

**U.G. 3rd Semester Examination - 2020**

**BOTANY**

**[HONOURS]**

**Skill Enhancement Course (SEC)**

**Course Code : BOT-H-SEC-T-01A&B**

Full Marks : 40

Time : 2 Hours

*The figures in the right-hand margin indicate marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**Answer all the questions from Selected Options.**

**OPTION - A**

**BOT-H-SEC-T-01A**

**[Biofertilizers]**

1. Answer any **five** of the following :  $2 \times 5 = 10$
- What is axenic culture?
  - Give classification of *Azotobacter*.
  - Name two AM fungi.
  - What is bagasse?
  - Name one heterocystous and one non-heterocystous nitrogen fixing BGA.
  - Give characteristics of *Azospirillum*.
  - What is curing in making biofertilizer?
  - What is Actinorrhiza?

2. Answer any **two** of the following:  $5 \times 2 = 10$

- Benefits and limitations of biofertilizers.
- Discuss briefly the types of Mycorrhizal associations in plants.
- Write in brief the maintenance and mass multiplication of *Azotobacter* sp.
- Azospirillum* is an associative symbiont – justify the statement.

3. Answer any **two** of the following:  $10 \times 2 = 20$

- What is mycorrhiza? Discuss briefly the influence of mycorrhizae on growth and yield of crop plants.  $2 + 8 = 10$
- What is vermicompost? What is vermiculture? Describe briefly the types and methods of vermicomposting.  $2 + 2 + 3 + 3 = 10$
- Describe briefly the isolation and mass multiplication of *Rhizobium*.  $5 + 5 = 10$
- What are cyanobacteria? Briefly discuss on *Azolla – Anabaena* association and role of *Azolla* in rice cultivation.  $2 + 3 + 5 = 10$

**OPTION - B**

**BOT-H-SEC-T-01B**

**[Plant Diversity and Human Welfare]**

1. Answer any **five** of the following :  $2 \times 5 = 10$
- a) What is the full form of NBPGR?
  - b) What do you mean by agrobiodiversity?
  - c) Mention one use of microbes in human welfare.
  - d) Mention any one role of WWF.
  - e) Name any two alcoholic beverages.
  - f) Write down the scientific names of two timber yielding plants.
  - g) What do you mean by avenue trees?
  - h) Define 'hotspot' in biodiversity.
2. Answer any **two** of the following:  $5 \times 2 = 10$
- a) Define *in-situ* and *ex-situ* conservation. Briefly describe the plant diversity at the ecosystem level.  $2+3$
  - b) Briefly describe the ethical and aesthetic values of biodiversity.  $3+2$
  - c) Mention the importance of forestry in relation to commercial aspects.  $5$
  - d) Describe in brief the major reasons behind the loss of biodiversity.  $5$

3. Answer any **two** of the following:  $10 \times 2 = 20$
- a) Mention the role of IUCN and UNESCO for biodiversity management.  $5+5$
  - b) Define ornamental plants. Mention the scientific names and uses of four ornamental plants.  $2+(1+1) \times 4$
  - c) Briefly describe the genetic diversity and species diversity.  $5+5$
  - d) What do you mean by sustainable development?  $10$
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