

CSM – 6/20
Agriculture
Paper – I

Time : 3 hours

Full Marks : 300

The figures in the right-hand margin indicate marks.

*Candidates should attempt Q. No. 1 from Section – A and Q. No. 5 from Section – B which are compulsory and any **three** of the remaining questions, selecting at least **one** from each Section.*

SECTION – A

1. Answer any **three** of the following in about **200** words each : 20×3 = 60
 - (a) Enlist the different Agro-climatic zones of India according to Planning Commission of India and give the details of cropping pattern and major growing crops of each zones.

- (b) Define crop diversification and intensification for sustainability. Describe vertical and horizontal approaches, interactive effect and major driving forces of crop diversification in agriculture.
 - (c) Differentiate the pulses and legumes. Write role of pulses in Indian agriculture and reasons for low productivity of pulse crops. Narrate the package of practices adopted for fibre jute crop production.
 - (d) What do you mean by organic farming ? List out the different approaches of organic farming and describe about bio-dynamic farming, permaculture and LEISA farming approaches and also enlist the economic, ecological and social benefits of organic farming.
2. What is irrigation scheduling ? List out the criteria/ approaches for irrigation scheduling. Explain the water use efficiency and also differentiate the crop and field water use efficiency. How the infiltration rate can be increased ? Explain the micro-

irrigation and give brief note on drip irrigation system. What do you mean by soil pollution ? Discuss about the pesticide and fertilizer pollution. 60

3. Define weeds. Classify the weeds according to their association with crops. Explain about weed multiplication/propagation and enlist the agencies responsible for weed dispersal. List out principles of weed control and explain about integrated weed management approach. Discuss about the Herbicide Resistance Crops (HRCs). 60
4. What do you mean by agro-forestry ? Narrate the benefits and classification of agro-forestry systems. Differentiate the soil fertility and productivity. Give the reasons for soil fertility losses and enlist possible practices for maintenance of soil fertility. Define essential nutrients and give criteria of nutrient essentiality. What is watershed and its management ? Provide objectives and principles of watershed management with soil and water conservation practices. 60

SECTION – B

5. Write short notes on any three of the following in 200 words each : 20×3 = 60

- (a) What is ecology ? Describe function of an ecosystem. Define bio-diversity and state the India's bio-diversity. Narrate the causal factors of threat for bio-diversity.
- (b) What do you mean by environmental pollution ? List out environmental pollutants, kinds of pollution and discuss about types, sources and effects of air pollution.
- (c) Write note on global warming and climate change and its potential impacts of on environment, agriculture and human health, Enlist the mitigation strategies for overcoming global warming issues.
- (d) Define the farm management and enlist the factors influencing farm management decisions and basic concepts of farm management. Define the farm planning and farm budgeting and write types of farm budgeting.

6. What is agricultural co-operatives ? Discuss the principles of co-operation and co-operative credit institutions. Write reasons of slow progress of co-operative marketing and suggestions for strengthening of co-operative marketing societies. Explain about agricultural prices and risk management. 60
7. Discuss, in details, about external trade in agricultural products, trade policy for agriculture, changes in India's agricultural export basket and recent policies on trade. Explain about the agri-export zones, general agreement on trade and tariffs and world trade organization. 60
8. Give the meaning of extension and extension education with types and scope of extension education. Explain the Institutional Village Linkage Programme (IVLP). What do you mean by agricultural extension system ? Explain about training and visit programme and its role in agriculture. Discuss regarding monitoring and evaluation of extension programme. 60

