

Topic :- Biotechnology Principles & Processes

- 1 (d)
Small volume cultures are usually employed in laboratories for research and production of less quantities of products. *e.g.*, in shake flasks. However, large scale production of the products is carried out in 'bioreactor'
Bioreactors are large vessels (having a volume of 100 to 1000 L) which are used for biological conversion of raw materials into specific products. The most commonly used bioreactors are of stirring type
- 2 (c)
The term 'Biotechnology' was given in 1917 by a Hungarian Engineer, Karl Erkey, to describe a process or large scale production of pigs
- 7 (b)
Agrobacterium tumefaciens delivers a piece of DNA known as 'T-DNA' in the Ti-plasmid which transforms normal plant cells into tumour cells to produce chemical against pathogens
- 10 (b)
Kary Mullis
Gene encoding resistance to antibiotics like ampicillin, chloramphenicol, tetracycline or Kanamycin, are useful selectable markers for *E.coli*. The normal *E.coli* cells do not carry resistance against any of these antibiotics
- 14 (d)
Ti-plasmid is found in *Agrobacterium tumefaciens*, which produces crown gall (tumour) in a large number of dicot species. *A. tumefaciens* is a Gram negative soil bacterium that infects a wide range of plants and causes crown galls
- 15 (c)
The science of recombinant technology took birth when Cohen and Boyer (1972) were able to introduce a piece of antibiotic resistance gene containing foreign DNA into plasmid of *Salmonella typhimurium*. This modified plasmid was then inserted into *E. coli* to get clones of recombinant DNA. Thus, Cohen and Boyer discovered recombinant technology
- 16 (c)
In recombinant DNA technology, a desired segment of DNA or a gene is made to combine with the DNA of an organism where it will multiply and produce its copies. Plasmids and viruses are the most commonly used cloning vectors in recombinant DNA technology
- 19 (c)
Selectable marker helps to select the host cells which contain the vector and eliminate the

non-transformants. Genes encoding resistance to antibiotics like ampicillin, chloramphenicol, tetracycline or kanamycin are useful selectable markers of *E.coli*. The normal *E.coli* cells do not carry resistance against any of these antibiotics

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	D	C	D	C	B	A	B	B	B	B
Q.	11	12	13	14	15	16	17	18	19	20
A.	B	B	D	D	C	C	A	C	C	A

PE