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SEAT No. :

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P1044

[5317] - 301

T.Y.B.Sc.

BIOTECHNOLOGY

Bb-331 : Microbial Biotechnology

(2013 Pattern) (Semester - III)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Draw neat labelled diagrams wherever necessary.*
- 3) *Figures to the right indicate full marks.*

Q1) Answer all the following in 2-4 lines:

[20]

- a) What are the contributions of Louis Pasteur and Robert Koch in Microbial Biotechnology.
- b) What is Yield coefficient?
- c) Enlist any two indicator organisms of faecal pollution.
- d) What is Kefir?
- e) Name the dyes present in EMB agar.
- f) Give two examples of microbial sweeteners.
- g) Name the causative agent and diagnostic test of typhoid.
- h) What is stormy fermentation?
- i) What is ropiness?
- j) Pseudomonas was cultured in production medium containing 12 g/L glycerol as substrate. After 24 hours, only 2 g/L glycerol was found in residual broth and 5 gm biomass was recovered. Calculate $Y_{x/s}$.

Q2) Attempt the following questions (any three):

[15]

- a) Explain the molecular adaptations in halophiles.
- b) Describe the color and flavor defects of milk.
- c) Describe any two methods of Enzyme Immobilisation.
- d) Explain Kinetics of product formation in Batch culture.

P.T.O.

Q3) Write short notes on (any 3): **[15]**

- a) Added and Developed Preservatives.
- b) Microbial Biofertilisers.
- c) Presumptive Test.
- d) Idli and Dhokla as fermented food.

Q4) a) Explain food intoxication and infection with suitable examples. **[8]**

OR

Describe grading of milk using Dye reduction test.

b) With the help of flowsheet, explain the production of Beer. **[7]**

OR

Explain Slow and Rapid sand filtration with the help of neat labelled diagram.

Q5) Attempt any one of the following: **[15]**

- a) Discuss the disease polio with respect to
 - i) Causative agent.
 - ii) Symptoms.
 - iii) Pathogenesis and
 - iv) Treatment.
- b) Enlist different Biological waste water treatment processes. Explain any two in detail.

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