



विद्यासागर विश्वविद्यालय

VIDYASAGAR UNIVERSITY

M.Sc. Examinations 2020

Semester IV

Subject: ZOOLOGY

Paper: ZOO- 495

(Practical)

Full Marks: 50

Time: 3 hrs.

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

Special: ECOLOGY

Answer any one of the following

1. Write down the methodology of performing the following Phytosociological measurements in a plot with proper diagrams:-
 - i. Circumference,
 - ii. Tree height
2. Write down the methodology of performing the following Phytosociological measurements in a plot with proper diagrams:-
 - i. Basal Area
 - ii. Trees Per Acre
3. Write down the procedure to calculate the Shannon-Weiner diversity index of any particular community.



Special: FISHERY

1. Identify five coastal fishes of India with the help of a neat sketch and with proper taxonomical distinctions.
2. How do you determine the following limnological parameters in a fishery farm (Highlights the Principle & methodology only)
 - i) Salinity of water
 - ii) Organic carbon of aquatic soil
3. Calculate the method for estimating the length-weight relationship of an Indian Major Carp mentioning the principle and significance.

Special: GENETICS & MOLECULAR BIOLOGY

Answer any one of the following

1. Describe in detail step by step procedure of SDS PAGE. State the importance of the stacking gel. Draw levelled diagram of the setup and one SDS page profile of mixtures of the following proteins with corresponding marker.
 - i. Lysozyme
 - ii. BSA
 - iii. Myosin
 - iv. Alcohol Dehydrogenase
2. A plasmid DNA is subjected to incomplete digestion by two different Restriction endonucleases generating single strand nick, double strand break and supercoiled DNA. The product is electrophoresed in an 0.8% agarose gel. Draw the profile and explain the movements of the DNAs.
3. Illustrate different phases of PCR with proper diagram. How do you set Annealing Temperature and polymerisation time in any PCR method.

Special: PARASITOLOGY

Answer any one of the following

1. Place the following parasites in proper systematic position (**ANY FIVE**). Mention the identifying characters and their medical significance.

i. <i>Plasmodium sp.</i>	v. <i>Pediculus sp.</i>
ii. <i>Culex sp.</i>	vi. <i>Argulus sp.</i>
iii. <i>Phlebotomous sp.</i>	vii. <i>Columbicola sp.</i>
iv. <i>Aedes sp.</i>	viii. <i>Paramphistomum sp.</i>



2. Write the procedure of whole mount preparation of mouth parts of Mosquito vector. Draw, label the mosquito mouth parts and comment on the functions of each part.

3. a. Write the basic principle and procedure of Feulgen reaction in protozoa for localization of DNA. Draw and label the suitable diagram.

b. Write the fixation and staining procedure for permanent slide preparation of cestode parasites.

Vidyasagar University