

10/04/15

TYB-SC (VI)

Plant Bio-Tech & Env. BioTech

Q.P. Code : 14613

(2 ½ Hours)

[Total Marks : 75]

- N.B. : (1) Attempt all questions.
(2) All questions carry equal marks.
(3) Draw neat labelled diagram wherever necessary.

1. (a) Give one name / one example of (any three) 3
(i) Plant Tissue Culture medium
(ii) Micronutrient
(iii) Auxin
(iv) Sterilant used for explant sterilization
(v) Method used to sterilize PGRs
(vi) Method of micropropagation 12
1. (b) Explain (any two)
(i) The role of micronutrients in MS medium
(ii) Any two methods of sterilization required for PTC work
(iii) Callus culture and give its applications
(iv) Regulation of Regeneration 3
2. (a) Give one example of (any three)
(i) Obligate pathogen of insect
(ii) Slow grower biofertilizer
(iii) Extender used in dust preparation of bioinsecticide
(iv) Animal used to check the safety of bioinsecticide
(v) Non symbiotic nitrogen fixer
(vi) Fungi used as biocontrol agents 12
2. (b) Attempt the following (any two)
(i) Explain surface and invivo culture method for production of biological insecticide
(ii) Describe desirable properties in organism to be used as biocontrol agent
(iii) Explain the method of strain selection for biofertilizer inoculants
(iv) State with example an alternative to the use of chemical insecticide and elaborate on its advantages 3
3. (a) State the significance / importance of (any three)
(i) BOD
(ii) TDS

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- (iii) Phytoremediation
- (iv) Renewable energy source
- (v) Exsitu bioremediation
- (vi) Solar energy

12

(b) Answer the following (any two)

- (i) Explain dairy waste treatment
- (ii) Explain remediation of contaminated sites with metal by plant species
- (iii) Describe ethanol production
- (iv) Elaborate on production of hydrogen by microbial action

3

4. (a) Give the full form of (any three)

- (i) EPC
- (ii) WIPO
- (iii) PBR
- (iv) IPR
- (v) TRIPS
- (vi) UPOV

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(b) Attempt the following (any two)

- (i) Discuss the protection of Biotechnological inventions
- (ii) Elaborate on the "Protection of plant varieties"
- (iii) Justify - "Several factors influence the decision to protect an Intellectual property in more than one way"
- (iv) State the merits and demerits of IPR

15

5. Write Short notes on (any three)

- (i) Biotransformation
 - (ii) Patenting of genes and DNA sequences
 - (iii) Advantages of micropropagation
 - (iv) Any one Biogas plant
 - (v) Seed inoculant
 - (vi) Issues related to IPR
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