AT–345

B.Sc. Part–II Semester–III Examination

APICULTURE

(Entomology & Bee Pathology)

Time : Three Hours] [Maximum Marks : 80

Note :— **All** questions are compulsory and questions 2 to 7 carry equal marks.

1. (A) Fill in the blanks.

(a) _____ bee is found 17-20 mm in size. ½

(b) Various disease is caused by _____ mite. ½

(c) Chemical communication in bees is through _____ _____. ½

(d) Zoological name of wax moth is _____ . ½

(B) Choose the correct option :

(e) Regurgitation is done by : ½

(i) forager bees, (ii) guard bees (iii) nurse bee

(f) Spider is : ½

(i) bee parasite (ii) bee predator (iii) bee pathogen

(g) During regurgitation, bees mix enzyme ½

(i) distase, (ii) oxidase (iii) glucose oxidase.

(h) Excretion is done by : ½

(i) malphighian tubules (ii) esophagus (iii) rectum.

(C) Answer in one sentence each

(i) Give any two names of subspecies of Apis cerena. 1

(j) What is bee parasite ? 1

(k) Define physiology 1

(l) Define Metamorphosis. 1

2. (a) Describe the classification of honey bees up to genus. 4

(b) Explain man as hunter and beekeeper. 4

(c) Explain social and solitary bees. 4

OR

(d) Explain relation of bees with human culture. 4

(e) With the help of typical diagram, explain insect. 4

(f) Explain importance of honey bees. 4

3. Discuss casts in honey bees with their functions and discuss subspecies of Apis cerena. 12

OR

Give an account on bee behaviour. 12

4. (g) Explain alimentary canal in honey bees. 4

(h) Draw well labelled diagram of male and female reproductive system of honey bees. 4

(i) Explain physiology of circulation. 4

OR

(j) Explain Fertilization in honey bees. 4

(k) Describe metamorphosis in honey bees. 4

(l) Give account on nervous system of honey bees. 4

5. Discuss behavioural and chemical communication in honey bees. 12

OR

Discuss bee behaviour with reference to guarding, foraging and egg laying. 12

6. (m) Give any four symptoms of AFB. 4

(n) How to control fungal brood disease. 4

(o) Explain nosema disease. 4

OR

(p) Draw classifying chart of bee diseases. 4

(q) Explain Thai sac brood disease. 4

(r) Explain clustering disease. 4

7. (s) Explain concept of apiary sanitation. 4

(t) Describe effect of wax moth on colony

(u) Explain wasps as predator of honey bees. 4

(v) Explain control measures for wax moth. 4

(w) Describe birds as enemies of honey bees. 4

(x) Explain effect of pest on honey bees. 4