(6 pages) **Reg. No. :**.....

Code No. : 30400 E **Sub. Code : CNZO 31**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2025.

Third Semester

Zoology

Non-Major Elective — BEE KEEPING

(For those who joined in July 2021 and 2022 only)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The easily domesticated honey bee variety is
   (a) *Apis indica* (b) *Apis florea*
   (c) *Apis dorsata* (d) *Apis mellifera*

2. The kind of bee colony takes to develop from the egg
   (a) 30 days (b) 60 days
   (c) 24 days (d) 14 days

3. The propolis is prepared from the
   (a) Pollen (b) Wax
   (c) Honey (d) Royal Jelly

4. The mixture of pollen, nectar and bee saliva is called
   (a) Royal jelly (b) Bee bread
   (c) Bee pollen (d) None

5. Super chamber is used for the
   (a) Storage of honey
   (b) To grow queen
   (c) To grow workers
   (d) To grow drones

6. Brood foul disease is caused by
   (a) Fungus (b) Protozoa
   (c) Bacteria (d) Virus

7. The revolutionary change in the construction of modern bee live is the use of
   (a) movable frame
   (b) metal root
   (c) queen excluder
   (d) bee brush

8. Langstroths modern bee live developed in the year

(a) 1854 (b) 1852

(c) 1853 (d) 1851

9. To prevent fermentation, honey is stored at a temperature of °C

(a) 5 to 10 (b) 10 to 20

(c) 20 to 30 (d) 30 to 40

10. The preservative substance present in honey

(a) lactic acid (b) citric acid

(c) formic acid (d) none

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Mention the special features of Indian bee.

Or

(b) Give an account on little bee and dammer bee.

12. (a) Give a note on food of young larva.

Or

(b) Illustrate the space and direction of apiary.

13. (a) Explain swarming of honey bees.

Or

(b) Give a short note on causative organism, symptoms and prevention of nosema disease.

14. (a) What are the advantages and disadvantages of Newton's hive?

Or

(b) Explain the architecture of Langstroth's hive.

15. (a) Give the descriptive account of bee wax, venom and royal jelly.

Or

(b) Give a short note on physical properties of honey.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe the life cycle of *Apis indica* with diagram.

Or

(b) Describe the identifying characters of Drone and worker bees.

17. (a) Describe the relationship between bees and plants.

Or

(b) Explain seasonal management of honey bees.

18. (a) Give an account on causative organism, symptoms and prevention of brood disease.

Or

(b) What are the enemies of the honey bees and how they are controlled?

19. (a) Give an account on different types of primitive hives.

Or

(b) Describe the appliances used in apiaries and add a note on their uses.

20. (a) Discuss the preservation and storage process of honey.

Or

(b) Explain the nutritive and medicinal values of honey.