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**B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019**

Third Semester

**BT18303 – BASIC INDUSTRIAL BIOTECHNOLOGY***(Biotechnology)***(Regulation 2018)****Time: Three Hours****Maximum : 100 Marks**

Answer ALL questions

**PART A - (10 X 2 = 20 Marks)**

	CO	RBT
1. Define fermentation with example.	1	R
2. What is a process flow diagram?	1	R
3. Write any two importance of production medium in antibiotic production by microorganisms.	2	R
4. What are primary essential metabolites?	2	R
5. Write notes on Antibiotics and the screening process.	3	R
6. Draw the structures of $\beta$ -lactam ring.	3	R
7. Write note on Bacillus thuringiensis.	3	R
8. What is xanthan gum?	4	R
9. Write notes on Protein Therapeutics and its advantages.	4	R
10. What are anchorage dependent cells?	4	R

**PART B - (5 X16 = 80 Marks)**

11. (a) (i) What are the main utilities of Fermentor? Describe functions of main components of the fermentor. (16) 1 R
- (OR)**
- (b) (i) Explain in detail the traditional and modern biotechnology outlook with suitable examples. (16) 1 R
12. (a) (i) Explain primary metabolite production and the steps involved in the production process of any one amino acid. (16) 2 R

**(OR)**

- (b) (i) Elaborate the steps involved in the production process of any one commercially important vitamin. (16) 2 R
13. (a) (i) Explain the upstream and downstream processing of penicillin with the help of a flow sheet. (16) 2 R

**(OR)**

- (b) (i) Describe the importance of the production of biotransformed Steroid. (16) 3 R
14. (a) (i) Explain in detail the production of biopesticides and biofertilizers with the help of a flow chart. (16) 3 AN

**(OR)**

- (b) (i) Describe in detail the large scale production of amylase. (16) 3 R
15. (a) (i) Describe in detail the therapeutic and diagnostic applications of recombinant proteins. (16) 4 R

**(OR)**

- (b) (i) Write detailed notes on production and purification of insulin by r-DNA technology. (16) 4 R