



Combined Class Test (CCT) - 03

September 20, 2017

Test Code : 03

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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- Which of the four names is correctly written as per rules of binomial nomenclature
(A) *Solanum Nigrum*
(B) *canis familiaris*
(C) *Felis domestica*
(D) *homo Sapiens*.

- Study the four statements (a-d) given below and select the two correct ones out of them

- Definition of biological species was given by Ernst Mayr
- Photoperiod affect reproduction in plants
- Binomial nomenclature system was given by R. H. Whittaker
- In multicellular organisms, reproduction is synonymous with growth

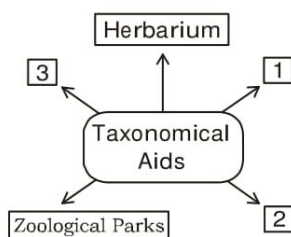
The two correct statements are

- a and d
- a and b
- b and c
- c and d.

- Select the incorrect statement about living processes

- All living phenomena is due to underlying interaction
- Properties of tissues are not present in the constituent cells
- Properties of cellular organelles are not present in the molecular constituents of the organelles
- The interactions result in emergent properties at a lower level of organisation.

- Fill in the blanks according to taxonomical aids



- 1- Flora, 2- Kingdom, 3- Botanical gardens

- 1- Catalogues, 2- Keys, 3- Monographs

- 1- Botanical garden, 2- Museum, 3- Keys

- Both B and C.

- Which are likely to be present in deep sea water

- Methanogens
- Thermoacidophiles
- Halophiles
- Blue-green algae.

- Which bacteria oxidise various inorganic substances such as nitrates, nitrites and ammonia and use the released energy for their ATP production

- Archaeobacteria
- Chemosynthetic autotrophs
- Photosynthetic autotrophs
- Heterotroph.

- Nitrogen fixing cyanobacteria have nitrogenase enzyme in their cells called

- Hormocysts
- Heterocysts
- Retort Cells
- Elementary body.

- Which of the following is the prime source of taxonomic studies

- Field study
- Laboratory study
- The collection of actual specimens of plant and animal species
- Identification of organisms.

- The bacteria forming blooms in polluted water bodies are nutritionally

- Heterotrophus
- Chemosynthetic autotrophs
- Photosynthetic autotrophs
- Saprophytic.

10. Which type of nutrition is found in purple and green sulphur bacteria

- (A) Heterotrophic
- (B) Symbiotic
- (C) Photoautotrophic
- (D) Chemoautotrophic.

11. Indian Botanical Garden is situated at

- (A) Uttar pradesh
- (B) England
- (C) West Bengal
- (D) New Delhi.

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

Columns I (Kingdom)	Columns II (Body organisation)
------------------------	-----------------------------------

- | | |
|-------------|-------------------------------|
| a. Plantae | 1. Cellular |
| b. Monera | 2. Multicellular/loose tissue |
| c. Fungi | 3. Tissue/organ |
| d. Animalia | 4. Tissue/organ/organ system |
| e. Protista | 5. Tissue |

- (A) a-4, b-1, c-2, d-3, e-5
- (B) a-3, b-1, c-2, d-4, e-5
- (C) a-3, b-1, c-2, d-4, e-1
- (D) a-3, b-2, c-5, d-4, e-1.

13. The microscopic organism float passively in water current termed as

- | | |
|-------------|--------------|
| (A) Nekton | (B) Plankton |
| (C) Benthic | (D) Lentic. |

14. Which of the following statements is not true for *Nostoc*

- (A) It is filamentous
- (B) It is microscopic
- (C) It is prokaryotic
- (D) It is heterotrophic.

15. The common characteristics between Mango and

Potato will be maximum at the level of their

- | | |
|-----------|--------------|
| (A) Order | (B) Division |
| (C) Class | (D) Family. |

16. Human beings were since long, not only interested in knowing more about different kinds of organisms and their diversities, but also the relationship among them. This branch of study referred to as

- (A) Classification
- (B) Systematics
- (C) Taxonomy
- (D) All of the above.

17. The system of providing one name to each known organism is called

- (A) Binomial system
- (B) Trivial system
- (C) Trinomial system
- (D) Vernacular system.

18. Green plankton are kept in which of the following kingdom of Whittaker

- (A) Kingdom Monera
- (B) Kingdom Protista
- (C) Kingdom Fungi
- (D) Kingdom Animalia.

19. How many numbers of the following properties are the unique characteristics of living organisms :

Growth, reproduction, metabolism, cellular organisation, consciousness

- | | |
|-------|--------|
| (A) 2 | (B) 3 |
| (C) 4 | (D) 5. |

20. Which of the following characters belongs to the kingdom Protista

- (A) Prokaryotic
- (B) Multicellular
- (C) All members have cell wall

(D) Presence of nuclear membrane.

21. Of the following statements which are not relevant to eubacteria

- a. They live in some of the most harsh habitat
- b. They include mycoplasma
- c. They are characterised by a rigid cellulosic cell
- d. These are also called true bacteria.
- e. They are always autotrophic

- (A) b, c and d
- (B) a, d and e
- (C) a, c and e
- (D) b, c and e.

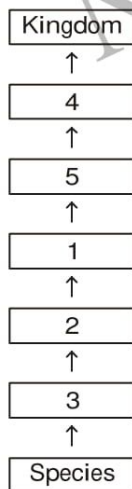
22. The boundaries of kingdom 'x' is not well defined. Which of the following organism belongs to kingdom 'x'

- (A) *Amoeba*
- (B) *Gonyaulax*
- (C) *Trypanosoma*
- (D) All of the above.

23. Protozoans, slime moulds and protistan algae are included in

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

24. In the following flow diagram identify the correct categories according to the taxonomic hierarchy



(a) Primata, diptera and carnivora belong to category 1

(b) *Petunia*, *Datura* and *Solanum* belongs to same category 2

(c) Angiospermae belongs to category 5.

(d) Mango and wheat shows maximum similarity at category 4

(e) Category 3 is same for lion, cat and leopard.

Select the correct statement :

- (A) a, b, d
- (B) b, c, d, e
- (C) a, b, c
- (D) a, b, e.

25. The process by which anything grouped into convenient categories based on some easily observable characters is called

- (A) Systematics
- (B) New Systematics
- (C) Nomenclature
- (D) Classification.

26. Taxonomic categories showing correct hierarchical arrangement in descending order for animals is

- (A) Kingdom → Order → Division → Class → Genus → Species
- (B) Species → Genus → Division → Class → Order → Kingdom
- (C) Kingdom → Division → Class → Order → Family → Genus → Species
- (D) Kingdom → Phylum → Class → Order → Family → Genus → Species.

27. During unfavourable condition, slime moulds

- (A) Form fruiting bodies bearing spores at their tips
- (B) Form an aggregation called plasmodium
- (C) Form an aggregation called pseudoplasmodium
- (D) Both A and B are correct.

28. *Amoeba* is a member of kingdom

- (A) Protozoan
- (B) Animalia

- (C) Protista
(D) Amoeboid.
29. A taxonomical aid in which the collected plants are preserved as dry specimen, according to a universally accepted system of classification is called
- (A) Botanical garden
(B) Museum
(C) Flora
(D) Herbarium.
30. Who gave the nomenclature according to which mango is called *Mangifera indica*
- (A) Aristotle
(B) Linnaeus
(C) Whittaker
(D) E. Haeckel.
31. Animals are classified into hierarchical groups. In which one of the following the largest number of species is found
- (A) Class
(B) Order
(C) Family
(D) Cohort.
32. As per whittaker's classification, an organism possessing eukaryotic cell structure, multicellular organisation without a cell wall and nuclear membrane showing heterotrophic nutrition can be placed under the kingdom
- (A) Protista
(B) Fungi
(C) Plantae
(D) Animalia.
33. Which of the following statement(s) about taxonomical aids is/are true
- I. Keys are used to identify plants and animals based on similarities and dissimilarities
II. Flora contains the account of habitat and

- distribution of plants in a given area
- III. Manuals provides an index to the plant species found in a particular area
- IV. Monographs provide information for identification of species found in an area
- (A) I and II only
(B) I, II and III only
(C) I and IV only
(D) II and III only.
34. Match the columns and find the correct options
- | Column I | Column II |
|----------------|----------------------|
| a. Red tides | i. Slime moulds |
| b. Plankton | ii. <i>Gonyaulax</i> |
| c. Parasite | iii. Diatoms |
| d. Saprophytic | iv. <i>Entamoeba</i> |
- (A) i-b, ii-c, iii-d, iv-a
(B) i-a, ii-d, iii-c, iv-b
(D) i-b, ii-c, iii-d, iv-a
(D) i-d, ii-a, iii-c, iv-b.
35. Which is highest in the hierarchy of taxonomic categories
- (A) Class
(B) Order
(C) Family
(D) Species.
36. Which of the following disease is not caused by bacteria
- (A) Mumps
(B) Typhoid
(C) Tetanus
(D) Cholera.
37. Which is not correct
- (A) Key is a taxonomic aid based on contrasting characters
(B) Herbarium serve as quick referral system in

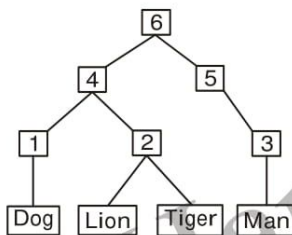
taxonomic studies

- (C) Botanical gardens have collection of dried plant specimens
- (D) A museum has collection of plants and animal specimens.

38. Photosynthetic and chemosynthetic autotrophs are defined based on their

- (A) Structure
- (B) Metabolism
- (C) Energy source
- (D) Requirement of inorganic substrates.

39. Recognise the following flow diagram and the find correct option according to taxonomic hierarchy



- (A) 1- *Canis*, 2- *Felis*, 3- *Homo*, 4- Felidae, 5- Hominidae, 6- Primata
- (B) 1- Canidae, 2- Felidae, 3- Hominidae, 4- Carnivora, 5- Mammalia, 6- Animalia
- (C) 1- Canidae, 2- Felidae, 3- Hominidae, 4- Carnivora, 5- Mammalia, 6- Chordata
- (D) 1- *Canis*, 2- *Panthera*, 3- *Homo*, 4- Carnivora, 5- Primata, 6- Mammalia.

40. The kingdoms which becomes more homogenous in five kingdom classification than they are in two kingdom classification

- (A) Protista and monera
- (B) Fungi and Plantae
- (C) Plantae and Animalia
- (D) Animalia and Protista.

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 : Generally order and other higher taxonomic categories are identified based on the aggregates of characters.

Reason : Lower the category, greater is the difficulty of determining the relationship to other taxa at the same level

42. Assertion : The keys are based on the contrasting characters generally in a pair called bad.

Reason : Similar taxonomic keys are required for different taxonomic categories.

43. Assertion : The two kingdom system of classification used for a long time was found inadequate

Reason : Classification of organisms into plants and animals was easily done and was easy to understand, but a large number of organisms did not fall into either category

44. Assertion : A vast majority of bacteria are heterotrophs, i.e., they do not synthesise their own food.

Reason : The majority of the heterotrophic bacteria are important decomposers.

45. Assertion : *Euglena viridis* is facultative heterotrophic organism.

Reason : *Euglena* has chlorophyll a, b and carotenoids.