

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, MAY 2019

SECOND YEAR [BATCH 2017-20]

ZOOLOGY (General)

Paper : IV

Date : 25/05/2019

Time : 11 am – 1 pm

Full Marks : 50

[Use a separate Answer Book for each Group]

Group - A

1. Answer **any five** questions : [5×2]
 - i) Define major & minor pests. Give examples.
 - ii) What is ovaprim?
 - iii) What do you mean by 'Seed Lac'?
 - iv) Write the composition of pearl.
 - v) Mention the scientific names of an exotic major carp and a fresh water pearl oyster.
 - vi) What is 'Nuptial flight'?
 - vii) Mention the scientific names of any two non-mulberry silkworms.
 - viii) What are 'ETL' and 'EIL'?
2. Answer **any two** questions : [2×5]
 - a) Differentiate between penaeid and non-penaeid prawn. Mention the advantages of polyculture.
Write the scientific name of an Indian minor carp. [2+2+1]
 - b) Mention different egg-and meat-producing ducks? What is land based duck rearing? Which infectious disease is caused by bacteria in common duck? [2+2+1]
 - c) Define 'Waggale Dance'. Distinguish between 'Royal Jelly' and 'Bee Wax'. Write names of two parasitic and two viral diseases of honey bee. [1+2+2]
 - d) Mention about the types of silk moths and their respective host plants. State major limitations of IPM. [3+2]
 - e) How does the stored grain pest *Sitophilus oryzae* damage rice? What are the control measures? [3+2]

Group - B

3. Answer **any five** questions : [5×2]
 - i) What is meant by Wallace line?
 - ii) Why Gamma Taxonomy is difficult?

- iii) Distinguish between 'Paratype' and 'Syntype'.
- iv) What is homonymy?
- v) Define 'cleaning symbiosis'.
- vi) What are 'Parasitoids'?
- vii) What is 'Loeffler Syndrome'?
- viii) What is industrial melanism?

4. Answer **any two** questions : [2×5]
- a) Distinguish between monotypic and polytypic species. Define 'Principle of Priority'. How 'Sympatric Species' and 'Sibling Species' do differ? [1.5+1+2.5]
 - b) Write a short note on 'Blackwater fever'. Mention basic differences between *Plasmodium vivax* and *Plasmodium falciparum*. [2+3]
 - c) Give an account of life cycle of *Entamoeba histolytica*.
 - d) Briefly discuss about different types of vaccines.
 - e) In a population of 200 individuals, a particular phenotype (X) is determined by two alleles B+ and B. B+ is dominant over B. The number of homozygous dominant individuals 120, heterozygous is 60 and homozygous recessive is 20. Calculate the frequency of B+ and B in the population. Comment whether the population is in equilibrium or not. [2+3]
5. Answer **any two** questions : [2×5]
- a) 'Macrotaxonomy is not possible without Microtaxonomy' – justify. Define 'Tautonyms' with examples. [2.5+2.5]
 - b) How can 'Evolutionary Species' be described? Enumerate the limitations of 'Biological concept of species'. [2.5+2.5]
 - c) What are 'Phenon' and 'Taxon'? State the principles of 'Downward Classification'. [2+3]
 - d) What are the different types of immunoglobulins? Mention their source, subtypes & function. [1+4]
 - e) Define phoresis. Write down the differences between primary and secondary immune responses. [2+3]

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