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Total Number of Pages: 02

B.Tech
PCBT4302

5th Semester Regular / Back Examination 2016-17
GENETIC ENGINEERING AND R-DNA TECHNOLOGY

BRANCH: Biotechnology

Time: 3 Hours

Max Marks: 70

Q.CODE: Y236

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: (2 x 10)

- a) What is DNA marker?
- b) Define YAC.
- c) Explain gene knock out
- d) Describe function of ligase.
- e) What is mi RNA?
- f) Explain the role of adapter.
- g) What is AFLP?
- h) Explain EST.
- i) What is antisense RNA?
- j) Name any two rDNA products.

Q2 What is restriction enzyme? Discuss different types of restriction enzymes with suitable example? (2+8)

- Q3 a) Which technique used to detect protein-protein interaction and its application? (5)**
- b) Explain the method of preparation of c-DNA library and its application? (5)**

Q4 a) Describe briefly steps in Polymerase Chain reaction? (5)

b) What is the importance of molecular markers in rDNA Technology? (5)

Q5 a) What is RNAi? How does it work? (5)

b) Describe briefly DNA microarray techniques and its application? (5)

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Q6 a) What is human Genome project? Explain different approaches made by the scientists to complete the projects? **(5)**

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b) What is a DNA vaccine? Briefly describe the production of DNA vaccines? **(5)**

Q7 Explain briefly the Sanger's method of DNA sequencing. Add a note on the significance of fluorescence tags in Sanger's method? **(10)**

Q8 Write short answer on any TWO: **(5 x 2)**

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a) Ribozome Technology

b) Two hybrid system

c) RFLP

d) QTLs

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