



BIOLOGY PART TEST - 02

TOPIC: LIVING WORLD

DATE: 30/10/2020

TIME: 60 Min

1. Biosystematics aims at
 - (a) the classification of organisms based on broad morphological characters
 - (b) delimiting various taxa of organisms and establishing their relationships
 - (c) the classification of organisms based on their evolutionary history and establishing their phylogeny on the totality of various parameters from all fields of studies
 - (d) identification and arrangement of organisms on the basis of their cytological characteristics.

2. Species are considered as
 - (a) real basic units of classification
 - (b) the lowest units of classification
 - (c) artificial concept of human mind which cannot be defined in absolute terms
 - (d) real units of classification devised by taxonomists.

3. One of the most important functions of botanical gardens is that
 - (a) they provide a beautiful area for recreation
 - (b) one can observe tropical plants there
 - (c) they allow *ex situ* conservation of germplasm
 - (d) they provide the natural habitat for wild life.
4. Which of the statements regarding the six principles of International Code of Botanical Nomenclature is correct?
 - (a) The application of names of taxonomic groups (taxa) is determined by means of nomenclature type.
 - (b) The nomenclature of taxonomic groups is based upon priority of publication.
 - (c) Scientific names of taxonomic groups are treated as Latin regardless of their derivation.
 - (d) All of these.
5. A specimen or other element selected to serve as nomenclatural type as long as all of the material on which the description of the new species was based is missing is called
 - (a) syntype
 - (b) neotype
 - (c) isotype
 - (d) lectotype.
6. Great banyan tree is outstanding feature of
 - (a) Indian botanical garden
 - (b) New York botanical garden
 - (c) Royal botanical garden
 - (d) Berlin botanical garden.
7. The discipline of detecting, describing and classifying new species, as well as revising the classification of previously described species is
 - (a) biosystematics
 - (b) α -taxonomy
 - (c) β -taxonomy
 - (d) omega taxonomy.
8. When a specific epithet exactly repeats the generic name it is known as
 - (a) tautonym
 - (b) basonym
 - (c) synonym
 - (d) neotype.
9. Select the incorrect statement.
 - (a) Living organisms are self-replicating, evolving and self-regulating interactive systems capable of responding to external stimuli
 - (b) Mountains, boulders and sand mounds do grow if we take increase in body mass as criterion for growth.
 - (c) Many organism like mules, sterile worker bees and infertile human couples do not reproduce at all.
 - (d) Isolated metabolic reactions *in vitro* are living things.
10. "Taxonomy without phylogeny is like bones without flesh" was remarked by
 - (a) John Hutchinson
 - (b) Takhtajan
 - (c) Oswald Tippo
 - (d) Bentham and Hooker
11. Taxon represents
 - (a) group of living organism with respect to their size
 - (b) group of living organisms with respect to their taxonomic rank
 - (c) group of living organism irrespective of size or taxonomic rank
 - (d) none of these.
12. Taxonomic hierarchy refers to
 - (a) stepwise arrangement of all categories for classification of plants and animals
 - (b) a group of senior taxonomists who decide the nomenclature of plants and animals
 - (c) a list of botanists or zoologists who have worked on taxonomy of a species or group
 - (d) classification of a species based on fossil record.
13. Reproduction can occur within members of a
 - (a) species
 - (b) genus
 - (c) order
 - (d) family.
14. Which of the following taxonomical ranks contain organisms least similar to another?
 - (a) Class
 - (b) Family
 - (c) Genus
 - (d) Species
15. E. Mayr was a
 - (a) biochemist
 - (b) zoologist
 - (c) geographer
 - (d) evolutionary biologist.
16. Binomial nomenclature is first mentioned in the book
 - (a) *Systema Naturae*
 - (b) *Historia Animalium*
 - (c) *Historia Plantarum*
 - (d) *Philosophie Zoologique*.
17. When organism is in same class but is not in same family, the taxonomic term is called as
 - (a) order
 - (b) genus
 - (c) species
 - (d) family.
18. The correct scientific name of wheat is written as
 - (a) *Triticum Aestivum*
 - (b) *triticum aestivum*
 - (c) *triticum Aestivum*
 - (d) *Triticum aestivum*.
19. Binomial nomenclature means
 - (a) one name given by two taxonomists
 - (b) two names, the latinised, other of a person
 - (c) two names, one scientific, other local
 - (d) two-word names, the first indicates genus and other species.
20. Read the statements given below and select the incorrect statement.
 - (a) Scientific names are used all over the world.
 - (b) Scientific names are often descriptive and tell us some important character of an organism.
 - (c) Scientific names indicate relationship between species.
 - (d) Scientific names favour multiple naming for the same kind of an organism.
21. All living organisms are linked to one another because
 - (a) they show common genetic material but to varying degree
 - (b) all have common cellular organisation
 - (c) they have common genetic material of the same type
 - (d) all of these.
22. In a taxonomic hierarchy, the number of common characters will increase as we go from
 - (a) class to order
 - (b) species to kingdom
 - (c) genus to species
 - (d) kingdom to species.

23. Select the correct statement.
- (a) Family comprises a group of related species which has more characters in common.
 - (b) *Canis familiaris* comes under the Order Sapindales.
 - (c) An order includes related classes.
 - (d) Families like convolvulaceae, solanaceae are included in the Order Polymoniales mainly based on the floral characters.

24. The common characteristics between lion and leopard will be maximum at the level of their
- (a) family
 - (b) order
 - (c) division
 - (d) genus.

25. Which of the following is correctly matched without exception in regard to plant classification?
- (a) Family - Poaceae - ae
 - (b) Division - Pteridophyta - phyta
 - (c) Class - Bryopsida - sida
 - (d) Genus - *Solanum* - um

26. Two or more species occupying the same or overlapping areas are called
- (a) sibling
 - (b) sympatric
 - (c) allopatric
 - (d) subspecies

27. Which of the following has correct specific epithet ?
- (a) *Indica mangifera*
 - (b) *Leo Panthera*
 - (c) *Canis familiaris*
 - (d) *Ascaris*

28. Read the following statements and select the incorrect statements.
- (A) Lower the taxon, more are the characteristics that the members within the taxon share.
 - (B) Order is the assemblage of genera which exhibit a few similar characters.
 - (C) Cat and dog are included in the same Family Felidae.
 - (D) Binomial nomenclature was introduced by Carolus Linnaeus.
- (a) A, B and C
 - (b) B, C and D
 - (c) A and D
 - (d) B and C

29. Match the following and choose the correct combination from the options given.
- | Column I
(Common name) | Column II
(Taxonomic category - Order) |
|---------------------------|---|
| A. Wheat | 1. Primata |
| B. Mango | 2. Diptera |
| C. Housefly | 3. Sapindales |
| D. Man | 4. Poales |
- (a) A-1, B-2, C-4, D-3
 - (b) A-4, B-3, C-2, D-1
 - (c) A-2, B-4, C-1, D-3
 - (d) A-3, B-4, C-2, D-1

30. The science of ageing is referred as
- (a) development biology
 - (b) antogeny
 - (c) phylogeny
 - (d) gerontology.

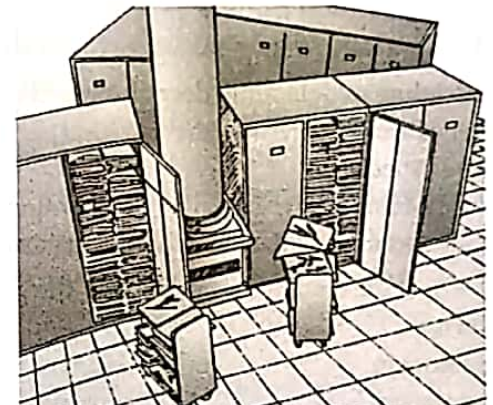
31. When organism is in same class but is not in same family, the taxonomic term is called as
- (a) order
 - (b) genus
 - (c) species
 - (d) family.

32. 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. Flora provides an index to the plant species found in a particular area.
 - IV. Monographs provide information for identifying the species found in an area.
- (a) I and II only
 - (b) I, II and III only
 - (c) I and IV only
 - (d) I only

33. Which of the following 'suffixes' used for units of classification in plants indicates a taxonomic category of 'family'?
- (a) - Ales
 - (b) - Onae
 - (c) - Aceae
 - (d) - Ae

34. The taxonomic unit 'Phylum' in the classification of animals is equivalent to which hierarchial level in classification of plants?
- (a) Class
 - (b) Order
 - (c) Division
 - (d) Family

35. Select the correct statement about the given figure.



- (a) It is the store house of collected dried plant specimens.
 - (b) They have collection of preserved plant and animal specimens for study and reference.
 - (c) They often have collections of skeletons of animals too.
 - (d) They have collection of living plants for reference.
36. Which of the following statement is incorrect?
- (a) Key is a taxonomic aid based on contrasting characters.
 - (b) Herbarium serves as a quick referral system in taxonomic studies.
 - (c) Botanical gardens have collection of dried plant specimens.
 - (d) A museum has collection of plant and animal specimens.
37. Which one of the following organisms is correctly matched with its particular taxonomic category?
- (a) Mango - Plantae, division
 - (b) Housefly - *Domestica*, species
 - (c) Makoi - Sapindales, class
 - (d) Cat - *Panthera*, genus

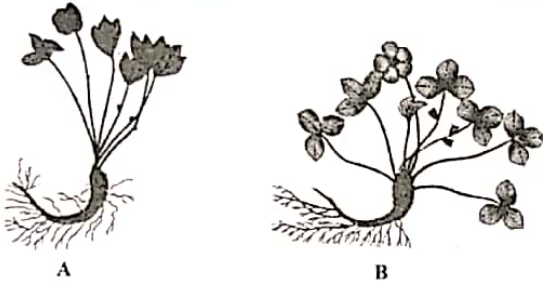
38. A ball of snow when rolled over snow increases in mass, volume and size. This process is
- considered as reproduction
 - comparable to growth as seen in living organisms
 - considered as growth
 - both (b) and (c).

39. Read the following statements and select the correct statements.

- In majority of higher animals and plants, growth and reproduction are mutually exclusive events.
- In lower organisms like yeast and *Hydra*, we observe budding.
- Metabolism is a defining feature of all living organisms.
- Classification is the process by which anything is grouped into convenient categories based on some easily observable characters.

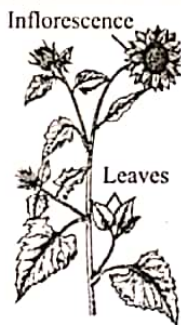
- All are correct except (i) and (iv)
- All are correct except (ii) and (iv)
- All are correct except (iii) and (iv)
- All are correct

40. Which of the following figures represents the correct method of pressing plants to form herbarium sheets?



- Figure A as the plant parts are folded.
- Figure B as every plant part is unfolded.
- Both figures A and B as folding or unfolding does not matter.
- None of these.

41. Select the correct classification for the given plant.



Division	Class	Order	Family
(a) Plantae	Angiospermae	Asterales	Asteraceae
(b) Angiospermae	Dicotyledonae	Asterales	Asteraceae
(c) Angiospermae	Dicotyledonae	Polymoniales	Compositae
(d) Dicotyledonae	Asteraceae	Asterales	Compositae

42. Select the incorrect statement with respect to the taxon, 'genus'.

- It is a group or assemblage of related species.
- A genus essentially possesses more than one number of species.
- Lion, Tiger, Leopard, Jaguar are closely related species which have been placed in the genus *Panthera* and are

respectively named as *Panthera leo*, *P. tigris*, *P. pardus* and *P. onca*.

- Solanum*, *Penicillium*, *Withania* and *Canis* are the examples of genera.

43. Select the mismatched pair.

- Panthera leo* – Belongs to Class Mammalia
- Musca domestica* – The common house lizard, a reptile
- Entamoeba coli* – Commonly occurring protozoan in human intestine
- Solanum tuberosum* – A dicotyledonous plant

44. Read the following statements and select the correct option.

Statement 1: Reproduction cannot be considered as defining property of living organisms.

Statement 2 : There are many living organisms which do not reproduce, e.g., mules, worker bees, infertile human couples, etc.

- Both statements 1 and 2 are correct.
- Statement 1 is correct but statement 2 is incorrect.
- Statement 1 is incorrect but statement 2 is correct.
- Both statements 1 and 2 are incorrect.

45. Which of the following statements regarding the response of living organisms to external stimuli is correct?

- The external environmental stimuli can be physical, chemical or biological.
- All organisms, from the prokaryotes to the most complex eukaryotes can sense and respond to environmental stimuli.
- Consciousness and response to external stimuli is the defining property of living organisms.
- All of these.

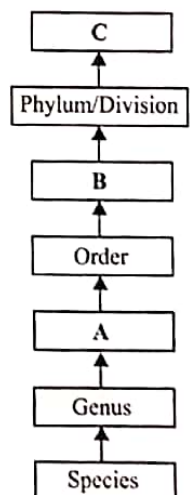
46. Which of the following statement is not correct?

- Monograph is treatise having all information about a particular taxon like family or genus.
- Systematics is the branch of biology that deals with cataloging plants, animals and other organisms into categories that can be named, remembered, compared and studied.
- Classification is the branch of biology that deals with principles and procedures of identification and nomenclature of organisms.
- None of these.

47. The given flow chart represents the hierarchy of various taxonomic categories.

Identify the missing categories (A, B and C) and select the correct statements regarding these.

- A is the taxonomic category which contains a number of related genera.
- Examples of category B are Monocotyledoneae, Dicotyledoneae, Mammalia, etc.
- C represents the basic unit of taxonomic hierarchy.
- Examples of category C are Fungi, Monera, Protista, etc.



- (a) (i) and (ii) (b) (iii) and (iv)
 (c) (i), (ii) and (iv) (d) (i), (ii), (iii) and (iv)

48. Which of the following statement is incorrect regarding the modern taxonomy?

- (a) It deals with biological species.
 (b) It is based on the study of all types of variations in the species.
 (c) Species is considered to be static.
 (d) It has a biosystematic concept.

49. The scientific name of banyan is written as *Ficus benghalensis* L. Which of the following statements is correct regarding this?

- (a) Letter L. signifies Latin language.
 (b) The name should be written reverse with *benghalensis* preceding *Ficus*.

- (c) Letter L. signifies the taxonomist Linnaeus.
 (d) *Benghalensis* is a generic name.

50. Match column I with column II and select the correct option from the codes given below.

Column I	Column II
A. Binomial nomenclature	(i) Hippocrates
B. The Darwin of the 20 th century	(ii) Ernst Mayr
C. Father of botany	(iii) Linnaeus
D. Father of medicine	(iv) Theophrastus
(a) A-(iii), B-(ii), C-(iv), D-(i)	
(b) A-(iii), B-(ii), C-(i), D-(iv)	
(c) A-(i), B-(ii), C-(iii), D-(iv)	
(d) A-(ii), B-(iii), C-(iv), D-(i)	