PG/IIIS/ZOO/396A/23(Pr.)

M.Sc. 3rd Semester Examination, 2023

ZOOLOGY

(*Fishery Special*)

(Practical)

PAPER –ZOO-396A

Full Marks : 50

Time : 5 hours

Answer **all** questions

The figures in the right hand margin indicate marks

1. Demonstrate with the help of a suitable process "_____" of the given specimen. Draw and label of your *illustration.* 5 + 1 + 1 + 1

2. Identify the fish Parasite within the Live fish species using the Romanowsky Stain— Justify your answer with reasons. 5 + 1 + 1

3. Dissect and display ARO-system of the sample (_____) provided. 5

4. Identify the following specimen with reasons : $1\frac{1}{2} \times 4$

   (*a*) *Fin-fish* (_____)

   (*b*) *Shell fish* (_____)

   (*c*) *Plankton* (_____)

   (*d*) *Cat fish* (_____)

5. Identify the fish species on the basis of morphometric characterisation. (Sample provided in the Laboratory) 4

6. Submission of Field Report. 10

7. Laboratory Note Book. 5

8. Viva-voce. 5

PG/IIIS/ZOO/396 B/23(Pr.)

M.Sc. 3rd Semester Examination, 2023

ZOOLOGY

(*Ecology Special Practical-I*)

(Practical)

PAPER – 396-B

Full Marks : 50

Time : 5 hours

Answer **all** questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

1. Identify the following aquatic biota with their ecological importance : 3×4

   a. b. c. d.

2. Write down the principle and protocol of estimating total alkalinity/hardness/salinity of

given sample water. Perform the experiment and comment on your result. 2 + 3 + 3 + 2

3. (*a*) Record the coordinates of given location using GPS instrument. What are the different functions available with the device model Garmin etrex ?

or

(*b*) Prepare a climograph with the given data and interpret the climate of the region. (with emphasis to temperature and precipitation) 5 + 3

4. Field report 10

5. Laboratory note book 5

6. Viva-voce 5

M.Sc. 3rd Semester Examination, 2023

ZOOLOGY

(Special : *Genetics & Molecular Biology*)

(Practical)

PAPER –ZOO-396C

Full Marks : 50

Time : 5 hours

Answer **all** questions

The figures in the right hand margin indicate marks

1. Isolate Plasmid DNA from the bacterial sample provided. Prepare an agarose gel and run the DNA. Write down the procedure and comment on your observations. 6 + 6 + 3

Or

Isolate genomic DNA from your own blood sample. Prepare an agarose gel and run the genomic DNA. Write down the procedure and comment on your observations.

2. Prepare a metaphage chromosome slide from Rat bone marrow. Observe the chromosomes under microscope. Draw your finding and write down the procedure. 10 + 2 + 3

3. Submission of Lab. Note Book. 5

4. Submission of Institute Visit Report. 10

5. Viva-voce. 5

PG/IIIS/ZOO/396D/23(Pr.)

M.Sc. 3rd Semester Examination, 2023

ZOOLOGY

(*Parasitology Special*)

(Practical)

PAPER –ZOO-396D

Full Marks : 50

Time : 5 hours

Answer **all** questions

The figures in the right hand margin indicate marks

1. Make a stained preparation of the sample provided. Write the procedure in brief. Comment on your observation. 6 + 2 + 2

2. Identify the lymphocyte and macrophage from the slide. Draw the morphology of the cells visible under a light microscope. Write down the procedure of isolation of the mentioned cells. 3 + 2 + 3

3. Identify the specimens (A, B, C) with reasons. Mention the Phylum, class and order of each specimen with two characters. 4 × 3

4. Submission of Report on Research Institute/ Laboratory visit. 10

5. Laboratory Note Book. 5

6. Viva-voce. 5