

[This question paper contains 4 printed pages.]

4652

Your Roll No. ....

B.Sc. Prog./III

AS

ACP – 301 : Applied Entomology

(Admissions of 2005 & onwards)

Time : 3 hours

Maximum Marks : 75

*(Write your Roll No. on the top immediately  
on receipt of this question paper.)*

*Attempt five questions in all, including  
Question No. 1 which is compulsory.*

1. (a) Differentiate between :

- (i) Lepidoptera and Diptera
- (ii) Superparasitism and Hyperparasitism
- (iii) Stomach poison and contact poison
- (iv) Tergum and sternum of cockroach

(2×4=8)

(b) Classify the following as: chlorinated hydrocarbons/organophosphates/synthetic pyrethroids

Aldrin, Diazinone, Cypermethrin, Endosulphan, Lindane, Fenvalerate, Dichlorvos, Heptachlor, Malathion, Monocrotopos.

(½×10=5)

P.T.O.

(c) Give 1-2 word answers w.r.t cockroach

- (i) Gland that helps in formation of egg case
- (ii) Term for external opening of the air tubes
- (iii) Total number of ganglia in thorax and abdomen (1×3=3)

(d) Match the insect with the type of mouthparts it possesses (Note : More than 1 insect may have a particular type of mouthpart)

- (i) Bugs                      Piercing and Sucking type
- (ii) Mosquitoes              Biting and Chewing type
- (iii) Beetles                  Sponging type
- (iv) Butterflies
- (v) Houseflies
- (vi) Cockroaches              (½×6=3)

2. (a) What is the scientific name of

- (i) Desert locust
- (ii) Bombay locust (1×2=2)

(b) Give the characteristics of the two phases of desert locust. What is the cause for appearance of these two phases? (6)

- (c) Discuss the damage caused by desert locust and the ways to manage it. (6)
3. (a) What is the scientific name of the rice weevil? (1)
- (b) Explain the morphology of an adult rice weevil and the damage it causes. (4)
- (c) Discuss the bionomics and management of any one pest of fruits. (9)
4. Name the causative organism and vector of the following diseases (Give scientific names)
- (i) Bubonic plague
- (ii) Malaria
- (iii) Dengue fever (2×3=6)
- (b) Discuss the role of arthropods and nemathelminths as agents of biological control with examples. (8)
5. (a) What are desirable characteristics of an insecticide? (3)
- (b) Differentiate between  $LD_{50}$  and  $LC_{50}$  values of insecticides. (3)
- (c) What are *kusumi* and *rangeeni* strains of the lac insect? How is lac culture done? (8)

6. Write short notes on any four :
- (a) Mechanical and physical control of pests
  - (b) Life cycle of the sugarcane Top Borer
  - (c) Neem as an insecticide
  - (d) Sterile male Technique
  - (e) Medical importance of houseflies (3½×4=14)