

**BCM SCHOOL BASANT AVENUE, DUGRI ROAD LUDHIANA
XII BIOLOGY
ASSIGNMENT**

1 The vitamin whose content increases following the conversion of milk into curd by lactic acid bacteria is:
a.vitamin C b.vitamin D c.vitamin B12 d.vitamin E

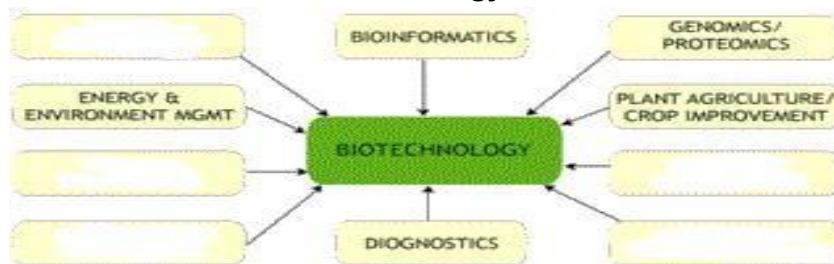
2 Match the following list of bacteria and their commercially important products:
(i) *Aspergillus niger* (a) Lactic acid
(ii) *Acetobacter aceti* (b) Butyric acid
(iii) *Clostridium butylicum* (c) Acetic acid
(iv) *Lactobacillus* (d) Citric acid

3 Complete the table given below

Processes	Enzyme involved
• Cutting of DNA fragments at specific site	
• Joining of foreign DNA fragments with plasmid	
• Amplification of DNA fragments	
• Dissolve fungal cell wall	

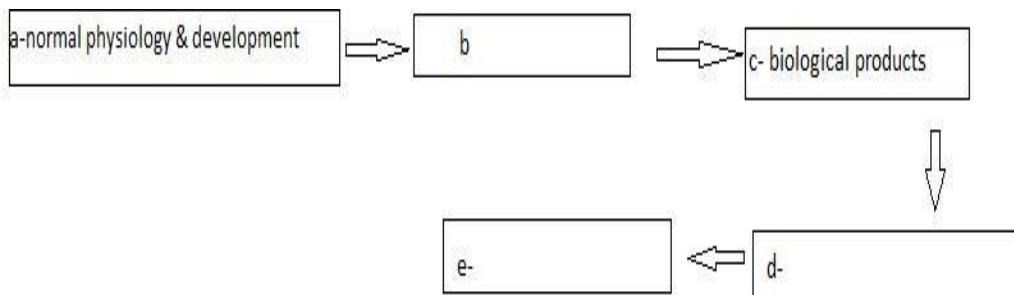
4 DNA being hydrophilic cannot pass through the cell membrane of a cell. Explain how recombinant DNA get introduces into the cell to transform the latter. In bacterial culture some of the colonies produce blue colour in the presence of achromogenic substrate and some did not due to the presence or absence of aninsert (rDNA) in the coding sequence of the beta-galactosidase.
a. Mention the mechanism and steps involved in the above experiments.
b. How is it better than the technique of plating on two plates having different antibiotics

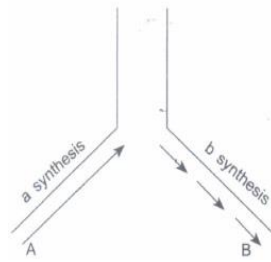
5 Mention the related areas in Biotechnology and fill the boxes.



6 A method to present infestation of a nematode *Meloidegyne incognitia* on roots of tobacco is silencing the specific mRNA. What is the scientific name of the technique? How is this performed by ds- RNA?

7 Reason for production of transgenic animals are:

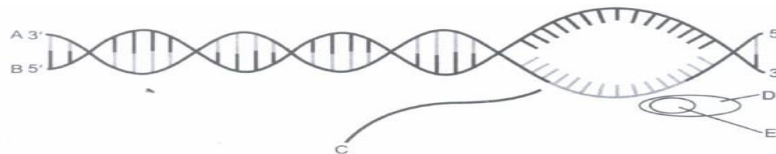




I. A DNA replication fork is shown above. Answer the following questions based on that.

- (i) Why does DNA replication occur in such small forks?
- (ii) What is a synthesis and b synthesis?
- (iii) Mention the polarity at A and B.

II.



A particular stage in the transcription of a bacterium is given above. Answer the following questions:

- (i) Name the stage in the process.
- (ii) Identify A, B, C, D and E in the diagram.



A hypothetical mRNA with 12 codons is shown above.

- (a) How many amino acids will be coded by this? Justify your answer.
- (b) Mention the dual functions of the codon, AUG.

Syllabus for September Exams

CH1- Sexual Reproduction in Flowering Plants

CH-2 Human Reproduction

CH-3 Reproductive Health

CH-4 Principles of Inheritance and Variation

CH-5 Molecular Basis of Inheritance

CH-6 Evolution

CH-7 Human Health and Diseases

CH-8 Microbes in Human Welfare

CH-9 Biotechnology – Principles and Processes

CH-10 Biotechnology and its Application