

B.Sc. (Part-III) Semester—V Examination
APICULTURE
(Cytogenetics and Bee Breeding)

Time : Three Hours]

[Maximum Marks : 80

Note. :—ALL questions are compulsory and question nos. **2** to **7** carry equal marks.

I. (A) Fill in the blanks :

- (a) Study of purity of gene is called _____. ½
- (b) Meiosis is also known as _____. ½
- (c) _____ is control the cell activities. ½
- (d) _____ and Queen involve in mating. ½

(B) Choose correct option :

- (e) Bees communicate by _____. ½
- (i) Dance
- (ii) Sound
- (iii) Chemical
- (f) Majority of artifical hive is made up of _____. ½
- (i) Steel
- (ii) Wax
- (iii) Wooden

(g) Study of gene is called as _____.

(i) Cytology

(ii) Embryology

(iii) Genetics

½

(h) Cell protecting the boundary of cytoplasm is called _____.

(i) Mitochondria

(ii) Plasma membrane

(iii) Nucleus

½

(C) Answer in **ONE** sentence each :

(i) What is the role of Queen ?

1

(ii) What is Superior genotype ?

1

(iii) What is Mating ?

1

(iv) What is Swarming ?

1

2. (a) Describe cell membrane.

4

(b) Explain the mass selection of superior genotypes.

4

(c) Describe the function of Lysosome.

4

OR

(d) Describe the structure of endoplasmic reticulum.

4

(e) Explain inbreeding and heterosis.

4

(f) Describe scope of instrumental insemination for bees.

4

3. (a) Describe the methods of bee breeding and selection.

4

(b) Draw a well-labeled diagram of Mitosis.

4

(c) Explain the different types of location related to their functions.

4

OR

- (d) Describe Meiosis. 4
- (e) Explain the concept to transfer natural colonies into hive. 4
- (f) Describe the management problem in bee breeding. 4
- 4. Discuss the differential components subscribing for higher yield. 12

OR

Discuss the Parsimonious habit, absconding and disease resistance with reference to better performance. 12

- 5. Discuss the concept of individual colony records and explain any two inspection heads. 12

OR

Discuss the evaluation of individual colony records and describe grouping of individual colonies. 12

- 6. (a) Describe superior mating and give its advantages. 4
- (b) Describe migration for Queen Rearing Programme. 4
- (c) Give the disadvantages of inferior mating. 4

OR

- (d) Explain available resources in maternal Pedigree for bee selection. 4
- (e) Give the importance of rearing of Pedigree Queen. 4
- (f) Describe queen rearing with respect to migration. 4
- 7. (a) Explain Provision of Pedigree drones. 4
- (b) Describe Progeny testing. 4
- (c) Explain Multiple mating. 4

OR

- (d) Explain mating signs. 4
- (e) Describe single mating. 4
- (f) Explain mating yards and their problems. 4

