



BIOLOGY

BOOKS - AAKASH SERIES

THE LIVING WORLD

Exercise I

1. Can you identify the correct sequence of taxonomical categories?

(a) Species → Order → Phylum →

Kingdom

(b) Genus → Species → Order →

Kingdom

(c) Species → Genus → Order → Phylum

A. Species → phylum → class → kingdom

B. Genus → species → order → kingdom

C. Species → Genus → order → class

D. Division → Family → order → Genus

Answer: C



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2. Which of the following taxonomical aid is related with quick referral systems in taxonomic studies?

A. Botanical garden

B. Herbaria

C. Monograph

D. manual

Answer: B



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3. Zoological parks contain

- A. Have preserved animal specimens
- B. Have wild mammals only
- C. Don't include birds
- D. Are useful in identification of animals

Answer: D



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4. In a herbarium, sheets are arranged according to

A. regionally accepted system of classification

B. Universally accepted system of classification

C. Nationally accepted system of classification

D. Locally accepted system of classification

Answer: B



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5. Study of all living organisms is made possible by this aspect of taxonomy

A. Identification

B. Systematics

C. Classification

D. Nomenclature

Answer: C



6. Choose the correct expression

- A. a group of related genera - Family
- B. a group of related species - order
- C. a group of related families - class
- D. a group of related orders - genus

Answer: A



7. Information on any one taxon is found in

A. Manuals

B. Museums

C. Herbarium

D. Monographs

Answer: D



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8. Museums have

A. Collection of living organisms

B. Dried and preserved plant specimens
only

C. Animals kept in their natural habitats

D. Preserved plant and animals specimens

Answer: D



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9. In keys, a pair of contrasting characters is called?

A. Doublet

B. Duplet

C. Couplet

D. Triplet

Answer: C



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10. Botanical gardens have

- A. Living plants and animals for reference
- B. Collection of living plants
- C. Preserved plant specimens
- D. Living and preserved plants

Answer: B



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11. Illustrate the taxonomical hierarchy with suitable examples of a plant and an animal.

A. The number of common characters decrease

B. Complexity decreases

C. More common characters are shared between members of higher taxa

D. Similarities between plants increase

Answer: A



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12. Lowest and highest taxonomic categories are respectively

- A. Division, species
- B. Species, Division
- C. Species, kingdom
- D. Phylum, genus

Answer: C



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13. Mango belongs to this order

A. Anacardiales

B. Poales

C. Sapindales

D. Polymoniales

Answer: C



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14. Potato, tomato, brinjal differ in this taxon

A. Species

B. Genus

C. Family

D. Order

Answer: A



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15. First step of taxonomy is

A. Classification

B. Description

C. Identification

D. Nomenclature

Answer: C



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16. Taxonomy comprises

A. Identification

B. Classification

C. Nomenclature

D. All of these

Answer: D



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17. Study of principles and procedures of classification of organisms is

A. Classification

B. Taxonomy

C. Nomenclature

D. Grouping

Answer: B



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18. Scientific names to the plants are given based on the principles provided by

A. ICZN

B. BSI

C. ICBN

D. IUB

Answer: C



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19. According to binomial nomenclature, two words used for naming a plant or animal are

A. Family and genus

B. Species and family

C. Class and family

D. Genus and species

Answer: D



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20. The fundamental taxonomic category is
(basic unit is)

A. Family

B. Class

C. Genus

D. Species

Answer: D



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21. The earliest classifications were based on

A. Reproduction of plants

B. Uses of plants

C. Diversity of plants

D. Evolutionary relationship of plants

Answer: B



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22. The taxon which includes related families is

A. Order

B. Class

C. Genus

D. Division

Answer: A



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23. Taxon ending with a suffix ales

A. Species

B. Order

C. Taxonomy

D. Classes

Answer: B



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24. What does ICZN stand for?

A. Indian congress of Biological names

B. International congress of biological names

C. International code of zoological nomenclature

D. International code of botanical
nomenclature

Answer: C



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25. Which of the following taxonomic ranks contain organisms most similar to one another ?

A. Genus

B. Division

C. Kingdom

D. Species

Answer: D



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26. National Botanical Research Institute is located at

A. Delhi

B. Kolkata

C. Lucknow

D. Dehradun

Answer: C



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27. The author of Systema Naturae?

A. de Candolle

B. Linnaeus

C. Aristotle

D. Theophrastus

Answer: B



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28. First book in which binomial nomenclature was used

A. *Systema naturae*

B. *Species plantarum*

C. Genara plantarum

D. Origin of species

Answer: B



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29. Binomial nomenclature was popularised by

A. Linnaeus

B. Darwin

C. Haeckel

D. John ray

Answer: A



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30. Binomial system of nomenclature has been suggested by

A. Bentham

B. Gaspard Bauhin

C. Linnaeus

D. Theophrastus

Answer: B



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31. Plant specimens that are dried pressed and preserved on sheets are found in

A. Herbarium

B. Floras

C. Museum

D. Botanical garden

Answer: A



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32. Herbarium sheets provide information about

A. Vegetative and floral characters of the plant

B. Habitat and distribution of the plant

C. Date and place of collection, common names etc. of the plant

D. All preserved plant specimens

Answer: C



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33. Museum have

A. Plant and animal specimens preserved in solutions

B. Stuffed and preserved birds and mammals

C. Skeletons of animals

D. All of the above

Answer: D



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34. The famous international botanical garden is at

A. England

B. USA

C. Holland

D. India

Answer: A



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35. In a zoological park

A. Animals are protected under human care

B. Animals kept in artificial (new) habitats

C. Animal specimens are preserved

D. animals and plants both are conserved

Answer: A



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36. Botanical gardens have

A. Dried and preserved plant specimens

B. Plants grown for identification purposes

C. Plants grown in their original and natural habitats

D. Each plant with a label showing all its characters

Answer: B



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37. One of the most important functions of botanical gardens is that

A. They provide area for recreation

B. They allow ex-situ conservation of
germplasm

C. They provide natural habitat for wildlife

D. They have collection of all tropical plants

Answer: B



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38. Taxonomic hierarchy

- A. A list of biologists who worked on taxonomy
- B. A group of taxonomists who decide the nomenclature rules
- C. Stepwise arrangement of all categories for classification of plants and animals
- D. Classification based only on evolutionary

Answer: C



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39. Binomial nomenclature means

A. Two names to a plant, one latinized and other regional

B. Two names given by two scientists

C. One name with a generic and a specific epithet

D. Two scientists giving the same name

Answer: C



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40. Living organisms are characterised by

A. Catabolism

B. Irritability

C. Anabolism

D. All of these

Answer: D



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41. The lowest level of organization among following is

A. Biome

B. Ecosystems

C. Populations

D. Communities

Answer: C



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42. Which of the following reactions is correct.

A. Species → Communities →

Population → Ecosystems →

landscapes → Biosphere

B. Species → Population →

Communities → Ecosystems →

landscapes

C. Species → Populations →

Ecosystems → Landscapes →

Communities → Biosphere

D. Species → Population →

Communities → Landscape →

Biosphere → Ecosystems

Answer: B



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43. Metabolism comprises

A. Digestion of food

B. Exchange of gases

C. Elimination of wastes

D. Various energy exchanges in cell

Answer: D



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44. Synthesis reactions in the body form a division of metabolisms called

A. Anabolism

B. Catabolism

C. Chemical reaction

D. None of these

Answer: A



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45. Cellular respiration

A. Occurs in heterotrophs only

B. Occurs in response to environmental changes

C. Occurs in both autotrophs and heterotrophs

D. Is a process whereby sunlight is used to synthesize cellular components with release of energy

Answer: C



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46. Growth in living being is by

- A. Cell division
- B. Cell elongation
- C. Cell differentiation
- D. All the above

Answer: D



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47. Plants differ from animals in having

- A. Definite lifespan

B. Localized growth

C. Indefinite growth

D. Localized growth and indefinite lifespan

Answer: C



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48. The splitting of an Amoeba into two is best described as an example of

A. Paedogenesis

B. Parthenogenesis

C. Sexual reproduction

D. Asexual reproduction

Answer: D



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49. An increase in the size or number of cells best describes.

A. Homeostasis

B. Biological growth

C. Asexual reproduction

D. Chemical level of organization

Answer: B



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50. The science of diversity of organisms is

A. Taxonomy

B. Evolution

C. Systematics

D. Palaeontology

Answer: C



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51. The term taxonomy was coined by

A. Ernst Haeckel

B. H.F Copeland

C. A.P.de Candolle

D. Carolus Linnaeus

Answer: C



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52. Who wrote "Species Plantarum" and provided a basis for the classification of plants ?

A. Robert Hooke

B. Charles Darwin

C. Carolus Linnaeus

D. Anton Leeuwenhoek

Answer: C



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53. In binomial nomenclature

A. Both in genus and species the first letter
is capital

B. Both genus and species are printed in italics

C. Genus is written in captial

D. Genus is written after the species

Answer: B



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54. The third name in trinomial nomenclature is

A. Genus

B. Species

C. Subgenus

D. Subspecies

Answer: D



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55. When the specific epithet exactly repeats generic name, it is called:

A. Basonym

B. Synonym

C. Homonym

D. Tautonym

Answer: D



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56. Taxon is

A. Species

B. Any unit of classification

C. Highest rank in classification

D. Group of closely related organisms

Answer: B



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57. Interbreeding is possible between two members of same

A. Order

B. Genus

C. Species

D. Family

Answer: C



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58. Can you identify the correct sequence of taxonomical categories?

(a) Species → Order → Phylum → Kingdom

(b) Genus → Species → Order →
Kingdom

(c) Species → Genus → Order → Phylum

A. A fundamental unit in the phylogenetic
history of organisms

B. A group of evolutionary related
population

C. A base category to which most
taxonomic information is attached

D. Population of individuals having same

Answer: A



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59. The taxonomic status of an organism can be changed by changing

A. Anatomy

B. Physiology

C. Morphology

D. Genetic make up

Answer: D



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60. Calcium metabolism in birds gets disturbed due to the effect of

A. Mercury

B. Cadmium

C. DDT

D. Lead

Answer: B



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61. Evolutionary history of an organism is called

A. Taxon

B. Phylogeny

C. Taxonomic hierarchy

D. Metabolism

Answer: B



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62. A book A contain actual account of habitat, idstribution and systematic listing of plants and book B provide information for identification of name of species in an area. A & B respectively.

A. Flora & Manual

B. Manual & Flora

C. Herbarium & Manual

D. Flora & Herbarium

Answer: A



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63. Herbaria and Museums contain ___ specimens whereas in botanical gardens & zoo's possess _____ specimens.

A. Living & Living

B. Dead & Dead

C. Living & Dead

D. Dead & Living

Answer: D



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64. A taxonomic aid for identification of plants & animals based on similarities & dissimilarities is called

A. Key

B. Flora

C. Manual

D. Herbaria

Answer: A



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65. In keys, a pair of contrasting characters is called?

A. Lead

B. Couplet

C. Manual

D. Monograph

Answer: B



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66. Each statement of a key is called

A. Lead

B. Couplet

C. Manual

D. Monograph

Answer: A



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67. A unit of classification is generally referred as

A. Rank

B. Category

C. Taxon

D. All the above

Answer: C



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68. Lowest category in both plant & animal kingdom is

A. Genus

B. Species

C. Family

D. Order

Answer: B



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69. Mango and wheta belong to division A and sub division B . A & B respectively.

A. Spermatophyta & Angiosperms

B. Angiosperms & Spermatophyta

C. Angiosperms and Poales

D. Angiosperms & Sapindales

Answer: A



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70. In the case of animals related classes are included in

A. Order

B. Division

C. Phylum

D. Sub-division

Answer: C



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71. Reproduction is synonymous with growth
in

A. Multicellular organisms

B. Unicellular organisms

C. Both unicellular & multicellular organisms

D. None

Answer: B



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72. The most obvious & technically complicated feature of all living organisms is

A. Metabolism

B. Sense their surroundings

C. Reproduction

D. Growth

Answer: B



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73. Which of the following organisms do not reproduce?

A. Mules

B. Sterile worker bees

C. Infertile human couples

D. All of these

Answer: D



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74. Which one of the following statements is incorrect?

A. Indica, tuberosum and leo represents
the specific epithets

B. Physalis, Apes and Helianthus represents
the generic epithets

C. Monocotyledonae and Dicotyledonae are
the two classes of division
Angiospermae

D. Phylum Chordata is largest phylum of
kingdom Animalia.

Answer: D



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75. The main purpose of classification of organisms is to

A. study geography

B. locate plants and animals

C. establish relationship among organisms
and study evolution

D. All are correct

Answer: C



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76. Homologous organs have

- A. Similar anatomy
- B. Different morphology
- C. 1 and 2
- D. Similar Morphology

Answer: D



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Exercise II

1. Death is essential for

- A. recycling of minerals
- B. keeping population under check
- C. both 1 and 2 are correct
- D. None

Answer: C



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2. Animals having both the sexes in one body are called _____

A. Nematod

B. Parasite

C. Saprohite

D. Hermaphrodite

Answer: D



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3. The most important feature of all the living systems from the view point of their continuity is their capacity to

A. utilize solar energy for metabolic activities

B. Produce gametes

C. replicate the genetic information

D. utilize oxygen to generate energy

Answer: B



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4. A living system has a continuous inflow of chemical energy in the form of food and out flow in the form of removal of waste. Such a system is called

A. Open system

B. Closed system

C. Steady state

D. None of these

Answer: A



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5. Organisms have

A. closed system

B. open system

C. a system of exporting materials

D. a system of exporting energy

Answer: B



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6. Cell regulate their activity through

A. flow of material

B. flow of energy

C. flow of information

D. flow of both energy and information

Answer: D



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7. The amount of energy available at successive trophic levels

A. Entropy

B. Enthalpy

C. Free energy

D. Activation energy

Answer: C



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8. Who developed the key first for the identification of animals ?

A. Goethe

B. John Ray

C. Theophrastus

D. Geoges

Answer: D



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9. Homeostasis

A. Generally depends on the action of cilia

B. Occurs at population level and not in organisms or cells

C. Is the long term response of organisms to change in their environment

D. Is the tendency of organisms to maintain a constant internal environment

Answer: D



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10. What is oxidation - reduction reaction or redox reaction ? Give one example.

A. An oxidising agent accepts a proton

B. A reducing agent donates a proton

C. A reducing agent become oxidised as it
accepts an electron

D. Energy is transferred from a reducing
agent to an oxidising agent

Answer: D





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11. Which of the following is main adaptation for plant to survive in xerophytic condition?

A. Spines

B. No stomata

C. Stipular leaves

D. Balancing root system

Answer: A



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12. An orchid flower resembling the shape of a female fly so as to be able to get pollinated.

This is an example of

A. Adaptation

B. Homeostasis

C. Mimicry

D. Pseudopollination

Answer: C



Exercise Iii Previous Aipmt Neet Questions

1. Wings of birds and insects

- A. Analogous Organ
- B. Homologous organ
- C. Divergent
- D. none

Answer: A



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2. The protein coat around a virus is called

A. Core

B. Capsid

C. Trichome

D. Capsule

Answer: B



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3. The wings of a bird and the wings of an insect are

A. analogous structures and represent convergent evolution

B. phylogenetic structures and represent divergent evolution

C. homologous structures and represent convergent evolution

D. homologous structures and represent
divergent evolution

Answer: A



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4. An example of ex situ conservation is

A. National Park

B. Seed Bank

C. Wildlife sanctuary

D. Sacred Grove

Answer: B



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5. Which one of the following is not a correct statement?

A. Herbarium houses dried, pressed and preserved plant specimens

B. Botanical gardens have collection of living plants for reference

C. A museum has collection of photographs of plants and animals

D. Key is a taxonomic aid for identification of specimens

Answer: C



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6. The process by which organisms with different evolutionary history evolve similar phenotypic adaptations in response to a common environmental challenge, is called

- A. Natural selection
- B. Convergent evolution
- C. Non-random evolution
- D. Adaptive radiation

Answer: B



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7. Which one of the following organisms is scientifically correctly named, correctly printed according to the International Rules of Nomenclature and Correctly described ?

A. E.coli - Full name Entamoeba coli, a commonly occurring bacterium in human intestine

B. Musca domestica - The common house lizard, a reptile

C. *Plasmodium falciparum* - A protozoan pathogen causing the most serious type of malaria

D. *Felis tigris* - The Indian tiger, well protected in Gir forests

Answer: C



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8. Polygenetic system of classification is based on :

A. Evolutionary relationship

B. Morphological features

C. Chemical constituents

D. Floral characters

Answer: A



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9. Two plants can be conclusively said to belong to the same species if they

A. Can reproduce freely with each other and form seeds

B. Have more than 90 percent similar genes

C. Look similar and possess identical secondary metabolites

D. Have same number of chromosomes

Answer: A



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10. One of the most important functions of botanical gardens is that

A. One can observe tropical plants there

B. They allow ex-situ conservation of
germplasm

C. They provide the natural habitat for
wildlife

D. They provide a beautiful area for
recreation

Answer: B



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11. Biosystematics aims at

A. The classification of organisms based on the evolutionary history and establishing their phylogeny on the totality of various parameters from all fields of studies

- B. Identification and arrangement of organisms on the basis of their cytological characteristics
- C. The classification of organisms based on broad morphological characters
- D. Delimiting various taxa of organisms and establishing their relationships

Answer: A



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12. Which of the following are correctly matched with respect of their taxonomic classification?

A. Flying fish, cuttlefish, silverfish - Pisces

B. Centipede, millipede, spider, scorpion-
Insecta

C. House fly, butterfly, tsetsefly, silverfish-
Insecta

D. Spiny anteater, sea urchin, sea
cucumber-Echinodermata

Answer: C



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