



DBK-003-2015018

Seat No. _____

B. Sc. (Sem. V) (W.E.F. 2019) Examination

June - 2022

Zoology

*(Fisheries Biology, Animal Husbandry,
Bioinstrumentation, Toxicology & Biostatic)
(New Course)*

Faculty Code : 003

Subject Code : 2015018

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) Illustrate your answer with neat and labelled diagrams.
(2) Figures to the right side indicate full marks of questions.

Write any five questions out of 10.

- 1 (a) Give answer of following questions. 4
(1) Define inland fisheries.
(2) Which crustacean is cause disease in fish ?
(3) Give the name of endocrine gland involve in induce breeding.
(4) In deep freezing have fishes at _____ temperature.
- (b) Write answer in short : 2
Write note on fish manure.
- (c) Write answer for following questions : 3
Discuss causes, symptoms and treatment of gill rot disease.
- (d) Write answer for following questions : 5
Give description of draying and smoking type of post harvesting techniques.
- 2 (a) Give answer of following questions : 4
(1) What is induce breeding ?
(2) Approximately how many percentage of protein is needed in fish meal ?
(3) Give name of Chemical factor affecting fish farm.
(4) Salting method is use _____ to preserve fish.

- (b) Write answer for following question : 2
Make note on carbohydrate as a nutrient in fish.
- (c) Write answer for following question : 3
Write note on fish feed.
- (d) Write answer for following question : 5
Discuss different types of fish pond.
- 3 (a) Give answer of following question : 4
(1) Machana is used for _____ in sericulture.
(2) Define apiculture.
(3) What is the colour of silk worm's eggs ?
(4) Silk worm belongs to which phylum ?
- (b) Give answer of following question : 2
Write only name different species of honey bee use in India.
- (c) Give answer of following question : 3
Describe only female adult stage of silk worm.
- (d) Give answer of following question : 5
Discuss in detail life cycle of honey bee.
- 4 (a) Give answer of following questions : 4
(1) Write a name of product of apiculture.
(2) Give the name of stage of silk worm life cycle gives silk thread.
(3) A full grown 5th in star caterpillar of silk worm has _____ segmented body.
(4) After _____ days small larvae of honey bee hatch out from eggs.
- (b) Give answer of following question : 2
Describe only larval stage of silk worm.
- (c) Give answer of following question : 3
Write a note on apiculture methods.
- (d) Give answer of following question : 5
Write note on rearing of silk worm.
- 5 (a) Give answer of following question : 4
(1) The first type II enzyme isolated was _____.
(2) pBR322 is example of _____ type of vector.
(3) What is cell cloning ?
(4) Write the formula for Rf value.
- (b) Give answer of following question : 2
Write a note on plasmid.

- (c) Give answer of following question : 3
Restriction exonucleases type II
- (d) Give answer of following question : 5
Give a detail account on SDS-PAGE electrophoresis.
- 6 (a) Give answer of following question : 4
(1) What is vector ?
(2) _____ is also known as molecular scissors.
(3) Write full name of YAC vector.
(4) Chromatography is used for _____.
- (b) Give answer of the following question : 2
Write a note on application of electrophoresis.
- (c) Give answer of following question : 3
Give general introduction of cloning.
- (d) Give answer of following question : 5
Write a procedure for paper chromatography.
- 7 (a) Give answer of following question : 4
(1) Define toxicology.
(2) Write major pathway by which toxic agents gain access to body ?
(3) The oral chelating agent _____ is used for treatment of lead toxicity.
(4) Write the classification of toxic agents on basis on their biochemical mechanism of action.
- (b) Write answer of following question : 2
Brief note on skeletal fluorosis.
- (c) Write answer of following question : 3
Give account of treatment of lead toxicity.
- (d) Write answer of following question : 5
Describe characteristic of exposure of lead toxicity.
- 8 (a) Give answer of following questions : 4
(1) Define toxicants.
(2) Inorganic Arsenic is _____ % absorbed by GI Track.
(3) The oral _____ or _____ is effective to remove arsenic to the body.
(4) Write a function of toxicologist.
- (b) Give answer of the following question : 2
Describe classification of toxicant.

- (c) Give answer of following question : 3
Explain exposure of fluoride toxicity.
- (d) Give answer of following question : 5
Describe characteristic of exposure of Arsenic toxicity.
- 9 (a) Give answer of following questions : 4
 (1) Define mean.
 (2) What is the sign of Standard Deviation ?
 (3) If sample size increase value of standard error is _____.
 (4) _____.
- (b) Give answer of following question : 2
Write application of biostatistics.
- (c) Give answer of following question : 3
Find standard deviation from following data
60, 60, 61, 62, 63, 63, 63
- (d) Give answer of following question : 5
Calculate median from following data :
- | | | | | | |
|-----------|------|-------|-------|-------|-------|
| Class | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| Frequency | 8 | 20 | 12 | 8 | 6 |
- 10 (a) Give answer of following questions : 4
 (1) Find the mode of 4,6,5,9,12,3,3
 (2) What is standard error ?
 (3) What is Mode ?
 (4) Find out median of 4,8,2,3,6,9
- (b) Give answer of following question : 2
Find out mean from following data :
10, 2, 3, 8, 15, 8, 10, 25
- (c) Give answer of following question : 3
Calculate mean from following data :
- | | | | | | | | |
|-------|------|-------|-------|-------|-------|-------|-------|
| Class | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| F | 10 | 6 | 8 | 15 | 7 | 8 | 3 |
- (d) Give answer of following question : 5
Calculate Standard Deviation from following data
- | | | | | | | |
|---|----|----|----|----|----|---|
| X | 10 | 20 | 30 | 40 | 50 | 6 |
| F | 8 | 20 | 10 | 10 | 7 | 3 |