CBSE TEST PAPER-04

CLASS - XI BIOLOGY

(Biological Classification)

General Instruction:

- All questions are compulsory.
- Question No. 1 to 3 carry one marks each. Question No. 4 to 7 carry two marks each. Question No. 8 and 9 carry three marks each. Question No. 10 carry five marks.

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1. Define experimental taxonomy?

2. Name the fungus which causes "wheat rust"?

3. What are distributed organisms which have not been included under any kingdom?

4. Compare salient features of Monera & Protista.

5. State an economically important use of

i) Heterotrophic bacteria.

ii) Archaebacteria.

6. Write the importance of classification of organism.

7. What are insectivorous plants? Give an example.

8. Discuss different systems of classification briefly.

9. What are the different groups of fungi?

10. Compare the kingdoms under five kingdom classification in terms of cell type, cell organelles nucleus, motility and cellularity.

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[ANSWERS]

1. It is the identification of evolutionary units within species by experimentally determining their genetic origin.
2. Puccinia graminis tritici.
3. Virus & Viriods.
4.

MONERA	PROTISTA
i) It includes unicellular bacteria, achaebacteria, cyanobacteria	i) It includes photosynthetic algae, slime moulds, protozoan etc.
ii) They are prokaryotic, photosynthetic & some heterotrophs	ii) These are eukaryotic unicellular, autotrophy or saprophytes or parasites

5. i) Heterotrophic bacteria are decomposers mostly. Some are helpful to make curd milk, fixing nitrogen etc while some are pathogens & cause diseases.
ii) Archaebacteria, bacteria include methanogens that produce biogas from cow dung etc.

Please change the above Ans 5 with the below one:

a) Heterotrophic bacteria

(1) Many bacteria like Lactobacillus helps in the production of curd from milk.

(2) They act as decomposers and help in the formation of humus e.g. Pseudomonas.

(3) Many antibiotics are obtained from some species of bacteria like streptomyces, Bacillus etc.

(4) Many soil bacteria help in fixation of atmospheric nitrogen like Rhizobium (Symbiotic), Azotobacter (Free living).

(b) Archaebacteria

(1) Methane gas is produced from the dung of ruminants by the methanogens.

(2) Methanogens are also involved in the formation of biogas and sewage treatment.

6. i) It is essential for systematic study of living beings to classify them as more than millions of plants are known today
ii) All types of organisms do not occur on same locality.
iii) It is not possible to study all organisms at one time.
iv) It helps in knowing evolutionary relationships between different groups.
v) It makes easier to recognize & identify each organism.

7. Insectivorous plants are carnivorous plants. They trap insects to supplement nutritional requirement of nitrogen. These are green plants & their leaves are modified to trap insects to overcome shortage of nitrogen eg. in pitcher plant (Nepenthes) leaf blade is modified into a pitcher.

8. Three different groups of fungi are
i) Phycomycetes :- They have multinucleated, aseptate mycelium. Asexual reproduction occurs by aplanospores & sexual reproduction occurs by isogamy or oogamy. These are found in water or damp places eg. mucor Albugo etc.
ii) Ascomycetes:- They are unicellular or multicellular mycelium which is septate. Asexual spores formed in chains are called conidia. Sexual reproduction occurs by ascospores beared in cup shaped structure called asci eg. yeast penicillium, Aspergillus.
iii) Basidiomycetes :- They are called club fungi due to club- shaped end of mycelium called basidium. They have septate mycelium and bears asexual spores basidiospores. Eg mushroom smut rust.

9. Different systems of classification are:-
i) Artificial classification- It takes into account easily observable few characteristics only & not anatomical relationships.

ii) Natural classification- It relies on natural affinities among organisms. It employs external & internal both features.
iii) Phylogenetic classification:- It is based upon evolutionary relationships among the organisms i-e. Organism belonging to same group have common ancestory.
iv) Phenotypic classification :-additional criteria & methodologies are employed to classify organisms to avoid problem establishing evolutionary relationship.

10.

	Kingdom Monera	Kingdom Protista	Kingdom Fungi	Kingdom Plantae	Kingdom Animalia
i) Cell type	Prokaryotic	Eukaryotic	Eukaryotic	Eukaryotic	Eukaryotic
ii)Cell organelle	Absent	present	present	present	present
iii) Nucleus	Absent	present	present	present	present
iv) Motility	Bacterial flagella	Cilia, flagella or amoeboid movement	Cilia or flagella	Parts shows movement not plant	Contractile fibres
v) Tissue or Multi cellularity	Absent	Absent	Present but limited	Present in all plants	Present in all animals