatoxin — potent hepatotoxins, immunosuppressant, mutagens and carcinogens

- ☒ c. When the soma can be filamentous or yeast-like depending on the environmental conditions
- d. When the life cycle is diplobiontic

29. Select the **odd** among the following in terms of complexity:

- a. Ascomycota
- b. Basidiomycota
- c. Deuteromycota
- ☒ d. Zygomycota

30. Centrioles are present in these fungi

- a. Ascomycota
- b. Basidiomycota
- ☒ c. Mastigomycota
- d. Zygomycota

31. Which of the following stages in the Zygomycetes is diploid?

- a. Asexual spores
- b. Hypha
- c. Zygosporangium
- ☒ d. Zygote

32. The **correct** statement among the following is.....

- a. Besides chytrids some other higher fungi are flagellated
- ☒ b. dikaryon contain nuclei that are genetically identical *but different in sex*
- c. there are less coenocytic fungi than there are septate fungi in the fungal world.
- d. the largest group of fungi are the Basidiomycetes

33. In today's fungal classification which among the following plays the most important role in determining the relationship between fungi?

- a. Asexual spores and fruiting bodies
- b. DNA sequence
- ☒ c. Molecular data
- d. RNA sequence
- e. Sexual spores and fruiting bodies

34. Spore arrangement on specialized aerial hyphae or in fruiting bodies facilitates

- ☒ a. Dispersal
- b. Dikaryotization
- c. Fruiting
- d. Somatogamy

35. Choose the **correct** statement:

- a. Fungi are autotrophic.
- b. Most fungi are aquatic.
- ☒ c. Most fungi are decomposers.
- d. The optimum pH for most species is about 3.5.

36. Gilled mushroom typically available in supermarkets produced spores located in or onand belong to the division.....
- a. asci-basidiomycota
 - b. hyphae-phycomycota
 - ☒ c. basidia-basidiomycota
 - d. asci-ascomycota
 - e. hyphae-ascomycota

For questions 37 and 38 refer to the following information.

A biologist is trying to classify a new fungal organism on the basis of the following characteristics: **Mouldlike** in appearance, **Reproduces asexually** by conidia and **Parasitizes** woody plants

37. If asked for advice, to which group would you assign the new species?

- ☒ a. Ascomycota
- b. Basidiomycota
- c. Chytridiomycota
- d. Deuteromycota
- e. Oomycota

38. Knowledge of which additional characteristic would enable you to refine or confirm your identification?

- a. presence of soredia
- ☒ b. form of sexual reproduction
- c. chemical composition of cell walls
- d. presence of flagellated cells
- e. detection of algal cells imbedded in mycelium

39. Which aspects of mitotic division are unique to fungi?

- a. cytokinesis involves the formation of a cell plate after the nuclei have split
- b. chromosomes are few in number and the nuclides are small.
- c. the nuclear membrane remains intact around an internal spindle.
- ☒ d. an internal spindle does not form
- e. spores are always produced by mitotic division

40. What do fungi and arthropods have in common?

- a. both groups are commonly coenocytic
- b. the haploid state is dominant in both groups
- c. both groups are predominantly saprophytic in nutrition
- ☒ d. both groups use chitin for the construction of protective coat.
- e. both groups have cell walls

41. If there were no mycorrhizae, which of the following would be **true**?

- a. there will be fewer infectious diseases
- b. we wouldn't have antibiotics like penicillin
- c. there would be no mushrooms for pizza
- ☒ d. a lot of trees would not grow well
- e. cheeses like blue cheese or Roquefort could not exist

42. Coenocytic structure implies being
- a. multicellular
 - ☒ b. multinucleate
 - c. commensalistic
 - d. saprobic
 - e. heterotrophic

Use the following options A-D to answer questions 43-45.

- A. Apothecium
- ☒ B. Cleistothecium
- C. Hysterothecium
- D. Perithecium

Cleistothecium

fruiting bodies of Ascomycota

43. Which of the fruiting bodies in A to D is cap shaped? ☒ A
44. Which one of them has asci entirely surrounded by a wall of mycelium? ☒ B
45. Which one of them has the shape of a small bottle from the neck of which an ascus discharges at a time? ☒ D
46. Mycostasis refers to:
- a. Mycotoxicoses by the ascomycetes
 - b. Growth suppression imposed on rhizosphere fungi by the phylloplane flora
 - c. the dormancy imposed on fungal spores by soil and sometimes leaf surface microflora
 - ☒ d. Inhibition of growth by phytoalexins
- Having an inhibiting action on the growth of fungi*
47. Which of the divisions below contains the Downy mildew?
- a. Ascomycota
 - b. Deuteromycota
 - ☒ c. Mastigomycota
 - d. Zygomycota
48. A characteristic of fungal secondary metabolite is that:
- a. they are produced by potentially growing cells
 - ☒ b. most are produced as families of related molecules
 - c. each is produced by just one specific strain of fungus
 - d. they play essential roles in spore formation
- Small molecule organic compounds found restricted to a particular fungus*
49. Most wine is made commercially with:
- a. a culture of *Saccharomyces cerevisiae* ✓
 - b. the natural fungal flora on the grape
 - c. in inoculums from the previous fermentation ✓
 - d. A and B
 - ☒ e. A, B, C

50. The most important fungi for commercial enzyme production are species of:
a. *Agaricus*
b. *Aspergillus* *Aspergillus and Penicillium*
c. *Neurospora*
d. *Saccharomyces*
51. The chitin in the fungal cell wall is:
a. a protein
b. a glycoprotein
c. a polysaccharide
d. a lipopolysaccharide
52. Carbon compounds are transferred mainly from fungi to plants in which of these types of mycorrhizal symbiosis?
a. orchid mycorrhiza *Carbon from fungal to plant (young trees)*
b. *Ectomycorrhiza*
c. ericaceous mycorrhiza
d. VAM (AMF)
53. A plant parasite which infests its host by means of rhizomorph is:
a. *Magnaporthe grisea*
b. *Erysiphe graminis*
c. *Armillaria mellea*
d. *Phytophthora infestans*
54. The order Saccharomycetales is an assemblage of fungi characteristic of:
a. the herbivore gut *Ascomycete yeasts*
b. the sea
c. leaf surface
d. the soil
55. The identity of fungal hyphae can be established in the absence of any fruiting structures, using:
a. a specifically raised monoclonal antibody
b. absorption spectroscopy
c. scanning electron microscopy
d. culture on a group of test media
56. It is essential to include in a growth medium for any fungus:
a. an organic nitrogen source
b. an organic sulphur source
c. an organic phosphorus source
d. an organic carbon source
57. In the parasexual cycle, the following process occurs:
a. recombination without meiosis
b. meiosis without recombination
c. dikaryotization
d. nuclear migration

58. Under which of the following conditions/ treatment will ascospores of *Neurospora* not germinate:
- In water after heat treatment
 - In nutrient medium after heat treatment
 - In nutrient medium with added vitamins
 - In water after treatment with organic solvents.
59. Fungi which form extensive mycelial systems that consist typically of hyphae with two different nuclear genotypes are found in the:
- Ascomycetes
 - Basidiomycetes
 - Mastigomycetes
 - Oomycetes
60. Which of the statements below is **false**?
- The most common habitat of the yeast is the surface of plants
 - Some yeast produce ascospores, some basidiospores and some are anamorphic lacking a sexual phase
 - The ascosporeogenous yeast do not form ascocarps
 - The strains of *Saccharomyces cerevisiae* employed in baking and brewing are commonly haploid
61. Which of the following statements is **not true**?
- All yeast reproduce by budding
 - Some yeast reproduce by fission
 - Fission is the main method of Asexual Reproduction in the Schizosaccharomycetales
 - yeast occur predominantly in the unicellular state
62. Fungal spores generally contain
- Diploid nuclei
 - Haploid nuclei
 - Haploid 2n stage
 - Synkaryotic state
63. Which of the following statement is **not true**?
- Lichens exist farther north than any plant of the arctic region
 - The dominant lichen mycobiont is basidiomycetes
 - Most of the phototrophic organisms found in lichens also occur as free living species in nature
 - In the homoiomerous lichen, the algae are more or less evenly distributed throughout the thallus
64. Which of the following statement about lichens is **false**?
- Sexual reproductive structures of the lichens are always that of the fungal component
 - Any one species of the lichen have same algal and fungal component
 - The fungus appears to parasitize the algal cells but also lives

Mucorales are identified on the basis of the nature of their asexual reproductive structures

65. Which is **not** a feature of the Blastocladiaceae?
- a. Gametangial contact is the main method for plasmogamy
 - b. Life cycle is diplobiotic
 - c. Sexual reproduction takes place by planogametic copulation
 - d. Two types of thalli are produced
66. At least.....% of world cocoa is destroyed by black pod
- a. 10
 - b. 15
 - c. 20
 - d. 25
67. The most specialized group of the Oomycetes is.....
- a. Blastocladales
 - b. Leptothiales
 - c. Peronosporales
 - d. Saprolegniales
68. Which of the following statement about oomycetes is **false**?
- a. Cell wall consist mainly of cellulose
 - b. Majority are eucarpic
 - c. Sexual reproduction is almost always by gametangial copulation
 - d. They produce biflagellate zoospores
69. The methods of plasmogamy in which the species produce morphologically differentiated uninucleate or multinucleate gametangia is referred to as
- a. Gametangial copulation
 - b. Gametangial contact
 - c. Planogametic copulation
 - d. Spermatization
70. Which of the following statement about Mycorrhiza is **false**?
- a. Increases the solubility of minerals
 - b. Improve the uptake of nutrients (NKP)
 - c. Protects the host roots against pathogens
 - d. Move carbohydrates from one plant to the other and produce plant hormones
 - e. An infected root tip is covered by a mantle in the endomycorrhiza
71. Which of the following statement about Chytridiales is **false**?
- a. Soma is generally filamentous
 - b. Soma is generally unicellular
 - c. True mycelium is lacking
 - d. They are water or soil inhabiting species

72. Which of the following statements about Haplomastigomycotina is **false**?
- There are more terrestrial species than aquatic species
 - There are biflagellate as well as uniflagellate
 - Life cycle is either haplobiontic haploid, or diplobiontic
 - Life cycle does not show a clear alternation of generation
73. Which of the following species of *Phytophthora* is the most virulent on unwounded, detached pods?
- P. citrophthora*
 - P. capsici*
 - P. megakarya*
 - P. palmivora*
74. Which of the following statements about Lomasomes is **correct**?
- A membranous layer on the cell wall
 - A membranous structure beneath the plasma membrane
 - It is involved in the cell wall formation
 - Present only in plants and fungi
75. Which of the following statements about Lobomycosis is **not** correct?
- Is a disease caused by *Lacazia loboi*
 - The causative agent has never been cultured
 - The fungus is an Ascomycete
 - Exhibits alternation of generation
76. Which among the following mycotoxin does not affect the liver?
- Aflatoxin
 - Cyclochlorotine
 - Penitrem
 - Sterigmatocystin
77. The **odd** among the following factors that influence mycotoxin production is...
- humidity
 - pH
 - redox potential
 - water activity
78. This species of *Phytophthora* is confined to West African Countries. This species is.....
- P. citrophthora*
 - P. capsici*
 - P. megakarya*
 - P. palmivora*
79. Which of the following is **not** a feature of the Endogonales?
- Contains only one family
 - Sexual reproduction is common in most genera
 - Sporocarps are hypogeous
 - Spores are born singly in soil

80. Which of the following *Phytophthora* species has a worldwide distribution on cocoa?
- a. *P. citrophthora*
 - b. *P. capsici*
 - c. *P. Megakarya*
 - d. *P. palmivora*
81. Which is **not true** about the soma of the Zygomycetes?
- a. Centrioles are present
 - b. Plasmodesmata is in the gametangial septum
 - c. Septum separates the vegetative from the reproductive part
 - d. The hypha is coenocytic
 - e. Well developed mycelium
82. Which is the **odd** among the following?
- a. Ascospores
 - b. Basidiospores
 - c. Sporangiospores
 - d. Zygosporangia
83. Which is **not** a member of Amastigomycota?
- a. Ascomycetes
 - b. Basidiomycetes
 - c. Deuteromycetes
 - d. Oomycetes
 - e. Zygomycetes
84. The *Allomyces* has an unusual life cycle compared to most fungi; this is because
- a. Their fruiting bodies are monocentric
 - b. They are eucarpic
 - c. They are polycentric
 - d. Their life cycle shows an alternation of generation
85. The most striking feature that separates the chytrids from other groups of fungi is.....
- a. Diversity of their habitat
 - b. Conversion of the zygote into a resting spore
 - c. Production of motile cell
 - d. Their mode of nutrition
86. Classification of fungi traditionally was based on;
- a. asexual spores and fruiting bodies
 - b. molecular data
 - c. sexual spores and fruiting bodies
 - d. wholly spores
87. Fungal spores are more commonly.....
- a. Monokaryotic
 - b. Motile

- c. Non-motile
- d. Unicellular

88. In fungi, when karyogamy does not immediately follow plasmogamy,....
- a. sexual reproduction can occur in specialized structure
 - b. results in more genetic variation during sexual reproduction
 - c. allows fungi to reproduce asexually most of the time
 - d. creates dikaryotic cells
89. Why do biologists who study lichens sometimes refer to the symbiotic relationship between fungus and algae as "controlled parasitism"?
- a. together the fungi and alga may parasitize and kill other living organisms, such as plants
 - b. each contributes to the maintenance of the other
 - c. Fungal haustoria may kill algal cells, but at a pace slow enough not to destroy all the algae present.
 - d. Algal cells die at a faster rate than fungal cells
 - e. Fungal cells reproduce slower than algae, thus becoming enclosed and unable to grow.
90. The primary role of mushroom subterranean mycelium is
- a. absorbing nutrients
 - b. anchoring
 - c. sexual reproduction
 - d. asexual reproduction
 - e. protection
91. The sac fungi got their name from which aspect of their life cycle?
- a. vegetative growth form
 - b. asexual spore production
 - c. sexual structures
 - d. shape of the spore
 - e. type of vegetative mycelium
92. You are given an organism to identify. It has a fruiting body that contains eight haploid spores lined in a row. What kind of fungus is it most likely to be?
- a. Zygomycota
 - b. Ascomycota
 - c. Deuteromycota
 - d. Lichen
 - e. Basidiomycota
93. Which of the following statements below is true?
- a. The Taphrinales are the coral fungi
 - b. Plasmogamy in the Deuteromycota is by somatogamy and gametangial contact
 - c. Fruticose thallus is an erect or pendent, usually many branched.
 - d. Lichens have an elaborate excretory system.

94. Fungi have an advantage over other microbes in recycling organic matter. This is because..... Select the most appropriate among the following.
- a. They are capable of indefinite growth
 - ☒ b. They have the ability to withstand extremely low temperatures and there are few thermophilic ones as well
 - c. They break down organic compounds including cellulose, gums and waxes other microbes avoid
 - d. They prefer and survive better in acidic media than other microorganisms.
95. The order below associated with the powdery mildew is....
- a. Endomycetales
 - ☒ b. Erysiphales
 - c. Eurotiales
 - d. Taphrinales
96. Which of the families is associated with Downy mildew?
- a. Blastocladiaceae
 - b. Pythiaceae
 - ☒ c. Peronosporaceae
 - d. Saprolegniaceae
97. Which of the following is **not true** about cyclosporine?
- a. it is a cyclic peptide ✓
 - ☒ b. it is produced by strains of several fungal species.
 - c. it has antifungal as well as immunosuppressive activity. ✓
 - d. its amino acid sequence is encoded by a specific messenger RNA
98. Mycoprotein for human consumption is grown in:
- a. a solid state fermentation
 - b. a chemostat
 - ☒ c. an airlift fermenter
 - d. a stirred tank fermenter
99. Zoospores of *Phytophthora* have:
- a. One posterior flagellum
 - b. Two identical flagella
 - ☒ c. Two dissimilar flagella
 - d. Two laterally located flagella
100. Fungal viruses are transmitted by:
- a. release from infected cells by autolysis
 - b. insect vectors
 - c. hyphal anastomosis
 - ☒ d. all of the above
101. Structures formed by symbiotic fungi inside plant cells are:
- a. Appressoria
 - b. Haustoria

- c. Hartig net
d. Rhizomorph
102. Which of the following is not a ring worm fungus?
 a. *Epidermophyton*
 b. *Malassezia*
 c. *Microsporum*
 d. *Trichophyton*
103. Initial attack on the lignin molecule by white rot fungi involves the production of:
 a. oxidizing free radicals
 b. cellulobiohydrolase
 c. endoglucanase
 d. siderophores
104. The most important role of fungi in the global carbon cycle is:
 a. weathering of limestone rock
 b. carbon dioxide fixation
 c. degrading wood and other plant remains to carbon dioxide
 d. immobilization of carbon compounds in mycelium.
105. A plant cultivar showing genetically determined vertical resistance to a fungal pathogen always has the following features.
 a. resist all strains of the pathogen
 b. produces specific antifungal toxins
 c. resist only strains of the fungus that carry a particular avirulence gene
 d. belongs to a monocotyledonous crop species
106. The role of this spore is predominantly that of dispersal. This spore is....
 a. Ascospore
 b. Chlamydospore
 c. Conidia
 d. Zygosporangium
107. Many plants have mutualistic symbiosis with fungi in the genus:
 a. *Erysiphe*
 b. *Glomus*
 c. *Mucor*
 d. *Phytophthora*
108. The false statement among the following statements is.....
 a) Grouping of ascomycete yeasts into genera is based on ascus and ascospore morphology.
 b) Nutritional and biochemical tests are important in delimiting species of ascomycetes
 c) Foliose are lichen species which are leaf-like
 d) Fungal viruses are transmitted when release from infected cells by autolysis
 e)

109. Which of the statements below is **invalid**?
- a. Mycelial forms ensures success in many environments than the yeast forms
 - ☒ b. Yeast forms have an advantage over mycelial form in terms of success in diverse environments
 - c. The desired product of fermentation in baking is not the alcoholic product
 - d. There are other yeast other than the ascomycetous yeast
110. Fungi are believed to have evolved from;
- a. Bacteria
 - ☒ b. Flagellated protist
 - c. Protists
 - d. Slime moulds
111. The fungal group with the highest membership is:
- ☒ a. Ascomycetes
 - b. Phycomycetes
 - c. Deuteromycetes
 - d. Zygomycetes
112. Mycoprotein has the following attributes **except**:
- ☒ a. Contains no cholesterol
 - b. Food obtained from fungi
 - c. Has a high fibre content
 - d. Protein obtained from fungi
113. The Deuteromycetes:
- a. Are all parasitic
 - b. Are never components of lichens?
 - c. Have distinctive sexual stages
 - ☒ d. Include some commercially important species
114. Reproductive structures consisting of photosynthetic cell surrounded by fungal hyphae are called:
- a. Ascospores
 - b. Basidiospores
 - c. Conidiospores
 - ☒ d. Soredia
115. Which statement is **not true** of the fungal nutrition?
- a. Some are active predators
 - b. Some fungi form mutualistic association with other organisms
 - c. All fungi require mineral nutrition
 - ☒ d. Ca is essential in the nutrition of all fungi
116. Which of the following statements **is not true** of the fungi?
- a. A multicellular fungus has a body called mycelia
 - ☒ b. Hyphae are composed of individual mycelium
 - c. Many fungi tolerate highly hypertonic environments
 - d. They are anchored to their substratum by rhizoids

117. Which of the following **lack** any natural opening?
- Apothecium
 - Cleistothecium
 - Hysterothecium
 - Perithecium
118. Which of the statements below is **not true** about the Basidiomycetes?
- Their sexual spores are uninucleate
 - They produce a secondary mycelium with $n + n$ hyphae
 - Karyogamy and meiosis occur in the basidiocarp
 - Bracket fungi, puffballs and the Teliomycetes are members.
119. Which of the statements is **not true** of the Chytrids?
- They are simple fungi
 - They produce motile spore with single posterior flagellum ✓
 - They reproduce by both asexual and sexual means
 - The black bread mould is a representative ✗
120. The condition described as $n + n$ is said to be:
- Diplobiontic
 - Dikaryotic
 - Haplobiontic
 - Monokaryotic
121. Which of the following statements is **not true**?
- Conidium is sexual spore ✗
 - Conidium is enclosed
 - Majority of deuteromycetes are either saprophytic or weak parasite
 - Zygosporangium is an asexual spore ✗
122. The initial source of the psychedelic drug lysergic acid diethylamide was:
- Ascomycetes
 - Basidiomycetes
 - Deuteromycetes
 - Zygomycetes
123. The symptoms of ergotized rye which lead to the epidermis of St Anthony's fire **does not** include:
- Convulsion ✓
 - Diarrhoea
 - Gangrene ✓
 - Hallucination
124. The hormone associated with reproduction in the *Allomyces* is.....
- Acrasin
 - Carotenin
 - Cortisone
 - Sirenin

125. The fungus that almost collapse the French wine industry is
a. *Phytophthora citricola*
b. *Plasmopara viticola*
c. *Sclerotium rolfsii*
d. *Phytophthora infestans*
126. The most distinguishing feature of the order Blastocladales is the presence of.....
a. A posteriorly located whiplash flagellum
b. A posteriorly located tinsel flagellum
c. Anteriorly located nuclear cap
d. Laterally located nuclear cap
127. Adhesive columnar branches which are an example of nematophagous fungal trap **may not** be found in:
a. *Arthrobotrys*
b. *Dactylioidia*
c. *Dactylaria*
d. *Monacrosporium*
128. Rhizoids may be connected by:
a. Hyphal strand
b. Mycelial strands
c. Stolon
d. Stroma
129. Which is **not true** about adventitious septum?
a. Associated with cell division
b. Changes in protoplasm concentration ✓
c. Not perforated
d. Typically common with the lower fungi ✓
130. Which of the following statements is **incorrect**?
a. *Candida albicans* is yeast that causes candidiasis or thrush in humans
b. Candidiasis typically infects the mouth or vagina
c. *C. albicans* is part of the normal flora of the vagina and gastrointestinal tract. ✓
d. Predisposition factors to candidiasis include obesity, alcoholism and the use of broad spectrum antibiotics and steroids ✓
131. The spore bearing structure in the Basidiomycetes typically contains..... spores
a. 8
b. 4
c. 2
d. 9
132. The spore whose ornamentation entails a network of raised ridges which are normally represented by lines in a plane figure is called:
a. alveolate

- b. reticulate
 - c. spiny
 - d. verrucose
133. The most predominant asexual spores formed by fungi are:
- a. Chlamydospores
 - b. Conidia
 - c. Sporangiospores
 - d. Zoospores
134. The initial structure that comes out from a germinating spore is called:
- a. Germ tube
 - b. Hyphae
 - c. Infection peg
 - d. Mycelium
135. Woronin bodies are associated with the septum in:
- a. Ascomycetes and Deuteromycetes
 - b. Ascomycetes and Basidiomycetes
 - c. Basidiomycetes and Deuteromycetes
 - d. Zygomycetes and Deuteromycetes
136. The most conspicuous group of fungi is the.....
- a. Ascomycetes
 - b. Basidiomycetes
 - c. Deuteromycetes
 - d. Zygomycetes
137. Which of the statements describes the Ascomycete?
- a. Most are unicellular
 - b. Meiosis produces gametes
 - c. The sexual spores are contained in a sac
 - d. The asexual spores are contained in a sac
138. Which are the imperfect fungi?
- a. Ascomycetes
 - b. Basidiomycetes
 - c. Deuteromycetes
 - d. Zygomycetes
139. In what way are the Zygomycetes and Ascomycetes similar?
- a. Both produce a sac which contains asexual spores
 - b. Both produce fruiting bodies
 - c. Both produce a sac which houses spores
 - d. Have regularly septated hyphae
140. In what way are fungi and protozoans similar?
- a. Both have cell walls
 - b. Both are filamentous
 - c. Both can be pathogenic

d. Both are septated

141. In what way do mushrooms and moulds differ?

- ☒ a. In the size of their structures
- b. Moulds are filamentous fungi, mushrooms are not
- c. Mushrooms have hyphae, moulds do not
- d. Mushrooms are filamentous fungi, moulds are not

142. The Irish potato blight is caused by a/an

- a. Ascomycetes
- b. Basidiomycetes
- c. Deuteromycetes
- ☒ d. Oomycete
- e. Zygomycetes

143. Which has been called the microbiological fruitfly by geneticists?

- ☒ a. *Neurospora*
- b. *Penicillium*
- c. *Rhizopus*
- d. Yeast

144. The most sexually active class of fungi are the

- a. Ascomycetes
- ☒ b. Basidiomycetes
- c. Deuteromycetes
- d. Zygomycetes

145. The smuts and rusts that often infect food crops are

- a. Ascomycetes
- ☒ b. Basidiomycetes
- c. Deuteromycetes
- d. Zygomycetes

146. Which of the following is **not** a Basidiomycete?

- a. A bracket fungus
- b. A coral fungi
- c. A puffball
- ☒ d. A truffle

147. Ascospores:

- a. Are formed at the ends of conidiophores
- b. Are the meiospores of an Ascomycete
- c. Germinate to produce diploid mycelia
- d. All of the above

148. Basidiospores are generally.....

- a. binucleate
- b. hyaline
- c. multinucleate

- ☒ d. uninucleate
149. Fungal spores:
- a. May be dispersed by air current
 - b. Can be sexual or asexual
 - c. Can give rise to mycelium upon germination
 - ☒ d. All of the above
150. Fungi are the only organisms with a..... stage in the life cycles.
- ☒ a. Dikaryotic
 - b. Diploid
 - c. Haploid
 - d. Polyploidy
151. The slime mould and water mould are strictly:
- a. Ascomycetes
 - b. Basidiomycetes
 - ☒ c. Not fungi
 - d. Zygomycetes
152. Histoplasmosis
- a. Is a fungal infection of mucous membranes of the mouth, throat or vagina.
 - ☒ b. Is a serious lung infection caused by inhalation of the fungal spores?
 - c. Is caused by poisonous compounds called mycotoxins
 - d. Is an infection of the skin, hair and nails?
153. Hyphal branches of parasitic fungi that penetrate host cells and obtain nourishment are called:
- a. Apresorium
 - ☒ b. Haustoria
 - c. Hyphopodium
 - d. Rhizoids
154. The principal fungi species grown extensively for food is:
- ☒ a. *Agarics brunnescens*
 - b. *Agaricus campestris*
 - c. *Volvariella volvacea*
 - d. *Strongilomyces floccopus*
155. Most fungi are:
- a. Autotrophs
 - ☒ b. Decomposers
 - c. Parasites
 - d. Symbiotic

156. Basidiomycetes:
- a. Are sometimes called the sac fungi
 - b. Do not reproduce sexually
 - ☒ c. Include the mushrooms, bracket fungi and puffballs
 - d. Produce their sexual spores in sac-like sporangium
157. The sexual spores produced by black bread mould, *Rhizopus stolonifer*, are called.....
- a. ascospores
 - b. basidiospores
 - c. oospores
 - ☒ d. zygospore
158. Chytridiomycetes are thought to be the earliest fungal group to evolve from the common ancestor of fungi because
- a. Centrioles are absent
 - ☒ b. They produce flagellate cells at some stage in their life history
 - c. They are decomposers
 - d. Some members are amphibious
159. The long branched threadlike filaments that make up the vegetative body plan of moulds are called:
- ☒ a. Hyphae
 - b. Mycelia
 - c. Rhizoids
 - d. Septa
160. Lignin decomposing fungi are predominantly.....
- ☒ a. Ascomycetes
 - b. Basidiomycetes
 - c. Deuteromycetes
 - d. Zygomycetes
161. Clamp connection is associated with which group of fungi?
- a. Ascomycetes
 - ☒ b. Basidiomycetes
 - c. Deuteromycetes
 - d. Zygomycetes
162. Which statement is **not true** of the lichen?
- a. They can reproduce by fragmentation of their vegetative body
 - b. They are often the first colonists in a new area ✓
 - ☒ c. They render their environment more basic (alkaline)
 - d. They may contain less than 10 per cent water by weight
163. The Basidiomycetes:
- a. Have hyphae without cross walls
 - b. Have no sexual stage
 - c. Clamp connections are absent
 - ☒ d. Often produce fleshy fruiting bodies

164. Which statement is **not true** of heterokaryosis?
- a. The cytoplasm of two cells fuses before their nuclei fuse
 - b. The two haploid are generally different
 - c. Two nuclei are of the same mating type
 - d. The heterokaryotic stage end when the two nuclei fuse
165. The absorptive nutrition of fungi is aided by:
- a. Heterokaryon formation
 - b. Their large volume - to - surface ratio
 - c. The fact that they all parasites
 - d. Their large surface - to - volume ratio
166. *Agaricus brunnescens*:
- a. Is the meadow mushroom commonly cultivated for food
 - b. Is the yeast that is used for fermenting wine and bear
 - c. Is a highly toxic mushroom
 - d. Produces the unique flavour of many cheeses
167. Which of the following statements about the Deuteromycetes below is **false**?
- a. Many are ascomycetes that have lost the ability to produce ascospores
 - b. Some are important plant pathogens
 - c. They have both sexual and asexual reproduction mechanisms
 - d. They are known as imperfect fungi
168. Which of the following statements is **not true** of the Ascomycetes?
- a. The sexual spores are produced in asci
 - b. Not all Ascomycetes possess mycelium
 - c. Some are marine dwellers
 - d. The conidial stages of all Ascomycetes are known
169. With the **exception** of the Chytrids, fungi are generally disseminated by
- a. Air borne spores
 - b. Fragmented hyphae
 - c. Soredia
 - d. Water current
170. Which of the following fungi **does not** have mycelium?
- a. Black bread mould
 - b. Cap fungus
 - c. Mushroom
 - d. *Saccharomyces*
171. The most predominant mycobiont in the lichen is the
- a. Ascomycetes
 - b. Basidiomycetes
 - c. Phycomycetes
 - d. Zygomycetes

172. In the controlled dosage ergot is used to control the following **except**:
- a. Diarrhoea
 - ☒ b. Ease migraine headaches
 - c. Induce labour
 - d. Lower blood pressure
173. The ergot fungi belong to the:
- a. Ascomycetes
 - b. Basidiomycetes
 - c. Deuteromycetes
 - d. Zygomycetes
174. The first fungicide ever produced is.....
- a. Boudeaux mixture
 - b. Copper nardox
 - c. Fumigallin
 - ☒ d. Kocide 101
175. Fermentation of corn dough is brought about by:
- a. Keeping the dough for three or more days
 - ☒ b. The action of the microbes on the dough
 - c. The presence of water in the dough
 - d. The starch in the dough
176. Plasmogamy in the Mastigomycota is **not** accomplished by:
- a. Gametangial contact
 - b. Gametangial copulation
 - c. Plasmogametic copulation
 - ☒ d. Somatogamy
177. Appresorium is a structure for
- a. Absorption
 - ☒ b. Attachment
 - c. Germ tube support
 - d. Secreting proteolytic enzymes
178. The features of primary septa include the following **except** that.....
- a. It is associated with cell division ✓
 - b. It appears regularly along hyphae ✓
 - c. It is laid down between daughter cell ✓
 - d. It maybe perforated
 - ☒ e. It is formed by changes in concentration of the protoplasm
179. Acute and chronic ergotism is characterized by the following **except**.....
- a. convulsions ✓
 - ☒ b. diarrhoea
 - c. dry gangrene ✓
 - d. Mental disorientation ✓
 - e. Muscular cramp ✓

180. Coccidioidomycosis is caused by

- a. *Aspergillus*
- b. *Fusarium*
- c. *Penicillium*
- d. Yeast

181. Fungi are becoming an increasingly important tool in clearing the environment (bioremediation). Which of the following fungi is least used in this process:

- a. *Aspergillus*
- b. *Fusarium*
- c. *Rhizopus*
- d. *Penicillium*
- e. *Cercospora*

182. Conidia may generally be formed in the following **except**:

- a. Ascomycetes
- b. Basidiomycetes
- c. Deuteromycetes
- d. Mastigomycetes

183. The Chytrids produce zoospores which are:

- a. Anteriorly biflagellate
- b. Biflagellate and whiplash
- c. Uniflagellate and tinsel
- d. Uniflagellate and whiplash

184. The Ascomycetes, Basidiomycetes and the lower fungi are separated by the manner in which they form:

- a. Asexual spore
- b. Pletenchyma
- c. Prosenchyma
- d. Sexual spore

185. The following are all plants diseases caused by Ascomycetes **except**.....

- a. Apple scab ✓
- b. Chestnut blight ✓
- c. Peach leaf curl ✓
- d. Tomato blight

186. The largest group of fungi are the:

- a. Ascomycetes
- b. Basidiomycetes
- c. Deuteromycetes
- d. Phycomycetes

187. In what way are *Candida* and *Aspergillus* similar?
- a. Both are present at an altitude of 100miles
 - b. Both compound the misery of hay fever sufferers
 - c. Both can produce fatal infection in person with compromised immune system
 - d. Neither is present at an altitude of 100miles
188. In the mushrooms, puffballs the term basidiocarp refers to.....
- a. Fruiting body
 - b. The nonseptate hyphae
 - c. The part of the soma above the soil
 - d. The septate hyphae
189. Which is a member of the Zygomycetes?
- a. Athlete's foot rot fungus
 - b. Brewer's yeast
 - c. Bread mould
 - d. Green mould
190. Which is a unicellular fungus?
- a. Chytrids
 - b. Lichen
 - c. Mould
 - d. *Penicillium*
191. What does the slime mould and fungi have in common?
- a. Both exist as diploid organisms
 - b. Both are filamentous
 - c. Both are prokaryotic
 - d. Both produce spores
192. The *Penicillium chrysogenum* is currently placed in the class
- a. Ascomycetes
 - b. Basidiomycetes
 - c. Deuteromycetes
 - d. Zygomycetes
193. Which class of fungi is responsible for Dutch elm disease?
- a. Ascomycetes
 - b. Basidiomycetes
 - c. Deuteromycetes
 - d. Zygomycetes
194. Most of theevolved from members of the.....that lost the ability to reproduce sexually.
- a. Basidiomycetes, ascomycetes
 - b. Deuteromycetes, zygomycetes
 - c. Deuteromycetes, ascomycetes
 - d. Zygomycetes, basidiomycetes

195. Eating rye bread tainted by the fungus, *Claviceps purpurea*, causes

- a. Athlete's foot
- b. Ergotism
- c. Histoplasmosis
- d. Vaginitis

196. The sexual spores of the fungus that causes Dutch Elm disease are borne in flask-like structures called:

- a. Apothecium
- b. Cleistothecium
- c. Perithecia
- d. Hysterothecium

197. In most Ascomycetes, asexual spores are produced at the ends of specialized hyphae called:

- a. Antheridia
- b. Ascocarps
- c. Ascogonia
- d. Conidiophores

198. The organisms commonly called yeast are actually

- a. Ascomycetes
- b. Basidiomycetes
- c. Deuteromycetes
- d. Zygomycetes.

199. Coenocytic fungi produce

- a. Ascospores
- b. Basidiospores
- c. Flagellum
- d. Septa regularly

200. Saprophytic fungi in nature compete with

- a. Bacteria
- b. Bryophytes
- c. Dinoflagellates
- d. Slime moulds