Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous), Rajkot

Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION NOVEMBER 2018

B.Sc. Biochemistry

16UBCCC17 – GENETIC ENGINEERING AND BIOTECHNOLOGY

Duration of Exam – 3 hrs   *Semester – V*   *Max. Marks – 70*

Part A *(10X1= 10 marks)*
Answer **ALL** questions

1. When the Recombinant human insulin made first time?

2. If desire gene is ligated with vector, newly formed DNA is known as _____

3. What do you understand by copy number?

4. Ti plasmid can be obtained from _____ bacteria.

5. What is Conjugation?

6. Write the importance of western blot.

7. _____ method is known as chain termination sequencing.

8. How one can screen the DNA library?

9. State the importance of protein engineering.

10. What do you mean by mutation?

Part B *(5X5= 25 marks)*
Answer **ALL** questions

11a. Write short note on milestones in Genetic engineering and Biotechnology.

OR

11b. State the Different types of polymerase enzyme.

12a. Write about Cosmid vector.

OR

12b. Give note on classification of plasmid.

13.a Explain DNA footprinting in detail.

OR

13b. If you are provided linear DNA sample and you want to amplify it, How can you do it? Give process of amplification in detail.

14a. Give short note on applications of Human genome project.

OR

14b. How you can isolate RNA from cytoplasmic fluid? How RNA is important for making c- DNA library?

15a. Write the Application of genetic engineering in plant.

OR

15b. How enzyme can be modified with the help of engineering?

Answer **ALL** questions

16a. Write the detail about cloning and list the application.

OR

16b. Define: restriction endonuclease. Give detail of types and applications.

17a. Give full form of YAC and MAC. Give its criteria and describe how it is used as vector?

OR

17b. What is bacteriophage? How different phage gene can be used as vector?

18a. How chromosome walking can be done? (with diagram) Write its applications.

OR

18b. Define blotting. Write the technique for DNA hybridization.

19a. What is genome? How λ phage can be used to construct genomic library?

OR

19b. Give brief on DNA sequencing by chemical method.

20a. If you are provided with DNA fragment, how can you induce mutations in that so you can see the mutation in next progeny?

OR

20b. Give the application of microbial genetic engineering.

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