



BIOLOGY

NCERT - NCERT BIOLOGY(TELUGU)

BIOTECHNOLOGY : PRINCIPLES AND PROCESSES

Exercise

1. Can you list 10 recombinant proteins which are used in medical practice? Find out where

they are used as therapeutics (use the internet).



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2. Make a chart (with diagrammatic representation) showing a restriction enzyme, the substrate DNA on which it acts, the site at which it cuts DNA and the product it produces.



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3. From what you have learnt, can you tell whether enzymes are bigger or DNA is bigger in molecular size? How did you know?



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4. What would be the molar concentration of human DNA in a human cell? Consult your teacher



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5. Do eukaryotic cells have restriction endonucleases? Justify your answer.



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6. Besides better aeration and mixing properties, what other advantages do stirred tank bioreactors have over shake flasks?



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7. Collect 5 examples of palindromic DNA sequences by consulting your teacher. Better try to create a palindromic sequence by following base-pair rules.



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8. Can you recall meiosis and indicate at what stage a recombinant DNA is made?



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9. Can you think and answer how a reporter enzyme can be used to monitor transformation of host cells by foreign DNA in addition to a selectable marker?



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10. Describe briefly the followings:

(a) Origin of replication

(b) Bioreactors

(c) Downstream processing



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11. Explain briefly

(a) PCR

(b) Restriction enzymes and DNA

(c) Chitinase



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12. Discuss with your teacher and find out how to distinguish between

(a) Plasmid DNA and Chromosomal DNA

(b) RNA and DNA

(c) Exonuclease and Endonuclease



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