

**M.Sc. ZOOLOGY
FOURTH SEMESTER
ECONOMIC ZOOLOGY
MSZ – 406 MDC**

(Use Separate Answer Scripts for Objective & Descriptive)

Duration : 3 hrs.

Full Marks : 70

[PART-A: Objective]

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1X20=20

1. For soil pH ranging between 6.5- 7.5 the application of lime in the pond should be at the rate of
 - a. 1000 kg/ha
 - b. 700 kg/ha
 - c. 800 kg/ha
 - d. 200 kg/ha
2. In composite fish culture a feeding rate of
 - a. 2-3% of body weight of fish is generally recommended
 - b. 5% of body weight of fish is generally recommended
 - c. 9% of body weight of fish is generally recommended
 - d. 10% of body weight of fish is generally recommended
3. The droppings of chicks that would fertilise fish ponds are rich in
 - a. Nitrogen and phosphorus
 - b. Sulphur
 - c. Silicate
 - d. Ammonium
4. *Macrobrachium rosenbergii* also known as
 - a. The giant freshwater prawn
 - b. The giant marine water prawn
 - c. The giant brackish water prawn
 - d. None of the above
5. Most commonly used breed for IFS in the duck -cum fish farming in India are
 - a. Indian eagle
 - b. Indian runners
 - c. Indian rippler
 - d. None of the above
6. Rice grasshopper, *Hieroglyphus banian* lays eggs on-
 - a. Stem
 - b. Seed
 - c. Leaf
 - d. Soil
7. Destructive stage of teak defoliator, *Hyblaea puera* is
 - a. Egg
 - b. Pupa
 - c. Larva
 - d. Adult
8. Sal heartwood borer, *Hoplocerambyx spinicornis* feeds on
 - a. Leaf
 - b. Root
 - c. Fruit
 - d. Stem
9. Pesticides enter in animal's body are accumulated in
 - a. Liver
 - b. Lung
 - c. Fatty tissue
 - d. Stomach

10. Which one of the following is a stored grain pest?
 a. *Leptocorisa varicornis* b. *Callosobruchus chinensis*
 c. *Helopeltis theivora* d. None of the above
11. Lac insect is belong to the order
 a. Lepidoptera b. Hymenoptera
 c. Hemiptera d. Odonata
12. Which of the following is called 'Ahimsa silk'?
 a. Muga silk b. Eri silk
 c. Mulberry silk d. Tussar silk
13. Silk gland is modified-
 a. Salivary gland b. Poison gland
 c. Mucus gland d. Wax gland
14. Bee products include-
 a. Bee wax b. Propolis
 c. Venom d. All of the above
15. In honey bees a flight for mating purpose is called-
 a. Nuptial flight b. Straight flight
 c. Tactile flight d. None of the above
16. What is the percentage of mortality of patients suffering with Japanese Encephalitis?
 a. 10% b. 20%
 c. 30% d. 100%
17. The life cycle of *Plasmodium vivax* is
 a. Digenetic b. Trigenetic
 c. Autogenetic d. None of the above
18. Which part of intestine is more prone to infection in *Ascaris lumbricoides*?
 a. Jejunum b. Ileum
 c. Duodenum d. Rectum
19. Which among these imaging techniques cannot be used for detection of *Ascaris*?
 a. X ray b. Echocardiography
 c. CT scan d. Ultrasound
20. Japanese Encephalitis is caused by _____ borne virus.
 a. Helminth b. Arthropod
 c. Cnidarian d. Protozoan

(PART-B : Descriptive)

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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| 1. What is Composite fish culture? Outline some of the objectives in composite fish culture and highlight some important aspects of composite fish culture in India | 1+2+7
=10 |
| 2. What is integrated fish farming? Mention some of the different types of Integrated fish farming practiced in India, | 2+8=10 |
| 3. Describe the induced breeding technique in fishes with suitable examples. | 10 |
| 4. Define Pest. Write the classification of insect pest of agriculture. | 2+8=10 |
| 5. Describe the life cycle and damage done by any one of tea pest. | 7+3=10 |
| 6. Mention different types of silkworm reared in India. What are the host plants of Eri silkworm? Explain life cycle of Eri silkworm. | 2+2+6
=10 |
| 7. What are the castes present in a honeybee society? How they differ morphologically? Briefly explain different bee products. | 1+3+6
=10 |
| 8. Mention the various forms and types of parasites with few major examples and their brief life cycles. | 10 |

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