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PG4S-007-B-23

M.Sc. IV Semester Degree Examination

BOTANY

Applied Phycology

Paper : BOT : SCT 4.3.2

Time : 3 Hours

Maximum Marks :80

Instruction to Candidate:

Answer any Five questions. Question No.1 is compulsory.

Answer in one or two sentences.

(10×2=20)

1.
 - i) Mixotrophic culture
 - ii) Cyanophycean bloom
 - iii) Johnson's medium
 - iv) Nitrogenase
 - v) Polar nodules
 - vi) Phycobiliproteins
 - vii) Agaragar
 - viii) Microplanktons
 - ix) Van Dorn water sampler
 - x) Botryococccenes

2. What are algal blooms? Describe the causes and effects of algal blooms. (15)

3. Describe the mechanism of nitrogen fixation with algal heterocysts. (15)

4. With appropriate examples, describe the economic value of algae. (15)

5. Discuss the applications of biochemicals obtained from algae with suitable examples.(15)

Answer any Three of the following.

(3×5=15)

6. a) Algal isolation techniques
- b) Planktonic algae of fresh waters
- c) Distribution of marine algae.
- d) Algae as sources of medicine

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PG4S-006-B-23

M.Sc. IV Semester Degree Examination

BOTANY

Applied Mycology

Paper : BOT : SCT - 4.3.1

Time : 3 Hours

Maximum Marks :80

Instruction to Candidate:

- i) Answer any **Five** questions.
- ii) Question No. 1 is compulsory.

Answer in one or two sentences :

(10×2=20)

1.
 - i) Cotton blue
 - ii) Fumonisin
 - iii) Dermatomycosis
 - iv) Poisonous mushroom
 - v) Pleurotus
 - vi) Mycorrhiza
 - vii) Trichodermin
 - viii) Saccharomyces
 - ix) ITS
 - x) Pencillin
2. Give a detailed account of preservation and maintenance of fungal cultures. **(15)**
3. Explain the advancement in technology of fungal strain improvement. **(15)**
4. Write about the fungal enzymes and their industrial applications. **(15)**
5. Write an account on the primary and secondary fungal metabolites. **(15)**

Answer any Three of the following.

(3×5=15)

6. a) Fungal pigments
- b) Mushrooms cultivation
- c) Fermentor design and operation
- d) Production of mammalian proteins by fungi

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2. What are algal blooms? Describe the causes and effects of algal blooms. (15)
3. Describe the mechanism of nitrogen fixation with algal heterocysts. (15)
4. With appropriate examples, describe the economic value of algae. (15)
5. Discuss the applications of biochemicals obtained from algae with suitable examples.(15)

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- 6. a) Algal isolation techniques
- b) Planktonic algae of fresh waters
- c) Distribution of marine algae.
- d) Algae as sources of medicine

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PG4S-005-B-23

M.Sc. IV Semester Degree Examination

BOTANY

Plant Breeding and Plant Biotechnology

Paper - BOT : HCT-4.2

Time : 3 Hours

Maximum Marks :80

Instructions to Candidate:

- i) Answer any Five questions.
- ii) Question No. 1 is compulsory.

Answer in one or two sentences :

(10×2=20)

1.
 - i) Apomixis
 - ii) Herkogamy
 - iii) Epigeons
 - iv) Breeder seed
 - v) Whip grafting
 - vi) Laminar air flow
 - vii) Sodium hypchlorite
 - viii) Callogenesis
 - ix) Somoclonal variation
 - x) Inbreeding dipression
2. Explain in detail about evolution in crop plants and centers of crop origin. (15)
3. Give an account of the role of heterosis and hybrid vigour in plant breeding. (15)
4. Describe the isolation and cultural methods of protoplast. (15)
5. Write in detail about anther and pollen culture pathways. (15)

Answer any three of the following.

(3×5=15)

6. a) Back cross method
- b) Air layering
- c) Totipotency of cell differentiation
- d) Cryopreservation