



'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours/Programme 3rd Semester Examination, 2021

SEC1-P1-ZOOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

Candidates should answer in their own words and adhere to the word limit as practicable.

**The question paper contains SEC-1A and SEC-1B.
The candidates are required to answer any *one* from *two* courses and
candidates should mention it clearly on the Answer Book.**

SEC-1A

GROUP-A

1. Answer any *five* questions of the following: 1×5 = 5
- (a) What is pollen basket?
 - (b) What is Royal jelly?
 - (c) What are the characteristic features of *Apis dorsata*?
 - (d) What is meant by Bee pasturage?
 - (e) What is bee bread?
 - (f) Mention the outcome of swarming in honey bees.
 - (g) What is Honey dew?
 - (h) What do you mean by bee weevil?

GROUP-B

2. Answer any *three* questions of the following: 5×3 = 15
- (a) Give the symptoms and diagnosis of Chalkbrood. 2½ + 2½
 - (b) Write a short note on bee language.
 - (c) Write on the different uses of honey.
 - (d) What are the characteristic for honey bee selection in Apiculture?
 - (e) Write the advantage and disadvantage of indigenous method of bee keeping.

GROUP-C

3. Answer any *two* questions of the following: 10×2 = 20
- (a) Discuss the causative agent, pathogenesis, symptoms, diagnosis, transmission and control of Nosemosis in honey bee.
 - (b) Discuss the Newton model of modern hive. In which part of India is this type of bee hive popular? State the advantages and disadvantages over the other types. 5+1+4

- (c) Describe the life cycle of honey bee with suitable diagram.
- (d) Describe with diagram of a typical honeycomb emphasizing the different variety of cells in the comb.

SEC-1B

GROUP-A

1. Answer any *five* questions of the following: 1×5 = 5
- (a) Why are ornamental fishes known as “Living Jewels”?
 - (b) Name two native and exotic aquarium fishes.
 - (c) Give an example of invasive ornamental fish.
 - (d) Write the name of an antibacterial agent used in fish transportation.
 - (e) What is infusoria?
 - (f) What do you mean by adhesive and non-adhesive eggs?
 - (g) Give an example of “painted fish”.
 - (h) What is “Living capsules of nutrition”?

GROUP-B

2. Answer any *three* questions of the following: 5×3 = 15
- (a) Mention the common characters of Guppy. How do you differentiate between male and female Guppy? 3+2
 - (b) Name the causative agent, symptoms and treatment measures of one protozoan and fungal disease.
 - (c) Mention the different units involved in ornamental fish trade.
 - (d) Write a short note on live bearing ornamental fishes.
 - (e) Write a short note on the use of ornamental fishes in the control of mosquito population.

GROUP-C

3. Answer any *two* questions of the following: 10×2 = 20
- (a) What is sexual dimorphism? Discuss the sexual dimorphism in swordtail and Angel fish. 2+8
 - (b) Mention the importance of biological filters in an aquarium.
 - (c) Briefly describe the strategies for conservation and sustainable growth of ornamental fish trade in India.
 - (d) What do you mean by open and closed system of fish transport? Mention the principles and factors associated with fish transport. 4+6

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