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Total number of pages : 02

B.Tech
PCE5H001

5th Semester Regular / Back Examination 2018-19
BIOTECHNOLOGY
BRANCH : CHEM
Time : 3 Hours
Max Marks : 100
Q.CODE : E210

Answer Question No.1 (Part-I) which is compulsory, any EIGHT from Part-II, and any TWO from Part-III.

The figures in the right-hand margin indicate marks.
Answer all parts of a question at a place.

Part – I

Short Answer Type Questions (Answer All TEN)

Q1

Answer the following questions :

(2 x 10)

- Name the different nutritional type of microorganism.
- Differentiate between chemical defined media and selective media.
- What do you mean by disinfection? Give two examples.
- Write a note on membrane filter technique in water purification.
- Write two water borne diseases and their causal organisms.
- Define five kingdom classification scheme of organisms.
- What is antagonism?
- Define lagooning.
- Write importance of tertiary sewage treatment process.
- What do you mean by sullage?

Part – II

Focused-Short Answer Type Questions(Answer Any EIGHT out of TWELVE)

Q2

Answer the following questions :

(6 x 8)

- Give an account of different areas of biotechnology with application.
- How microbiology is related to chemical reaction?
- Write the utilization of microorganisms in food industries.
- Give an account of bacteria differentiated by different size and shape.
- Write chemical composition and function of bacterial capsule.
- Differentiate between gram-positive and gram-negative bacterial cell wall.
- Write in detail about bacterial reproduction system.
- Describe the benthic microorganisms.
- Describe the different processes of primary treatment unit.
- Draw the neat structure of septic tank and explain its mechanism.
- Enumerate about anaerobic sludge digestion process and its importance.
- Discuss the mechanism of a trickling filter in detail.

Part – III

Long Answer Type Questions (Answer Any TWO out of FOUR)

Q3 Describe about the bacterial growth. Discuss in detail about the kinetics of bacterial growth. **(16)**

Q4 Write the techniques for isolation of bacteria in pure culture. Add a note on subculture of bacteria. **(16)**

Q5 Define MPN. Give account of different tests of MPN. **(16)**

Q6 Describe the different processes of sludge management and discuss their importance. **(16)**