

- (c) *Acetobacter* (d) *Lactobacillus*

12. The vaccine of Hepatitis-B is a
(a) First generation vaccine
(b) Interferon
(c) Second generation vaccine
(d) Third generation vaccine
13. Which part of the tobacco plant is infected by *Meloidogyne incognita*
(a) Root (b) Flower (c) Leaf (d) Stem
14. Which variety of rice was patented by a U.S company even though the highest number of varieties of this rice is found in India?
(a) Sharbati Sonara (b) Co-667
(c) Basmati (d) Lerma Roja
15. Bt cotton is resistant to
(a) Drought (b) Herbicides (c) Salts (d) Insects
16. During the processing of the prohormone “proinsulin” into the mature “insulin”
(a) C - peptide is added to proinsulin
(b) C - peptide is removed from proinsulin
(c) B - peptide is added to proinsulin
(d) B - peptide is removed from proinsulin
17. The bacteria *Pseudomonas* is useful because of its ability to : -
(a) Transfer genes from one plant to another
(b) Decompose a variety of organic compounds
(c) Fix atmospheric nitrogen in the soil
(d) Produce a wide variety of antibiotics
18. The C - peptide is
(a) not present in proinsulin
(b) present in mature insulin
(c) removed during maturation of insulin
(d) also present in artificial insulin
19. During the process of isolation of DNA, chilled ethanol is added to
(a) Break open the cell to release DNA
(b) Facilitate action of restriction enzymes
(c) Remove proteins such as histones
(d) Precipitate DNA
20. The first nuclear transplant from an animal cell into an enucleated egg that produced a normal offspring was performed in –
(a) Sheep (b) Frog (c) Cat (d) Dog
21. Cry II Ab and cry I Ab produce toxins that control
(a) Corn borer and cotton bollworms respectively
(b) Cotton bollworms and corn borer respectively
(c) Tobacco budworms and nematodes respectively
(d) Nematodes and tobacco budworms respectively
22. How many of the Dipteran insects are killed by the proteins Produced from *Bacillus thuringiensis*?
[Beetles, Flies, Tobacco, Budworm, Armyworm]
(a) None (b) One (c) Two (d) Three

23. Select the Incorrect statement:

- (a) Bt cotton is resistant from the infection of *Bacillus thuringiensis*.
- (b) During green revolution food production was tripled.
- (c) cry genes code for Bt toxins
- (d) Genetically modified rice is rich in Vitamin A.

24. InA, first transgenic cowB, produced human protein-enriched milk. This milk possess a human protein -C.... and was nutritionally better than natural cow milk for human babies. Select the option with correct identification:

- (a) A-1997, B-Rosie (b) A-1983, C c-Andi
- (c) B-Andi, C- α -lactalbumin (d) C- γ -Globulin, A-1990

25. Which protein production was successfully introduced in *E. coli*

- (a) Interferon (b) Xanthotoxin
- (c) Somatostatin (d) Relaxin

26. Which micro-organism is used in the formation of cheese

- (a) *Streptococcus* (b) *Aspergillus*
- (c) Acetic acid bacteria (d) Lactic acid bacteria

27. Raw cheese is known as

- (a) Blue cheese (b) Cottage cheese
- (c) Swiss cheese (d) None of these

28. Penicillin was discovered by

- (a) Waksman (b) Dubois
- (c) Robert Koch (d) A. Fleming

29. Antibiotics inhibit the growth of or destroy

- (a) Bacteria and fungi
- (b) Bacteria and viruses
- (c) Bacteria, algae and viruses
- (d) Bacteria, fungi and viruses

30. Hybridomas are the result of fusion of

- (a) Male reproductive cells
- (b) Female reproductive cells
- (c) Normal antibody producing cells with myeloma
- (d) Abnormal antibody producing cells with myeloma

1. (d)
2. (d)
3. (c)
4. (c)
5. (a) Yeast is used in the industrial production of ethanol (alcohol). When yeast is added to sugar solution, it causes fermentation and forms alcohol.
6. (a) The process of inoculation of vaccine is known as vaccination and Louis Pasteur (1850) is responsible for understanding the basis of vaccination.
7. (c) Cheese and yoghurt is nutritive product of milk which formed by fermentation process.
8. (c)
9. (d) Antibiotics are the substances which are produced by micro-organism for killing or inhibiting the growth of micro-organism.
10. (a) The tissue culture is a latest method of crop improvement. Besides also used in manufacture of antibiotics, alkaloids and dyes.
11. (a)
12. (c) Second generation vaccines are produced by recombinant DNA technology or genetic engineering e.g., vaccine for *Herpes* virus and *Hepatitis – B*.
13. (a)
14. (c)
15. (d)
16. (b)
17. (b)
18. (c)
19. (d)
20. (a)
21. (b)
22. (b)
23. (a)
24. (a)
25. (a) Interferons (antiviral proteins) were produced by Charles Weismann through recombinant DNA technology in *E. coli* in 1980.
26. (d) Lactic acid bacteria acts on lactose which present in milk and converts it into cheese.
27. (b) If cheese is used as a unripened stage, it is called cottage cheese.
28. (d) Alexander Flemming (1929) discovered the antibiotic penicillin and showed its effectiveness against many disease producing bacteria.

29. (d) Clinically, an antibiotic is a substance produced by a micro-organism which in low concentration inhibits the growth and metabolic activity of pathogenic organisms without harming the host.
30. (c) Lymphocytes cells are mixed with myeloma cells (tumour cells isolated from cancer of bone marrow). Lymphocytes and myeloma cells fuse together to form hybridoma cells. These hybridoma cells have capacity of antibody production and rapid cell division.