

Duration 2 Hrs.

N.B.

1. All questions are compulsory.
2. Draw neat labeled diagrams wherever necessary.
3. All questions carry equal marks.

- Q.1. Answer the following questions in brief (any two)** 16
- a What is a simple tissue? Explain the different types of it.
  - b Describe the primary structure of dicot stem with suitable diagram.
  - c Write a note on structure and function of sieve elements and companion cells
  - d Give an account on '*Drosera* - An insectivorous plant'.
- Q.2. Answer the following questions in brief (any two)** 16
- a Describe the process of Non-cyclic photophosphorylation.
  - b Explain the Calvin pathway of carbon fixation in C<sub>3</sub> plants.
  - c Discuss the on effect of temperature, pH on anthocyanin and add a note on its solubility.
  - d Write notes on i) carotene pigment and ii) xanthophyll pigment.
- Q.3. Answer the following questions in brief (any two)** 16
- a Define secondary metabolites. Briefly discuss about secondary metabolites of plants.
  - b What is the botanical source, part of the plant used, active constituents and medicinal uses of Tulsi?
  - c Discuss Lavang (Clove) with respect to the botanical source, part of the plant used, active constituents and medicinal uses.
  - d What is Chyawanprash? Write in detail the common ingredients of it.
- Q.4. Choose and write the correct option for the following questions (Attempt all MCQs)** 12
- a Numerous vascular bundles are arranged in a scattered manner in \_\_\_\_\_  
a) monocot stem    b) dicot stem    c) monocot leaf    d) monocot seed
  - b Stomata is part of \_\_\_\_\_ tissue stem.  
a) epidermal    b) ground    c) vascular    d) simple
  - c The arrangement of xylem in a stem is said to be \_\_\_\_\_.  
a) Exarch    b) Collateral    c) Bicollateral    d) Endarch
  - d *Mimosa pudica* plant is also commonly known as \_\_\_\_\_.  
a) Dew drop    b) Venus fly-trap    c) Bladderwort    d) Touch me not
  - e The specific characteristic of C<sub>4</sub> plants is \_\_\_\_\_.  
a) Bulliform cells    b) Isobilateral leaf    c) Kranz anatomy    d) Parallel veins

- f Lycopene is an example of \_\_\_\_\_.  
a) Xanthophyll    b) Carotenes    c) Chlorophyll    d) Anthocyanin
- g In photosynthesis \_\_\_\_\_ is liberated due to photolysis of water.  
a) Carbon    b) Oxygen    c) ATP    d) NADPH
- h The first stable product of C<sub>4</sub> pathway is \_\_\_\_\_.  
a) PGA    b) PEP    c) Oxaloacetate    d) Malate
- i Swarna Bhasma is \_\_\_\_\_.  
a) Ash of silver    b) Monatomic gold    c) Impure mercury    d) Powder of amla
- j \_\_\_\_\_ of *Curcuma longa* is used as medicine.  
a) Flower bud    b) Dried rhizome    c) Dried stem    d) Dried leaves
- k *Adhatoda vasica* belongs to family \_\_\_\_\_.  
a) Acanthaceae    b) Labiatae    c) Zingiberaceae    d) Santalaceae
- l \_\_\_\_\_ is NOT an ingredient of the Triphala Churna.  
a) Amla    b) Hirada    c) Beheda    d) Ashwagandha