

15 cells, plant animal  
cells, to break open  
the



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BUSTER**

15 Questions with Answers and Explanations on “ Biotechnology” for Biology Students: Q. 1.

Define biotechnology according to European Federation of Biotechnology (EFB). Ans. According to EFB—biotechnology is the integration of natural science and organisms, cells, parts thereof, and molecular analogues for products and service.

Q. 2. Define genetic engineering. Ans. The techniques used to alter the chemistry of the genetic material to introduce these into the host organisms in order to change the phenotype of the host is called as genetic engineering. Q.

3. What is cloning? Ans. The process of making multiple copies to without the involvement of reproductive process is called cloning.

Q. 4. Name the first restriction endonuclease. Ans. Hind II. Q. 5.

Give one example to restriction endonuclease. Ans. EcoRI. Q.

6. To which class do the restriction enzymes belong? Mention their kinds. Ans. (1) Nuclease, (2) Exonucleases, Endonucleases.

Q. 7. Name the pathogen of dicot plants that caused tumor and the virus that transformed normal cells into cancer cells in animals. Ans. (1) *Agrobacterium tumifaciens*, (2) Retro virus. Q. 8. What is gene gun or biolistics? Ans.

The technique bombarding the plant cells with high velocity micro-particles of gold/ tungsten coated with DNA is called biolistics/gene gun. Q. 9.

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Define plasmid. Ans. The circular chromosome of bacterium is called plasmid. Q.

10. Expand the Ori. Ans. Origin of replication.

Q. 11. Name the enzymes that are used for bacterial cells, plant/animal cells, to break open the cells. For obtaining the genetic material. Ans.

Plant/animal cells—Cellulose (Plant cells) Bacterial cells — Lysozyme Fungus — Chitinase. Q. 12. Which type of bioreactors are used for gene product? Ans. Stirring type.

Q. 13. What do you understand by downstream processing? Ans. After the biosynthesis of the gene product, the separation and purification methods are called as downstream processing. Q.

14. Define recombinant protein. Ans.

The protein formed/produced after the use of recombinant technology is called recombinant protein. Q. 15. What is the full form of PCR? Ans. Polymerase Chain Reaction.