



AS-1911 Seat No. _____

B. Sc. (Sem. VI) Examination

March / April - 2018

Biotechnology : Paper - 12

(CC - I - 12 : Genetic Engineering)

Time : 3 Hours]

[Total Marks : 70

1 (A) MCQ (Each carries 01 marks) 10

- (1) VNTR are used for _____
 - (A) DNA fingerprinting.
 - (B) Probes.
 - (C) Nucleosomes.
 - (D) Karyotyping.
- (2) EcoRI restriction endonucleases have _____ ends.
 - (A) complementary double-stranded.
 - (B) supplementary single-stranded.
 - (C) double-stranded "sticky".
 - (D) complementary single-stranded.
- (3) _____ form in California university.
 - (A) pBR 322
 - (B) pUC vector
 - (C) pSC 10
 - (D) pUC 19
- (4) What are the three major steps of the PCR reaction in the CORRECT order?
 - (A) Annealing, Denaturation, Extension.
 - (B) Denaturation, Annealing, Extension.
 - (C) Extension, Denaturation, Annealing.
 - (D) Denaturation, Extension, Annealing.

- (5) Sanger method are also known as _____
- (A) chemical base method
 - (B) chain termination
 - (C) dNTP method
 - (D) ATP method
- (6) Cycle sequencing requires a _____ DNA polymerase
- (A) copper stable
 - (B) heat stable
 - (C) pressure stable
 - (D) acid stable
- (7) The first endonuclease discovered was from
- (A) Fungi
 - (B) Protozoa
 - (C) Bacteria
 - (D) Virus
- (8) EcoRI contains _____ marker.
- (A) tetracycline
 - (B) streptomycin
 - (C) penicillin
 - (D) None
- (9) Which of the following is in a YAC?
- (A) Ori site of Bacteria.
 - (B) Synthesis site.
 - (C) Ori site of Virus
 - (D) None
- (10) cDNA molecules are produced by which enzyme?
- (A) DNA Pol.
 - (B) RNA Pol.
 - (C) Reverse transcriptase.
 - (D) Restriction enzyme

(B) Answer the Following question each carries 5
01 mark :

- (1) pBR 322 full name,
- (2) Give name of the Machine used in PCR technique ?
- (3) Give the full name of RFLP and pUC 18
- (4) Give the name of the organism used in Blender Experiment.
- (5) Name of the organism which gives DNA polymerase enzyme used in PCR techniques

2 Write answer of any Five questions : 25

- (1) Explain General process of rDNA technology
- (2) Explain YAC and BAC as vector
- (3) Explain Sanger method with limitation
- (4) Explain PCR application in medical and Agriculture with exmple
- (5) Northern blotting and its application
- (6) Explain AFLP.
- (7) Write the Note on Restriction enzyme.

3 Long Answer any Three question : 30

- (1) Explain pyro sequencing Method with application
- (2) Explain the Host Competent method for insertion of rDNA
- (3) Explain screening techniques for rDNA Cell.
- (4) Explain PCR process with its tools
- (5) Explain the Sourthen and Western Blotting techniques with application.