6. (a) Explain migration for queen rearing programme. 4

(b) Give advantages of superior mating. 4

(c) Describe inferior mating and give its disadvantages. 4

OR

(d) Explain rearing of pedigree queen. 4

(e) Explain maternal pedigree for bee selection. 4

(f) Explain need for migration for queen rearing. 4

7. (a) Explain progeny testing. 4

(b) Describe multiple mating. 4

(c) Describe mating signs. 4

OR

(d) Explain sealed queen cell. 4

(e) What do you understand by mating yards ? Explain its problems. 4

(f) Explain single mating. 4

AP–510

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.

1. (A) Fill in the blanks :

(a) Bee ———— programme improves qualitative trait in bee keeping. ½

(b) Cell division take place in ————. ½

(c) ———— is the power house of cell. ½

(d) Queen and ———— involve in mating. ½

(B) Choose correct option :

(e) Mating takes place in—

(i) Atmosphere

(ii) Hive

(iii) Tree. ½

(f) Instrumental insemination done at ——.

(i) Laboratory

(ii) Farm

(iii) Yard. ½

(g) Cytology is the study of :

(i) Cell

(ii) Plant

(iii) Animal. ½

(h) Genetics is the study of :

(i) Gene

(ii) Cytology

(iii) Breeding. ½

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

(i) Define breeding. 1

(j) What is inbreeding ? 1

(k) What is the function of queen ? 1

(l) What is mating ? 1

2. (a) Describe nucellus. 4

(b) Explain structure of cell. 4

(c) Explain applications of genetics in bee improvement. 4

OR

(d) Describe endoplasmic reticulum. 4

(e) Explain limitations of instrumental insemination. 4

(f) Describe Golgi complex. 4

3. (a) Explain management problem in bee breeding. 4

(b) Explain Meiosis. 4

(c) Draw the diagram of mitosis. 4

OR

(d) Describe equipment used in bee breeding. 4

(e) Explain in brief steps to transfer natural colonies into hive. 4

(f) Describe in brief individual method of bee breeding. 4

4. Discuss the various components subscribed for higher yield. 12

OR

Discuss swarming behaviour and hive sanitation with reference to better performance. 12

5. Discuss importance of individual colony records and explain any two inspection heads. 12

OR

Discuss advantages of periodically observed colony record and explain pedigree record system. 12