Year - April 2024

MSC- Zoology

SEM - III

No. of pages - 4

MSC – Zoology – Sem III

Duration: 2 ½ Hours **Maximum Marks: 60**

Instructions:

a. **All questions are compulsory.**
b. **All questions carry equal marks.**
c. **Draw neat and labelled diagrams wherever necessary.**

1. Answer **any FOUR** questions from the following: **(12)**

a) Write a note on use of insects as food.
b) Write a note on leaf eater insects.
c) Explain concept of insect population.
d) Explain swarming in insects with reference to locust.
e) Describe venomous insects.
f) Explain positive Insect-Plant Interactions.

2. Answer **any TWO** questions from the following: **(12)**

a) Describe different types of honey bees used in Apiculture.
b) Explain Bee Keeping Management & Prospects.
c) Explain Life History and Cropping of Lac insect.

3. Answer **any TWO** questions from the following: **(12)**

a) Explain frugivory and write a note on leaf eaters.
b) Write a note on bark feeders and gall forming insects.
c) Explain positive and negative Insect-Insect interactions in detail.

4. Answer **any TWO** questions from the following: **(12)**

a) What is population dynamics and what are its uses in study of insect pests? Explain in detail
b) Explain factors affecting insect population.
c) Describe Mimicry in insects with suitable examples.

5. Answer **any TWO** questions from the following: **(12)**

a) Write a note on social life in ants and wasps.
b) Describe insect learning and memory of insects and add a note on instincts of insects.
c) Explain the role of insects as indicator of environment.

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MSC – [redacted] – SEM III

(2½ Hours) **Total Marks: 60**

Instructions:

1. All questions are compulsory.
2. All questions carry equal marks.
3. Draw neat and labelled diagrams wherever necessary.

1 Answer any **four questions** from the following: **(12)**

a) Explain chewing type of mouth parts in insects

b) Enlist various enzymes involved in digestion

c) Enlist the types of trachea in insects

d) Enlist functions of insect haemocytes

e) Write a note on various types of sound producing structures in insects

f) Explain cleavage in an insect egg

2. Answer any **two questions** from the following: **(12)**

a) Describe cuticular modifications in insect integument

b) Discuss various muscles involved in flight of an insect

c) Describe the alimentary canal in insects

3. Answer any **two questions** from the following: **(12)**

a) Describe the structure of tracheal system in insects

b) Discuss the mechanism of circulation in insects

c) Explain mechanism of osmoregulation in insects

4. Answer any **two questions** from the following: **(12)**

a) Explain physiology of nervous coordination in insects

b) Describe photoreceptors in insects

c) Discuss the chemical structure of hormones in insects

5. Answer any **two questions** from the following: **(12)**

a) Explain gastrulation and growth of germ layers in insects

b) Describe female reproductive system in insects

c) Discuss various types of larvae in insects

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MSc – Zoology – Sem III

Time- 2.5 Hours **Total marks- 60**

Instructions-
All questions are compulsory
All questions carry equal marks
Draw neat and labelled diagrams wherever necessary

Q. 1 Answer **any four** questions from the following- (12)

a) Describe examples of extinct insects
b) Describe Ephemeroptera with suitable example
c) Describe any one family of Zoraptera
d) Write a note on the characteristics of any one family of Neuroptera
e) State any three families of Diptera
f) Explain the term- Holometabola

Q. 2 Answer **any two** questions from the following (12)

a) Describe the classification of Thysanura with suitable examples
b) Describe the taxonomic keys for classifying insects
c) Write a note on history of insect classification.

Q. 3 Answer **any two** questions from the following (12)

a) Describe the characteristics of important families of Orthoptera
b) Describe the characteristics of important families of Odonata
c) Describe the important families of Blattaria

Q. 4 Answer **any two** questions from the following (12)

a) Describe in brief the important families of order Strepsiptera
b) Describe the important families of Mecoptera with suitable examples
c) Describe the characteristics of any two families of Thysanoptera

Q. 5 Answer **any two** questions from the following (12)

a) Describe important families of Coleoptera with suitable examples
b) Describe important families of Hymenoptera with suitable examples
c) Describe important families of Lepidoptera with suitable examples

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MSc – Zoology – sem III (4)

Time : 2 ½ Hours **Total Marks : 60**

Instructions:

a. All questions are compulsory.
b. All questions carry equal marks.
c. Draw neat and labelled diagrams wherever necessary.

1 Answer any **four questions** from the following: **(12)**

a) Explain wet preservation of insects
b) Discuss significance of polytene chromosomes
c) Describe morphology of the wings of a butterfly
d) Write a note on mouth parts of a butterfly
e) Enlist various uses of silk
f) Enumerate on host plants of silk worm

2. Answer any **two questions** from the following: **(12)**

a) Write a note on permanent preservation of insects
b) Describe various nets used in collection of insects
c) Discuss pinning in various orders of insects

3. Answer any **two questions** from the following: **(12)**

a) Relation of sex determination and dosage compensation
b) Explain behavioural traits in Drosophila
c) Discuss balanced lethal systems in Drosphila

4. Answer any **two questions** from the following: **(12)**

a) Describe circulatory system of a butterfly
b) Explain nervous system of a butterfly
c) Compare reproductive system of a male and a female butterfly

5. Answer any **two questions** from the following: **(12)**

a) Describe pests of silk worm
b) Discuss life cycle of a silkworm
c) Enlist and describe various instruments used in sericulture

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