Agriculture (Theory)

Time allowed : 3 hours  
Maximum Marks : 70

General Instructions:
(i) All questions are compulsory.
(ii) Marks for questions are indicated against each of them.

1. By the year 2050, India’s target for total foodgrain production per year would be around 325 million tons, but we have reached only around 210 million tons by now. Suggest important sustainable crop production techniques for achieving the target of total foodgrain production.

2. Differentiate between the following:
(a) Soil organic carbon content and Soil pH
(b) Alluvial soil and Black cotton soil
(c) Irrigation and Drainage
(d) Chemical, fertilizers and Bio-fertilizers
(e) F.Y.M. and Vermi-compost
3. Write about the cultivation practices of fodder crops of sorghum and berseem under the following heads:
   (a) Land preparation
   (b) Two improved varieties
   (c) Time of planting & seed rate
   (d) Fertilizer and irrigation requirement
   (e) Average fodder yield in quintals/hectare

4. Write the major objectives of the following practices in crop production:
   (a) Split application of nitrogenous fertilizers
   (b) Minimum tillage
   (c) Stages of crop growth and irrigation
   (d) Integrated nutrient management
   (e) Inter cropping in Rabi maize
5. (a) A farmer is interested in developing a big orchard in Delhi village with peri-urban agriculture concept. Give necessary layout plans to develop the orchard. Also suggest names of two fruit crops to be planted in that orchard from market point of view. Write in brief the major agronomic practices for their cultivation.

(b) Write major characters of a good seed. What precautions will be taken while producing a quality seed?

6. (a) Write about methods of preparation of Jellies and Ketchup and also their canning process.

(b) Differentiate between trees, shrubs and climbers with suitable examples.

7. Write short notes:
   (a) Vegetables in Human diet
   (b) Manuring in orchards
   (c) Malformation in mango and its remedy
   (d) Marigold and its uses
   (e) Protection of Annuals from frost and sunburn