2024

Code 12

Time: 3 Hours **Maximum Marks : 150**

Note : Attempt any 15 Questions. All questions carry equal marks(10 marks each)

Q.1 Differentiate between saline and sodic soils? What are the detrimental effects of saline and sodic soils on plant growth? Enlist important remediation measures. **(10)**

Q.2 (i). Specify the roles of nitrogen, phosphorus and potassium in crop plant health and enlist their deficiency symptoms in maize. **(5)**

(ii) What are ideal soils for precision cultivation of chick pea, pigeon pea, groundnut and mustard ? **(5)**

Q.3 What are the laws of inheritance proposed by G. Mendel? Give reasons to get success in choosing seven distinct characters in Garden pea. **(10)**

Q.4 What are major insect pests and diseases of cotton and their control management? **(10)**

Q.5 What is seed dormancy? Explain the factors causing seed dormancy in crop plants with examples. **(10)**

Q.6 Explain quality seed production technology of wheat and suitable agro-climatic zones of India. **(10)**

Q.7 What is organization set up of agricultural research, education and extension? Justify its importance in agriculture growth in India. **(10)**

Q.8 What are the components for integrated farming systems? Give an account on site specific development of integrated farming system model for different agroclimatic zones. **(10)**

Q.9 (i) Briefly explain methods of seed testing. **(4)**

(ii) Give sequential steps of seed production in cross pollinated crops. **(3)**

(iii) What is heterosis and its role in crop production? **(3)**

Q.10 Elaborate the applications of GIS and GPS technologies in agriculture. (10)

Q.11 Explain the economic importance, soil and climate requirement for major fodder and forage crops. (10)

Q.12 Give an account of major weeds of wheat, rice and maize and their control measures. (10)

Q.13 Describe irrigation water quality requirement and its management in major field crops of Haryana state. (10)

Q.14 (i) What are the indicators of soil fertility and productivity? (4)

(ii) Distinguish between integrated nutrient management and sit specific nutrient management. (6)

Q.15 (i) What is dry land farming and its constraints in maize crop Cultivation? (4)

(ii) What are the kinds of drought and their management with contingency crop planning? (6)

Q.16 Explain the strategies for safe disposal and utilization of agro-industrial waste for crop production. (10)

Q.17 (i) Explain water use efficiency to grow healthy crop? (5)

(ii) Briefly describe methods of water use efficiency for optimum quality and crop production. (5)

Q.18 Describe biological nitrogen fixation in crop plants and other uses of microorganisms in crop production. (10)