

- c. One of the most common methods of controlling the disease is by bio-control
 d. Only few cacao varieties have complete immunity against the pod disease.
5. Which of the following is not caused by a fungus?
 a. Cigar-end rot of banana
 b. Damping off — caused by *Fusarium* and *Phytophthora*
 c. Mealy pod of cacao
 d. Swollen shoot of cacao *Virus*
6. Select the **odd** one in terms of causative agent.
 a. Downy mildew
 b. Mozaic — *Virus*
 c. Rust — *Basidiospores*
 d. Scab — *Asci*
7. Which of the following is **not** a branching pattern of hyphae?
 a. Dichotomous
 b. Lateral
 c. Subapical
 d. Whorl — lateral protrusion
8. The subclass that contain the yeast and their like is ...
 a. Hemiascomycetidae
 b. Hymenosascomyitidae
 c. Plectomycetidae
 d. Pyronomycetidae
9. The greatest lost of cacao due to *Phytophthora* comes from...
 a. *P. capsici*
 b. *P. citrophthora*
 c. *P. megakarya*
 d. *P. palmivora*
10. Which of the following statement is **true**?
 a. The majority of lichens are homoiomerous
 b. Lichens are able to tolerate extremes of temperature and moisture
 c. The lichen partnership is one of a controlled parasitism of the phototroph by the fungus.
 d. Lichens typically possess four different growth forms
11. Which of the following statement is **not true**?
 a. There are more lichenized ascomycetes than there are non lichenized ascomycetes
 b. The gametothalli in the Allomyces are diploid
 c. The sexual hormone in the myxomycota is called acrasin
 d. The sexual hormone in the Mucorales is species specific
12. Which is the **odd** among the following in terms of categorization?
 a. Allomyces
 b. Brachyallomyces

17. Select the **odd** among the following as regards fungal nutrition
- a) Carbon
 - b) Nitrogen
 - c) Magnesium
 - d) Phosphorus
18. The following are all mycorrhizal fungi; select the **odd** among them
- a) *Amanita*
 - b) *Suillus*
 - c) *Cortinarius*
 - d) *Rhizoctonia*
19. Which of the following statements is **valid**?
- a) Nutrition in fungus is mainly by ingestion
 - b) The various enzymes needed by fungi to break down a substrate are present at all the time
 - c) Agar is a mucilage and it is unsaturated fatty acid
 - d) Colony refers to many hyphae growing out of a single point and forming a round or globous thallus
20. Which of the following is **invalid**?
- a) Conidium like sporangium is a structure that contains spores in fungi
 - b) Saxicolous lichens are those that grow on rocks
 - c) There are no lichenised Phycomycetes
 - d) There are more lichenised Ascomycetes than the non-lichenised Ascomycetes
21. Which of the following statements is **not true**?
- a) Most endomycorrhizae are members of the order Agaricales
 - b) The endomycorrhiza are associated with the arbuscles and the vesicles
 - c) There are more lower fungi that are endomycorrhizal fungi than there are higher fungi
 - d) Damping off disease is a seedling disease causing them to rot at the soil level
22. Which is the major priority in the pod rot control in West Africa?
- a) Use of biocontrols
 - b) Use of chemicals
 - c) Use of plant extracts
 - d) Resistance breeding for the disease
23. Cultural technique that is least effective in black pod control is
- a) Shade reduction
 - b) Use of antagonistic organisms
 - c) Frequent weed control
 - d) Liming the soil
24. Which among the following is least in distribution?
- a) Hyphal-to-hypha fusion
 - b) Hypha-to-peg fusion
 - c) Hypha-to-sides fusion
 - d) Peg-to-peg fusion

Which of the following statements is **false**?

- a) Growth of the hypha is restricted to the apical region
- b) Branching of the hypha is more often sub-apical
- c) Hyphal branching is dichotomous only in the Zygomycetes
- d) Atmospheric CO₂ will be affected if there were no fungal life

26. Select the **odd** among the following

- a) Epidemic
- b) Epiphytotic
- c) Epixylous
- d) Epizootic

27. Which of the following methods of plasmogamy refers to the fusion of naked gametes, one or both of which are motile

- a) Planogametic copulation
- b) Spermatization
- c) Gametangial copulation
- d) Somatogamy

28. Which among the following is **true**?

- a) Hartig nets are present in the endomycorrhiza
- b) Synekaryotic refers to a cell containing a single nucleus with a haploid number of chromosomes
- c) Fungal colonies are generally circular in outline on a solid surface
- d) Epibiotic organisms have reproductive organs that are locked up within the substratum

29. Which of the statements is **invalid**?

- a) Hopogean refers to fungi that grow below the substratum or the ground
- b) The characteristic feature that most distinguishes the fungi from other organisms is the mode of reproduction
- c) The characteristic feature that most distinguishes the fungi from other organisms is the mode of nutrition
- d) Conidia, sporangia and gametangia are all reproductive structures in fungi

30. External factors that may influence the composition of fungal cell wall include the following except.....

- a) pH
- b) light
- c) Composition of the media
- d) Temperature

31. Flakes of a fruiting body under a microscope indicates the presence of a layer in which the component hypha lie parallel to one another; this may be

- a) Mycelium
- b) Prosenchyma
- c) Pseudoparenchyma
- d) Stroma

d) Potassium

40. Which of the following is **invalid**?

- a) Majority of the lichenised ascomycetes are hemiascomycetidae
- b) The non-metallic macro elements serve as structural elements and for cell wall synthesis
- c) All the elements partake in the metabolic defense of life processes
- d) Water is the major source of Hydrogen ion for most fungi

41. Which of the following is not a major contaminant of laboratories?

- a) *Neurospora*
- b) *Rhizopus*
- c) *Penicillium*
- d) Yeast

42. Which of the following is **valid**?

- a) The squamulose lichens are erect or pendent, usually many branch lichen thallus
- b) Majority of the ascomycetous lichens are discomycetes
- c) The fruticose thallus is a crust-like thallus
- d) The crustose is scale-like lichen thallus or a foliose thallus with scales

43. Which of the statements is **false**?

- a) Basidiospores are borne inside a basidium following karyogamy and meiosis.
- b) In gametangial copulation the protoplast fuses to give rise to a zygote
- c) The foliose thallus is a leaf-like lichen thallus
- d) Plasmodiocarp is a fruiting body in some of the slime moulds.

44. Ideally, fungal colonies are always spherical but this is rare due to external factors such as the following **except**.....

- a) Light
- b) Substrate type
- c) Chemicals
- d) Temperature

45. The most virulent *Phytophthora* species in West Africa is.....

- a) *P. palmivora*
- b) *P. megakarya*
- c) *P. capsici*
- d) *P. citrophthora*

46. The following are fungal diseases that affect cocoa **except**.....

- a) Witches broom fungus
- b) Monelia pod rots
- c) Vascular Streak Die back
- d) Cocoa swollen shoot disease

47. Which of the following statements is **false**?

- a) Hyphal fusion is an integral part of sexual process in fungi
- b) Vegetative hyphal fusion is unlimited in its distribution among fungi
- c) Hyphal fusion occurs in a few Oomycetes
- d) Hyphal fusion is more rampant in the higher fungi

48. Which of the following statements is **false**?
- a) The nucleus of a fungus contains one nucleolus that contains RNA
 - b) The presence of lomasomes in fungi is more pronounced than in other organisms
 - c) Dictyosomes or Golgi bodies are not always present in fungi
 - d) Holocarpic refers to an organism which have portions of its thallus performing somatic functions and others performing reproductive functions
49. Which of the following statements is **true**?
- a) The nuclear envelope in fungi breaks down during mitosis
 - b) Fungi are more sensitive to high osmotic pressures than bacteria
 - c) Centrioles are not present in all fungi
 - d) Epixylous refers to the widespread occurrence of disease in planted forest (woodland)
50. Which among the following is **false**?
- a) Septa with pores are more predominant than those without
 - b) Adventitious septa are more common in the lower fungi
 - c) Mycorrhizal fungi improve the solubility of minerals
 - d) Mycoparasite is a fungal parasite that parasitizes all other organisms including fungi
51. Which of the statements is **false**?
- a) Fruit bodies are generally long-lived (perennial)
 - b) Fungi prefer acidic medium for their growth
 - c) Oogonium is a female gametangium containing one or more eggs
 - d) Light is essential for sporulation in many fungi
52. Which of the following statements is **false**?
- a) The filaments that make up the thallus of fungi may elongate by apical growth
 - b) Variation in the somatic structure of the fungi forms the basis of their classification
 - c) Coprophilous refers to fungi that grow in the soil
 - d) Saxicolous fungi refer to that which grows on tree surfaces
53. Petri dish is standard equipment for the growth of microorganisms in pure culture. The name Petri is in honour of a/an
- a) English Scientist
 - b) French Scientist
 - c) German Scientist
 - d) Swedish Scientist
54. The recommended fungicide for the control of black pod disease in Ghana are:
- a. Zinc board
 - b. Bondenx based
 - c. Metal axyl
 - d. Ethane based

For questions 55 – 60, select the odd among the options

55. in terms of source organism
- a) Ampicillin
 - b) Amoxacillin

- c) Meticillin
- d) Penicillin

56. in terms mode of formation

- a) Fungal traps
- b) Haustorium
- c) Hyphopodium
- d) Stroma

57. in terms of stages involved in sexual reproduction

- a) Karyogamy
- b) Meiosis
- c) Plasmogamy
- d) Somatogamy

58. in terms of source organism

- a) Penicillin
- b) Meticillin
- c) Griseofulvin
- d) Cephalosporin

59. In terms of sexuality

- a) Ascomycota
- b) Basidiomycota
- c) Deuteromycota
- d) Zygomycota

60. In terms of visibility

- a) Ascomycota
- b) Basidiomycota
- c) Deuteromycota
- d) Zygomycota

61. The most virulent species of phytophthora on the cocoa pod is.....

- a. *P. megakarya*
- b. *P. infestans*
- c. *P. palmivora*
- d. *P. citrophthora*

62. The species that causes the greatest lost in West Africa.....

- a. *P. megakarya*
- b. *P. infestans*
- c. *P. palmivora*
- d. *P. citrophthora*

63. In Cameroun, the major source of infestations of the black pod disease is.....

- a. soil inoculums
- b. stem canker
- c. tree to tree
- d. heaps of husks on the ground.

64. The other fungicides that are used in the control of black pod aside the copper-based fungicides
- a. Bordeaux mixture
 - b. Kaptan
 - c. Kocide 2000
 - d. Metalaxyl
65. Which of the following are the most promising in the bio-control of the species that cause black pod disease?
- a. *Pseudomonas*
 - b. *Fusarium*
 - c. *Trichoderma*
 - d. A and C
66. The greatest economic loss of black pod disease results from attack from which part of the plant? a. stem bark b. pod c. leaves d. root
67. The leading producer of premium cocoa is.....
- a. Brazil
 - b. Ghana
 - c. Indonesia
 - d. Ivory Coast
68. Which of the following is the chief cause of mouldiness in seeds and grains?
- a. *Aspergillus*
 - b. *Fusarium*
 - c. *Penicillium*
 - d. A and C
69. Most sexual spores in fungi are for dormant survival but this one maybe different
- a. ascospore
 - b. basidiospore
 - c. zygospore
 - d. blastospores
70. Which of the following group does not form lichen?
- a. Ascomycetes
 - b. Basidiomycetes
 - c. Deuteromycetes
 - d. zygomycetes

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

74. 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

75. 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

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

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

77. Coenocytic fungi produce

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

78. Saprophytic fungi in nature compete with

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

79. Both fungi and plants,.....

- a. Evolved from the chytrids
- ☒ b. Have cell walls
- c. Have chloroplasts
- d. Synthesize cellulose

80. Which of the following drugs obtained from fungi is used for lowering blood cholesterol levels?

94. External factors that may influence the composition of fungal cell wall include the following except.....

- a) Ph
- b) light
- c) Composition of the media
- d) Temperature

95. Flakes of a fruiting body under a microscope indicates the presence of a layer in which the component hyphae lie parallel to one another; this may be

- a) Mycelium
- b) Prosenchyma
- c) Pseudoparenchyma
- d) Stroma

96. Which of the following statements is true?

- a) Hyperplasia refers to excessive cell enlargement
- b) Hypertrophy refers to excessive cell division
- c) Lomasome is an example of woronin body
- d) Homothallic refers to fungi in which sexual reproduction takes place in a single thallus.

97. Select the odd among the following as regards fungal nutrition

- a) Iron
- b) Copper
- c) Zinc
- d) Potassium

For questions 98 – 100, select the ODD one among the options

98. In terms of source organism

- a) Ampicillin
- b) Amoxacillin
- c) Meticillin
- d) Penicillin

99. In terms mode of formation

- a) Fungal traps
- b) Haustorium
- c) Hyphopodium
- d) Stroma