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Question Paper Code: 94D03

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2022

Fourth Semester

Biotechnology

19UBT403- BASIC INDUSTRIAL BIOTECHNOLOGY

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Expand BOD and Is BOD related to pollution? How CO3- App
2. Difference between prebiotics and probiotics? CO1- U
3. Weizmann process is used in Acetone-butanol production. How? Justify CO2- App
4. South African process is used in Acetone-butanol production. How? Justify CO2- App
5. Which drug is considered as Queen of Drugs ?What is its function CO1- U
6. How did Ernst Chain make the penicillin stronger?Why did US become more interested in producing penicillin during 1942? CO3- App
7. Elucidate the VAM-POT method CO1- U
8. How will you analyse Alkaline proteases from Neutral proteases CO2- Ana
9. List out the animal cell culture products and mention its cell line origin details CO1- U
10. Give an idea about the recombinant growth hormone CO3- App

PART – C (5 x 16= 80 Marks)

11. (a) Ram and Raghav are working on laboratory of Metabolic Research. They have identified X and Y as products They were confused in identifying primary and secondary metabolites among X and Y.As part of Research, they are at the analysis point now. X is produced in large quantities and Y is produced in low quantity.X has shown importance in growth and reproduction while Y has actively involved in defensive action. Identify X and Y , Which among X and Y are produced in log phase , Draw the graph of microbial growth curve and Distinguish X and Y with examples
- Or
- (b) Scientists at ICMR are working on laboratory of Metabolic Research. They have identified X and Y as products They were confused in identifying primary and secondary metabolites among X and Y.As part of Research, they are at the analysis point now. X is produced in large quantities and Y is produced in low quantity. X has shown importance in growth and reproduction while Y has actively involved in defensive action. Identify X and Y , Which among X and Y are produced in log phase , Draw the graph of microbial growth curve and Distinguish X and Y with examples
12. (a) The Biological production of Acetic acid is a driver towards sustainability'. Comment and Discuss its Industrial production
- Or
- (b) The Biological production of Citric acid is a driver towards sustainability'. Comment and Discuss its Industrial production
13. (a) “A newly released techno-economic analysis finds that India is potentially a global leader in Ethanol production”. Explain its production by giving complete details of preparation of in oculum &fermentation medium, selection of raw materials & microorganism, fermentation and recovery
- Or
- (b) Louis Pasteur once said, “In the fields of observation, chance favours only the prepared mind”. How does this statement, made in 1854, apply to Alexander Flemings discovery of penicillin? Explain its detailed Industrial production and its modifications

14. (a) Imagine that you are selected as a Research scholar in a Prestigious Institution and you are asked to write a review on Bio pesticides. Carry on with your scientific temper and rationality CO3- App (16)
- Or
- (b) Suppose you are selected as a Research scholar in a Prestigious Institution and you are asked to write a review on production of SCP . Carry on with your scientific temper and rationality CO3- App (16)
- 15 (a) Elucidate, Enlist and Discuss the eight steps involved in rDNA technology and also mention its few applications CO2- Ana (16)
- Or
- (b) Monoclonal antibodies have become the predominant class of new drugs developed in recent years. Justify and explain the experimental procedure for its production CO2- Ana (16)

