M.Sc. (Ag.) Examination, 2018
Semester-II
Agricultural Entomology
Course- AEN-504
(Insect Ecology)

Time: Three Hours **Full Marks: 50**

Questions are of value as indicated in the margin

Answer ***any five*** questions

1. Define ecology. What are the sub-divisions of ecology? Mention the scope of ecology. Write in brief about trophic level. 2+3+2+3=10
2. What do you mean by population growth? Describe in brief the factors that influence the population growth. Elaborate in brief the S-shaped and J-shaped growth curve. 2+3+2.5+2.5=10
3. Define insect population. What are the characteristics of a population? Describe in brief the factors that affect the insect population. What are the causes of insect outbreak? 2+2+4+2=10
4. Mention the different components of an ecosystem. What is an agro-ecosystem? What are the unique features of an agro-ecosystem? Write different types of ecological pyramids.3+2+2+3=10
5. Define life table. What type of information is obtained from life table? What are the advantages and disadvantages of life table concept? In which type of insect, life table studies has been successfully made? 2+3+3.5+1.5=10
6. How the density of a given population fluctuates? What are those factors which affect the death and birth rate in a population? How the population densities are estimated? 3+3.5+3.5=10
7. Differentiate ***any five*** of the following pairs: 5×2=10
   (a) r-strategic and k-strategic insects.
   (b) Predator and parasite.
   (c) Intraspecific and interspecific competition.
   (d) Dispersal and disperson
   (e) Commensalism and mutualism
   (f) Ecological niche and habitat
   (g) Density dependent and density independent factors.
   (h) Developmental threshold temperature and thermal constant.
8. Write short notes on ***any five*** of the following: 2×5=10
   (a) Carrying capacity.
   (b) Population turn over.
   (c) Bioresources in ecosystem.
   (d) Equilibrium phase of growth curve.
   (e) Importance of age groups in a population.
   (f) Ecological dominants.
   (g) Gause's principle.
   (h) Survivorship curve.

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