

Q.P. Code :32305

[Time: 2.30 Hours]

[Marks:75]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory
 2. All questions carry equal marks.
 3. Draw labeled diagrams wherever necessary.

Q.1 A) Do as directed (Any Three)

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- i) Give an example of an organism producing rennet.
- ii) Name the starter culture used in Cheddar cheese manufacture.
- iii) Give an example of lactic acid bacteria.
- iv) State the function of salt in cheese production.
- v) Give the significance of the phosphatase test.
- vi) Name a disease transmitted by milk.

B) Attempt the following (Any Two)

12

- i) Discuss the method used for production of cheddar cheese.
- ii) Explain the production process of yoghurt.
- iii) Elaborate on any two methods to preserve milk.
- iv) Write a note on the tests based on oxidation – reduction potential to determine milk quality.

Q.2 A) Define the following (Any Three)

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- i) Total Dissolved Solids
- ii) Biogas
- iii) *Ex-situ* bioremediation
- iv) Phytostabilization
- v) Biological Oxygen Demand
- vi) Volatile solids.

B) Discuss the following. (Any Two)

12

- i) Pharmaceutical effluent with respect to nature, characteristics and treatment strategies.
- ii) Three stages involved in biogas production.
- iii) Petrocrops as a source of energy.
- iv) Phytoremediation with its advantages and disadvantages.

Q.3 A) Do as instructed (Any Three)

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- i) Give one example of a leguminous plant.
- ii) Give one example of enzyme used in biosensor.

- iii) Name any one protozoan used as biocontrol agent.
- iv) Name the most commonly used Nitrogen source for growing Rhizobia.
- v) Give an example of extenders used in preparing bioinsecticides.
- vi) Name a spreader used in liquid formulation of a biopesticide.

B) Attempt the following (Any Two)

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- i) Describe criteria for strain selection of an agent that can be used as a biofertilizer.
- ii) Elaborate on submerged production of *Bacillus thuringiensis* as biopesticide.
- iii) Explain biosensor and discuss its role in bioremediation with example.
- iv) Discuss advantages and limitations of the use of bioinsecticides.

Q.4A) Give full forms of (Any Three)

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- i) TRIPs
- ii) WIPO
- iii) GATT
- iv) GMP
- v) GLP
- vi) IPR

B) Attempt the following (Any Two)

12

- i) State the various ways in which intellectual property rights can be protected.
- ii) Entrepreneurship plays a significant role in the economic development of a nation-Justify.
- iii) What is Breeder's exemption? State the advantages and disadvantages of PBR.
- iv) What are patents? Brief explain patenting of life forms.

Q.5 Write short notes on (Any Three)

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- i) Butter manufacture
- ii) Spoilage of pasteurized milk
- iii) Renewable energy
- iv) Seed application methods of biofertilizer
- v) Parameters for Quality Control
- vi) Schematic layout of sterile product manufacturing unit