Short Answer Questions – I

Q. 1. Mention the mode of reproduction found in the following organisms:
(i) Bacteria (ii) $Planaria$ (iii) $Hydra$ (iv) Fungi.

Ans. (i) Bacteria: Fission (Cell division)
(ii) Planaria: Regeneration
(iii) Hydra: Budding
(iv) Fungi: Spore formation

Q. 2. Reproduction cannot be all-inclusive defining characteristic of living organisms. Comment.

Ans. Some organisms like mules, sterile worker bees, infertile human couples, etc., exhibit Characteristics of living things but they do not reproduce. Therefore reproduction cannot be an all-inclusive defining characteristic of living organisms.

Q. 3. What are the rules of binomial nomenclature? [KVS Silchar 2017]

Ans. Rules of nomenclature are as follows:

(i) Biological names are generally in Latin or derived from Latin irrespective of their origin.

(ii) The first world in a biological name represent the genus while the second component denotes the specific epithet.

(iii) The words when hand written are separately underlined, or printed in italics.

(iv) The first word denoting the genus starts with a capital letter while the specific epithet starts with a small letter.

Q. 4. What processes are basic to taxonomy?

Ans. Characterisation, identification and nomenclature are the processes which are basic to taxonomy.

Q. 5. Why was nomenclature necessary?

Ans. Plants and animals in the world are known by their local names. These local names would vary from place to place. Therefore, there was a need to standardise the naming of living organisms which is recognised all over the world. Therefore the process called nomenclature was necessary.

Q. 6. Given the scientific names of the following: Rose, Mango, Potato, Frog, Cat, Earthworm.

Ans. (i) Rose: $Rosa\ indica$
(ii) Mango: $Mangifera\ indica$
(iii) Potato: $Solanum\ tuberosum$
(iv) Frog: $Rana\ tigrina$
(v) Cat: $felis\ domesticus$
(vi) Earthworm – $Pheretima\ posthuma$

Q. 7. Define classification. Can it be separated from nomenclature?

Ans. Classification is a method by which organisms on the basis of some easily observable characteristics.

Q. 8. What do you mean by taxonomic hierarchy? Give classification of mango upto species. [KVS – 2013]

Ans. The taxonomic hierarchy is a systematic framework in classification in which taxonomical groups are arranged in definite order, from higher to lower categories. Each category is considered as a taxonomic unit and represents a taxon.

Classification of Mango:
Kingdom: Plantae
Division: Angiospermae
Class: Dicotyledonae
Order: Sapindales
Family: Anacardiaceae
Genus: Mangifera
Species: indica

Q. 9. Distinguish between a genus and species.

Ans.

S. No.	Species	Genus
1.	It is the basic unit of taxonomy.	It is first highest category above the species level.
2.	It is a dynamic genetically distinct group of organisms	It is group of species which are closely related.

Q. 10. Give the role of botanical gardens.

Ans. Role of Botanical Gardens:
(i) They provide plant material for taxonomic studies.
(ii) Plant species are grown here for identification.
(iii) Plants are grown for research.
(iv) To maintain records of local flora.

Q. 10. Mention any two aims of zoological parks.
Ans. Aims of zoological Parks:
(i) To develop interest and awareness about wild animals in the public.
(ii) The zoos are involved in the conservation of many endangered species of wild life.

Q. 11. What are the steps involved in the Preparation of herbarium?
Ans. (i) Collection of specimens.
(ii) Drying and pressing.
(iii) Mounting of the specimens.
(iv) Labelling.
(v) storage.