K-540

Total Pages: 3 Roll No.

MZO-612B

APPLIED FRESHWATER AQUACULTURE

(Fish Breeding & Production Technology Fin Fish Pathology)

M.Sc. Zoology (MSCZO)

4th Semester Examination, 2023 (Dec.)

Time: 2 Hours] [Max. Marks: 35

Note: This paper is of Thirty Five (35) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION-A (Long Answer Type Questions)

Note: Section 'A' contains Five (05) long answer type questions of Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only.

 $(2\times9\frac{1}{2}=19)$

- 1. Discuss the major viral disease affecting fin fish in aquaculture, including their Causative agent.
- **2.** Discuss the fungal disease including common fungal pathogens that affect fin Fish in aquaculture.
- **3.** Discuss on the bacterial gill disease and columnaris disease in fishes.
- **4.** Discuss in detail on protozoan disease found in fishes.
- **5.** Explain the kinetics of PCR reactions.

SECTION-B

(Short Answer Type Questions)

Note: Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

- **1.** Briefly explains the Polymerase enzyme.
- **2.** Write a short note on the characteristics of Primers.
- **3.** Write a short note on Gel electrophoresis.
- **4.** Write a short note on Red spot disease in fish.

- **5.** Write a short note on Anchor worm Disease in fish.
- **6.** What are the Nematode disease found in fishes.
- 7. What are the causative agent of dactylogyrosis disease.
- **8.** Write a short note on whirling disease.

K-540/MZO-612B