Quiz

BT-637 Genome Editing and Engineering

Total Marks=20

1) Answer the following: (3 x 2 = 6 marks)

i. How will you disprove the presence of two catalytic sites in a monomer of FokI enzyme?

ii. What are the two caveats (limitations) of proposing single catalytic sites in FokI?

iii. Chandrasegaran engineered first chimeric restriction endonuclease by linking _____homeodomain with_____domain of FokI.

2) Answer the following: (3 x 2 = 6 marks)

i. Write the seven conserved residues in a Zinc Finger Repeats.

ii. Name the prominent amino acids and their positions of zinc finger repeats, which make one to one contact with oligonucleotides.

iii. State the importance of $NaHBO_4$ in finding out the structure of zinc finger domains.

3) The sequence of the full-length peptide given is Ser-Met-Gly-Thr-Lys-Ala-Glu. Write down the smaller peptides obtained by treating it with - (2 x 2 = 4 marks)

i. Cyanogen bromide (CNBr)

ii. Trypsin (Trp)

4) Answer the following: (2 x 2 =4 marks)

i. Many transcription regulators form dimers of identical or slightly different subunits on the DNA. Suggest two advantages of dimerization.

ii. Write the role of:

a) DTT b) EDTA