

B.TECH FOOD TECHNOLOGY
VI Semester Examination 2019
Course Code- BFTC- 604
Course Title - Food Biotechnology

ROLL NO-

B.Tech.
2019
6th Sem.

TIME: 3 hours

Max. Marks: 70

Note: 1. Answer all the questions in Section-A.
2. Answer any four questions in Section- B.

Section A (5*6=30)

Q1. With respect to recombinant DNA Technology, answer the following:

- i. What is a 'vector' and what properties a vector should possess? (3M)
- ii. What are the common steps been followed in RDT? (3M)

Q2. Define (any three):

- i. Chromosomes and types of chromosome. (2M)
- ii. Purines and pyrimidines (2M)
- iii. Chargaff's Rule (2M)
- iv. Batch and continuous culture (2M)

Q3. A bacteriophage infect a bacteria having 102nm thick membrane such that the viral DNA, while transfer, is exactly contained within the bacterial cell membrane. Considering a Watson and crick model of DNA (B-DNA form) for viral DNA,

- i. How many helical turns of DNA would span the bacterial membrane? (2M)
- ii. How many nucleotides will be transferred? (2M)
- iii. If such viral DNA is translated in bacteria, protein of how much amino acid will be formed approximately? (2M)

Q4. What do you understand by the following:

- a) Golden Rice (3M)
- b) Methods of gene transfer in plants (3M)

Q5. Explain:

- i. Hershey and Chase experiment (3M)
- ii. Structure and types of RNA. (3M)

Section B (4*10=40)

Q1. The first step of decoding the genetic information is transcription. How it is performed in prokaryotes? (10M)

Q2. How DNA does get double in prokaryotes? Illustrate. (10M)

Q3. The code of the functional entity, that is, protein, is contained in the form of DNA. How this information when available as mRNA, is being translated? Explain for prokaryotes. (10M)

Q4. Discuss the structure of DNA with reference to Watson and crick model? (10M)

Q5. (a) What is biogas? Provide a brief description of 'biogas plant'. (5M)

(b) Explain Single Cell Protein (5M)

Q6. Define Secondary metabolites. Discuss the synthesis of any one. (10M)

Q7. With respect to Tissue culture answer the following (5*2=10M)

- a) Mention the steps involved in tissue culture
- b) Types of tissue culture (discuss any two)