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Time : 2 Hours**Commercial Crops****Subject Code**

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Total No. of Questions : 5**(Printed Pages : 4)****Maximum Marks : 50**

INSTRUCTIONS : (i) All the questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) New question should be started on fresh page.

(iv) Draw diagrams wherever necessary.

1. (A) State *two* selection criteria of arecanut seedlings used for planting in the main field. 1
- (B) State true *or* false : 2
- (i) Orthotropic shoots of black pepper are used in bush pepper nursery.
- (ii) Oil palm can be cultivated as rainfed crop in Goan conditions.
- (C) Discuss cultivation of cashew with reference to soil requirement and training operations. 2
- (D) (i) State harvesting/maturity indices observed in Mango. 2
- (ii) Discuss in detail, post-harvest processing of turmeric rhizomes. 3

2. (A) State pest and disease (one each) of arecanut. 1
- (B) Select the correct alternative and rewrite the sentences : 2
- (i) present in Kokum fruit fights cholesterol and curbs leprogenesis, thus adding weight loss.
(Sulphuric acid, Hydroxycitric acid, Normal acid)
- (ii) Each individual piece of fruit on oil palm fruit bunch contains oil.
(17%, 25%, 50%)
- (C) Discuss symptoms of bud rot in coconut and give measures to control disease. 2
- (D) (i) State selection criteria for scion and rootstock in epicotyle grafting of mango. 2
- Or*
- (i) Write a short note on 'Alternate or Biennial bearing' in mango. 2
- (ii) Write only flow-chart of process for mix fruit jam. 3
- Or*
- (ii) Write only flow-chart of process for sweet mango chutney. 3
3. (A) State *two* hybrid varieties of coconut. 1
- (B) Name the following : 2
- (i) Botanical name of cinnamon.
- (ii) The management practice through which, field heat of the harvested produce is removed, in order to have extended shelf life.

- (C) What do you mean by Waxing ? What are its adverse effects on fruits ? 2
- (D) (i) Write a short note on 'Infestation and management of cashew stem and root borer'. 2

Or

- (i) Explain rejuvenation of low yielding seedling progenies of cashew.
- (ii) Calculate the cost of raising papaya given that, area is 8,000 sq. mt. planting distance is 1.8 m × 1.8 m; cost of each seedling is Rs. 20; cost of digging each pit is Rs. 18, cost of refilling and planting is Rs. 5 per plant and cost of fertilizers is Rs. 8 per plant. 3

Or

- (ii) Calculate cost of raising kokum on 12,000 sq. mt. area given that, planting distance is 6 mt. × 6 mt., cost of each kokum seedling is Rs. 20, cost of digging each pit is Rs. 18, cost of refilling and planting is Rs. 5 per plant and cost of fertilizers is Rs. 6 per plant. 3

4. (A) State fertilizer dose recommended for full grown coconut palm. 1
- (B) What is sheet/flake test in jam preparation ? What is its significance ? 2
- (C) Explain harvesting and post-harvest drying of Nutmeg fruits. 2
- (D) (i) What is the importance of cushioning in packing of fruits ? State *two* examples of cushioning materials. 2
- (ii) Explain importance and scope of post-harvest technology in Indian context. 3

5. (A) State the principle behind working of refrigeration chamber. 1
- (B) What is aerobic fermentation ? Give *two* examples of fermented products. 2
- (C) State *four* advantages of use of corrugated fibre board boxes. 2
- (D) Explain the construction of zero energy cooling chamber for storage of fruits and vegetables with suitable labelled diagram. 5