AT–396

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 :

(i) _____ is present on rough E.R. ½

(ii) Plasma membrane is made up of Protein, lipid and ___ ___ ___. ½

(iii) In ___ ___, chromosomes are separated towards opposite pole. ½

(iv) Mitochondria is responsible for production of ___ _____. ½

(B) Choose correct option :

(i) Genes are located on : ½

(a) Golgi complex (b) DNA (c) Ribosomes

(ii) Mating flight of bees is also called as _____. ½

(a) Mating flight (b) Swing flight (c) Nuptial flight

(iii) Chromosomes appear like a thin thread like structure during the state of : ½

(a) Anaphase (b) Metaphase (c) Prophase

(iv) Royal jelly is rich in : ½

(a) Protein (b) Lipid (c) Starch

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

(i) What is role of drone ? 1

(ii) What is swarming ? 1

(iii) What is the use of Extracting equipment ? 1

(iv) What is the use of Broodnest ? 1

2. Describe the different stages of mitosis and its importance. 12

OR

Describe the different progeny testing methods for bees. 12

3. (a) Describe any one method of bee breeding. 4

(b) Describe the modern hives. 4

(c) Describe the different types of breeding apiaries. 4

OR

(d) Describe the natural nests and acquisition of colonies. 4

(e) Describe apiary management problems. 4

(f) Explain types of breeding apiaries. 4

4. (g) Describe the qualitative characters. 4

(h) Describe frequency of egg laying and hatching. 4

(i) Explain the Hive Sanitation. 4

OR

(j) Explain the honey yield and body size. 4

(k) Describe the quantitative characters. 4

(l) Describe the undesirable characters. 4

5. Describe in detail about pedigree record system. 12

OR

Describe the methods of evaluation of individual colony records. 12

6. (m) Explain rearing of pedigree queen bees. 4

(n) Explain superior mating and its advantages. 4

(o) Describe available resources for queen rearing program. 4

OR

(p) Describe methods to minimize inferior mating. 4

(q) Explain migration for queen rearing programme. 4

(r) Explain the advance provisioning for queen rearing programme. 4

7. (s) Explain method of preparation of mating nuclei with sealed queen cells. 4

(t) Explain the multiple mating. 4

(u) Explain the organization of mating yards. 4

OR

(v) Explain progeny testing methods. 4

(w) Explain the re-migration of stocks. 4

(x) Method for equalization of colony strength. 4