

Duration: Three Hours

Marks: 100

- N.B. : 1. All Questions are compulsory.
 2. Figures to the right indicate full marks.
 3. Draw neat and labelled diagrams wherever necessary.

Q.1. A. Choose the correct option from the following and rewrite the sentence. 10

- a. Glycyrrhizin is the secondary metabolite found in _____.
 i) *Terminalia tomentosa* ii) *Bacopa monnieri*
 iii) *Glycyrrhiza glabra* iv) *Saraca asoca*
- b. _____ got legal status under second schedule of the drugs and cosmetics act 1940 and rules 1945 thereunder.
 i) Indian Pharmacopoeia ii) AYUSH iii) Monographiv) None of these
- c. _____ is common adulterant in *Terminalia arjuna*.
 i) *Glycyrrhiza glabra* ii) *Bacopa monnieri*
 iii) *Terminalia tomentosa* iv) *Centella asiatica*
- d. *Saraca asoca* is commonly known as _____
 i) Sita asok ii) arjuna iii) brahmii v) bhuiamla
- e. The family of genus *Gossypium* is _____
 i) Fabaceae ii) Malvaceae iii) Poaceae iv) Solanaceae
- f. When forestry is practiced for achieving more than one purpose, it is called _____.
 i) intensive forestry ii) multiple forestry iii) silviculture iv) agroforestry
- g. The biological source of cardamom _____
 i) stem ii) fruit and seeds iii) leaves iv) root
- h. _____ is used in the treatment of indigestion.
 i) *Chlorella* ii) kokum iii) vanillin iv) *Spirulina*
- i. _____ of Jojoba plant are crushed to obtain Jojoba oil.
 i) Roots ii) Flowers iii) Leaves iv) Seeds
- j. Biogas can be produced from _____ digestion of biodegradable material.
 i) aerobic ii) anaerobic iii) oxidative iv) none of these

Q.1. B. Answer the following in one or two sentences. 10

- a. Define monograph.
 b. Define urban forestry.
 c. What is fibre?
 d. Give any two uses of Vanillin.
 e. Define Biofuel.

Q.2. Answer any two from the following : 20

- A. Describe concept of adulterant/substitute with example of *Bacopa monnieri* and *Centella asiatica*.
- B. Describe how different species of *Phyllanthus* are distinguished from each other.
- C. Explain the monograph of *Centella asiatica*.
- D. Define and differentiate between primary and secondary metabolites? What is the role of secondary metabolite in plants.

Q.3. Answer any two from the following : 20

- A. Explain Silviculture. State the objective of Silviculture.
- B. Mention the botanical name and biological source of Jute. Describe the process of extraction and processing of fiber from jute plant.
- C. What are the various agricultural practices that are followed for commercial cultivation of saffron?
- D. What is the need for organic farming? Add a note on its advantages and disadvantages.

Q.4. Answer any two from the following : 20

- A. Give the botanical source, nutritional values and uses of Spirulina and Kale
- B. What is Bromelain? Give the properties and uses of Bromelain.
- C. Discuss the types of biofuels in detail.
- D. Give an account of chemical constituents and uses of Lemon and Jojoba oil.

Q.5. Write short notes on (Any four) : 20

- A. Significance of Indian Pharmacopoeia.
- B. Secondary metabolites in *Terminalia arjuna* and *Terminalia tomentosa*.
- C. Objectives of agroforestry.
- D. Alpine forests.
- E. Papain.
- F. Nutritional value and uses of *Chlorella*