

2 marks :

1. Louis Pasteur :

⇒ Louis Pasteur was a French biologist, chemist, microbiologist.

⇒ His discoveries of the principles of vaccination, microbial fermentation and pasteurization.

2. Industrially important microorganisms :

* Lactobacillus delbrueckii

* Lactobacillus sps.

* Aspergillus niger.

3. Preservation methods :

* periodic transfer to fresh media

* Storage in sterile soil

* saline suspension

* oil overlay.

4. Screening 2 types :

* Mamography to detect breast cancer

* PSA to detect prostate cancer.

5. Difference between fungi and bacteria:

Fungi	Bacteria
<ul style="list-style-type: none">* Fungi are multicellular, eukaryotic organism.* It have chromosomes and nuclei.	<ul style="list-style-type: none">* Bacteria are single celled, prokaryotic organisms.* Do not have nuclei & other organelles.

6. Fermentor:

⇒ It is otherwise called as bioreactor.

⇒ A bioreactor refers to any manufactured device or system that supports a biologically active environment.

7. Types of fermentor:

1. Air lift fermentor
2. PhotoBioreactor
3. Bubble-column fermentor
4. Packed Bed Bioreactor
5. Continuous Stirred Tank Bioreactors
6. Fluidized Bed Bioreactor.

8. Antiforms:

A topographic features which is composed of sedimentary layers in a convex formation, but may not actually form a real anticline (i.e., the oldest rocks may not be exposed in middle).

9. Inducer:

⇒ In molecular biology, an inducer is a molecule that regulates gene expression.

⇒ Inducer function in 2 ways namely by disabling repressors & by binding to activators.

10. Sterilization:

Sterilization refers to any process that eliminates, removes, kills or deactivates all forms of life & other biological agents.

11. Downstream processing:

⇒ It refers to the recovery and the purification of biosynthetic products particularly pharmaceuticals, from natural sources such as animal or plant tissue or fermentation broth, include recycling of

Salvageable components & proper treatment & disposal of waste.

12. Purification :

⇒ Purification in a chemical context is the physical separation of a chemical substance of interest from foreign or contaminating substances.

⇒ Simple crystallisation, sublimation, steam distillation, etc. are the types of purification.

13. Filtration :

Filtration is the process of separating suspended solid matter from a liquid, by causing the latter to pass through the pores of some substance called filter. The liquid which has passed through the filter is called the filtrate.

14. Enzymes :

Enzymes are proteins that act as catalysts within living cells.

The study of enzymes is called enzymology.

15. Centrifugation:

Centrifugation is the technique which involves the application of centrifugal force to separate particle from solution according to their size, shape, density etc.

16. Penicillin:

⇒ Penicillin is a group of antibiotics, derived originally from common moulds known as Penicillium moulds.

⇒ In this antibiotics were among the first medications to be effective against many bacterial infections.

17. Vaccine:

⇒ A vaccine is a biological preparation that provides active acquire immunity to a particular infectious disease.

⇒ The term vaccine are derived from variola vaccinal, discovered by Edward Jenner to denote cowpox.

18. Streptomycin :

⇒ Streptomycin is an antibiotic used to treat a number of bacterial infections.

⇒ This includes tuberculosis, Mycobacterium avium, Brucellosis, plague, rat bite fever.

19. Rabies vaccine :

⇒ Rabies vaccine is a vaccine used to prevent rabies.

⇒ Doses are usually given by injection into skin or muscles. It may safely used in all age groups.

20. Microbial products :

1. Anticoagulants
2. Antidepressants
3. Vasodilators
4. herbicides
5. Insecticides
6. plant hormone
7. enzymes
8. vitamins.

21. ethanol :

⇒ It is colourless, volatile & flammable liquid.

⇒ Molecular formula C_2H_5OH .

⇒ It is used as solvent and in fuel.

22. Amylase :

⇒ It is one of enzymes.

⇒ An enzymes that allows the body to change some substances into simple sugars.

23. protease :

⇒ It is also called peptidase or proteinase.

⇒ It is breakdown of protein into smaller polypeptides or single amino acids.

24. Glutamic acid :

⇒ Glutamic acid is an amino acid used to form proteins.

⇒ In the body it turns into glutamate.

⇒ Excess glutamic acid is not stored by the body

Preventing toxicity.

25. Recycling wastes :

- ⇒ Recycling materials (or) wastes are glass, paper, cardboard, metal, plastics, textiles etc,
- ⇒ The composting or other refuse of biodegradable waste such as food (or) garden waste is also a form of recycling.