



Combined Class Test (CCT) - 04

OCTOBER 11, 2017

Test Code : 04

Time allowed : 45 minutes.

Maximum marks : 180.

Instructions

- There will be negative marking.
- For each correct answer 4 marks will be given.
- For each wrong answer 1 mark shall be deducted.
- Name, Batch and NTB I.D. must be written in the answer sheet.



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- Lichens is usually cited as an example of symbiosis where an algal and a fungal species live together for their mutual benefit. Which of the following will happen if algal and fungal partners are separated from each other
 - Both will die
 - Both will survive and grow normally and independent from each other
 - Fungal component will survive while the algal partner will die
 - Algal component will survive while the fungal component will die.
- Pick out the statement that does not apply to pteridophytes
 - Includes the ferns and horse-tails
 - Water is required for fertilisation
 - Main plant body is a gametophyte
 - They are used for medicinal purposes and soil binders.
- As we go from kingdom to species in a taxonomic hierarchy, the number of common characteristics
 - Will increase
 - Will decrease
 - May increase or decrease
 - Remain same.
- Ancestors of seed plant possess
 - Vascular bundles
 - Seed habit
 - Heterospory
 - Heterotrichous habit.
- Suppose you accidentally find an old preserved permanent slide without a label. In your effort to identify it, you place the slide under microscope and observe the following features :
 - Unicellular
 - Well-defined nucleus
 - Biflagellate

This organism may be

- Diatom
 - Gonyaulax*
 - Euglena*
 - Either B or C.
- Which is true about numerical taxonomy
 - Equal importance given to each character
 - Based on few observable characters
 - Easily carried out using computers
 - At the same time hundreds of characters can be considered
 - a, b, d
 - b, c, d
 - a, c, d
 - a, b, c.
 - A taxonomical aid in which the collected plants are preserved as dry specimen, according to a universally accepted system of classification is called
 - Botanical garden
 - Museum
 - Flora
 - Herbarium.
 - Recognise the figure and find out the correct matching

 - Albugo*, *Aspergillus* respectively
 - Mucor*, *Agaricus* respectively
 - Aspergillus*, *Mucor* respectively
 - Mucor*, *Aspergillus* respectively.
 - Which of the following 'suffixes' used for units of classification in plants indicates a taxonomic category of 'order'
 - Aceae
 - Ae
 - Ales
 - Onae.
 - Which of the following organisms are also called 'pearls of ocean'
 - Diatoms
 - Dinoflagellates

(C) Desmids (D) *Pinctada*.

11. Read the following statement and find out the incorrect statement.

- (A) Our understanding of the plant kingdom has changed over time. Fungi, and members of the Monera and Protista having cell walls have now been excluded from Plantae
- (B) Cyanobacteria that are also referred to as blue green algae are not 'algae' any more
- (C) Numerical taxonomy is based on chromosome number, structure and behaviour
- (D) Chemotaxonomy that uses the chemical constituents of the plant to resolve confusions, are also used by taxonomists these days.

12. Select the wrong statement

- (A) *Chlamydomonas* shows isogamy while *Volvox* shows anisogamy
- (B) Algae reproduce by vegetative asexual and sexual methods
- (C) Fungi reproduce by vegetative, asexual and sexual methods
- (D) Liverworts reproduce by asexual and sexual methods.

13. Peat is an important source of domestic fuel in several countries. Peat is formed in nature by

- (A) A member of kingdom Monera
- (B) A member of kingdom Protista
- (C) A member of kingdom Fungi
- (D) A member of kingdom Plantae.

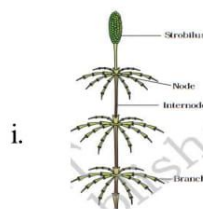
14. Red rot disease of sugar cane is produced by which of the following

- (A) *Helminthosporium oryzae*
- (B) *Colletotrichum falcatum*
- (C) *Alternaria solani*
- (D) *Polyporus sulphureus*.

15. Match the columns I and II, and choose the correct combination from the options given

Column I

Column II



i.

a. Fern



ii.

b. *Equisetum*



iii.

c. *Selaginella*



iv.

d. *Salvinia*

Find the correct match

- (A) a-ii, b-iv, c-iii, d-i (B) a-iii, b-iv, c-ii, d-i
- (C) a-iii, b-i, c-iv, d-ii (D) a-iii, b-i, c-ii, d-iv.

16. Which of the following taxonomical aid has collection exotic and endemic living plant species

- (A) Botanical garden
- (B) Zoological park
- (C) Herbarium
- (D) Both A and B.

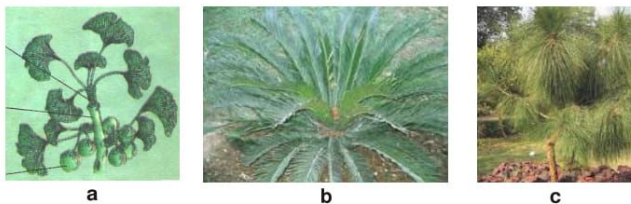
17. Plant body in *Funaria* or Bryophyte is

- (A) Predominantly gametophyte with sporophyte
- (B) Predominantly sporophyte with gametophyte
- (C) Completely gametophyte
- (D) Completely sporophyte.

18. A ball of snow when rolled over snow increases in mass volume and size. This process is

- (A) Considered as reproduction
(B) Comparable to growth as seen in living organisms
(C) Considered as growth
(D) Both B and C.

19. Recognise the figure and find out the correct matching



- (A) *Cycas*-a, *Pinus*-b, *Ginkgo*-c
(B) *Cycas*-c, *Pinus*-a, *Ginkgo*-b
(C) *Cycas*-b, *Pinus*-c, *Ginkgo*-a
(D) *Cycas*-c, *Pinus*-b, *Ginkgo*-a.

20. Which of the following groups are included in embryophyta

- (A) Bryophyta and Pteridophyta
(B) Pteridophyta and Gymnosperm
(C) Gymnosperm and Angiosperm
(D) Bryophyta, Pteridophyta, Gymnosperm and Angiosperms.

21. Ephedrine is obtained from *Ephedra* by

- (A) Root (B) Stem
(C) Leaves (D) Both A and B.

22. Read the following statements (i-v) and find how many of them are correct

- In bryophytes, pteridophytes and gymnosperms, gametophytes are free-living
- Gymnosperms and some ferns are homosporous
- Sexual reproduction in phycomycetes is isogamous, anisogamous and oogamous
- The sporophyte in mosses is more elaborate than that in liverworts
- Both *Cycas* and *Funaria* are dioecious

- (A) Four (B) One
(C) Two (D) Three.

23. *Amoeba* multiplies by mitotic cell division. This phenomenon is considered as

- (A) Growth
(B) Reproduction
(C) Consciousness
(D) Both growth and reproduction.

24. If the diploid number of a gymnosperm is 36, then the number of chromosome in its endosperm

- (A) 54 (B) 36
(C) 18 (D) 72.

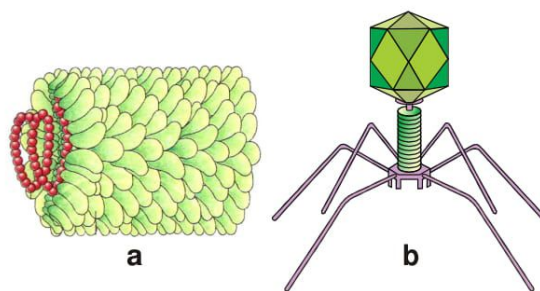
25. *Selaginella* which is a living member of lycopodiales fall short of seed habit due to

- (A) Presence of heterospory
(B) Presence of heterophylly
(C) Lack of integument around the megasporangium
(D) Both A and B.

26. Father of Indian bryology

- (A) S.R. Kashyap (B) Barun
(C) Iyenger (D) P. Maheshwari.

27. Recognise the figure and find suitable matching



- 'a' attacks on a prokaryotic organism while 'b' attacks on a eukaryotic organism
- 'a' has ssRNA as genetic material while 'b' has dsDNA as genetic material
- 'a' belongs to protista and 'b' belongs to monera

4. Both 'a' and 'b' are acellular organisms
Among these correct statements are
(A) 1 and 2 (B) 2 and 4
(C) 1, 3 and 4 (D) 1, 2 and 4.
28. Botanical name of 'Sanjeevani Booti' is
(A) *Selaginella rupestris*
(B) *Selaginella braunii*
(C) *Selaginella bryopteris*
(D) Both A and C.
29. The heterosporous pteridophyte belonging to the class pteropsida
(A) *Selaginella* (B) *Salvinia*
(C) *Dryopteris* (D) *Lycopodium*.
30. A plant species shows several morphological variations in response to altitudinal gradient when grown under similar condition of growth, morphological variations disappear and all the variants have common morphology. These variants are called
(A) Siblings (B) Ecads
(C) Allelomorphs (D) Edge species.
31. Heterospory, i.e. formation of two types of spores - microspores and megaspores is found in
(A) Few members of bryophytes and all members of vascular plants
(B) All members of bryophytes and few members of vascular plants
(C) Few members of pteridophytes and all members of spermatophytes
(D) All members of land plants.
32. Match the column and find the correct option
- | Column I | Column II |
|--------------------|-----------------------|
| a. Sac fungi | 1. <i>Trichoderma</i> |
| b. Algal fungi | 2. <i>Neurospora</i> |
| c. Imperfect fungi | 3. <i>Agaricus</i> |
| d. Bracket fungi | 4. <i>Mucor</i> |

- (A) a-2, b-3, c-4, d-1
(B) a-1, b-2, c-3, d-4
(C) a-2, b-4, c-1, d-3
(D) a-2, b-4, c-3, d-1.

33. The gametophytic phase is dominant, photosynthetic, independent and sexually reproducing in
(A) *Sphagnum* (B) *Adiantum*
(C) *Ginkgo* (D) *Wolfia*.
34. Organisms that have naked cytoplasm, multinucleated and are saprophytic in nature belongs to the Kingdom
(A) Protista (B) Monera
(C) Fungi (D) Animalia.
35. This plant belong to which kingdom



- (A) Angiospermae (B) Monocotyledonae
(C) Dicotyledonae (D) Plantae.
36. *Cycas* is also called as 'relic of past' because it shows many characteristic similar to vascular cryptogams. Identify the correct one
(A) Flagellated antherozoids
(B) Circinate ptyxis
(C) Presence of archegonia
(D) All of the above.
37. Which of the following organism causes Tikka disease of groundnut
(A) *Fusarium oxysporum*
(B) *Albugo candida*

- (C) *Colletotrichum falcatum*
(D) *Cercospora personata*.
38. *Funaria* is attached to substratum with the help of
- (A) Unicellular, branched rhizoids
(B) Unicellular, unbranched rhizoids
(C) Multicellular, branched and oblique septate rhizoids
(D) Multicellular, unbranched and oblique septa rhizoids.
39. Which of the following member of class sphenopsida bears strobili or cones
- (A) *Selaginella* (B) *Equisetum*
(C) Both A and B (D) None of the above.
40. What is the correct sequence of events with respect to fungal sexual cycle
- (A) Fusion of protoplasm, fusion of nucleus and reduction division
(B) Fusion of nucleus, fusion of protoplasm and meiosis
(C) Karyogamy, plasmogamy and meiosis
(D) Karyogamy, meiosis and plasmogamy.

Instructions for Question no. 41-45

Read the assertion and reason carefully to mark the correct option in question.

- (A) If both assertion and reason are true and the reason is the correct explanation of the assertion
(B) If both assertion and reason are true but reason is not the correct explanation of the assertion
(C) If assertion is true but reason is false.
(D) If both assertion and reason are false.
41. Assertion : The spread of living pteridophytes is limited and restricted to narrow geographical regions.
- Reason : Prothallus require cool, damp and shady places to grow, and need of water for fertilisation

42. Assertion : Bryophytes in general are of great economic importance.
- Reason : They decompose rocks making the substrate suitable for growth of lower plants.
43. Assertion : Fragmentation is found in green algae, brown algae, red algae, liverworts and mosses.
- Reason : Algae are chlorophyll bearing, simple, thalloid, autotrophic and largely aquatic organisms.
44. Assertion : *Nitrosomonas*, *Nitrococcus*, *Leptothrix* and *Thiobacillus* are chemoautotrophic bacteria.
- Reason : They oxidise various organic substances such as nitrates, nitrites and ammonia and use the released energy for their ATP production
45. Assertion : Fungi are saprophytic in their mode of nutrition
- Reason : Fungi absorb soluble organic matter from dead substrates.

Your Next CCT Test

On October 26, 2017