SSR DEGREE COLLEGE, NIZAMABAD (5029)

DEPARTMENT OF MICROBIOLOGY

SEMESTER – I, INTERNAL-II QUESTION BANK

Subject: Microbiology

Multiple Choice Questions:

1. Which authority in India deals with biodiversity conservation? (a)
a) NBA b) ICMR c) DBT d) ICAR

2. Autotrophs obtain energy from: (b)
a) Organic compounds b) Sunlight or inorganic compounds c) Other organisms d) Proteins

3. Heterotrophs depend on: (c)
a) Light b) Inorganic carbon sources c) Organic carbon sources d) Nitrogen

4. Mixotrophs can utilize: (b)
a) Only light energy b) Both autotrophic and heterotrophic modes c) Only organic compounds d) None

5. Which medium supports the growth of many types of bacteria? (a)
a) Complex medium b) Selective medium c) Simple medium d) Differential medium

6. Which phase of bacterial growth shows the maximum metabolic activity? (b)
a) Lag phase b) Log phase c) Stationary phase d) Death phase

7. In which phase do bacterial cells adjust to a new environment? (c)
a) Stationary phase b) Log phase c) Lag phase d) Death phase

8. Synchronous growth means: (d)
a) All cells divide at different times b) No division occurs c) Only some cells divide d) All cells divide at the same time

9. Biphasic growth is observed when bacteria utilize: (b)
a) One carbon source b) Two carbon sources sequentially c) Nitrogen source only d) None

10. Turbidometry measures bacterial growth by: (b)
a) Counting viable cells b) Measuring cell turbidity c) Estimating protein content d) Measuring CO_2 evolution

11. Autoclaving is done at: (c)
a) 100°C for 15 min b) 180°C for 1 hour c) 121°C for 15 min under 15 psi pressure d) 37°C for 24 hours

12. Hot air oven is used for sterilizing: (b)
a) Culture media b) Glassware c) Plastic materials d) Surgical dressings

13. Filter sterilization is mainly used for: (a)
a) Heat-labile materials b) Heat-stable materials c) Glassware d) Surgical tools

14. UV radiation causes: (b)
a) Protein denaturation b) DNA damage by thymine dimers c) Cell wall damage d) RNA destruction

15. Phenol is used as a: (c)
a) Sterilizing agent b) Antibiotic c) Disinfectant d) Growth medium
16. Primary containment for biohazards is provided by: (b)
a) Autoclave b) Biological safety cabinet c) Laminar air flow d) Filter paper
17. Which technique is used to isolate pure cultures? (a)
a) Streak plate b) Spread plate c) Pour plate d) All the above
18. Micromanipulator is used for: (b)
a) Counting cells b) Isolating single cells c) Fixing slides d) Measuring turbidity
19. Sub-culturing helps in: (c)
a) Sterilization b) Increasing temperature c) Preservation of culture
d) Killing bacteria
20. Lyophilisation means: (d)
a) Air drying b) Chemical preservation c) Heating d) Freeze drying
21. Enrichment culture technique helps in: (b)
a) Killing bacteria b) Promoting growth of desired microbes c) Preventing contamination d) All the above
22. Biomass of bacteria can be measured by: (a,b)
a) Turbidity b) Weight c) Viable count d) All the above
23. Continuous culture maintains cells in: (c)
a) Death phase b) Lag phase c) Log phase d) Stationary phase
24. Gamma rays are used for: (b)
a) Surface sterilization b) Sterilizing disposable medical items c) Cooling materials d) Biological safety
25. Alcohol kills microorganisms by: (a)
a) Protein denaturation b) DNA mutation c) Membrane formation d) pH change

Fill in the Blanks:

1. The full form of NBA is **National Biodiversity Authority**
2. Autotrophs utilize **inorganic carbon sources**
3. Bacteria show maximum growth in the **log phase**
4. A medium containing unknown ingredients is called a **complex medium**
5. Measurement of turbidity is done using a **spectrophotometer**
6. Continuous culture is maintained in **chemostat**
7. Autoclave sterilization is carried out at **121°C for 15 minutes**
8. Hot air oven sterilizes **glassware**
9. UV radiation damages DNA by forming **thymine dimers**
10. Phenol is a common **disinfectant**
11. Alcohol denatures **proteins**
12. Filter sterilization is used for **heat-labile liquids**
13. Gamma rays sterilize **plastic syringes**
14. Bacterial motility is observed under **hanging drop method**
15. Preservation of pure culture by **lyophilisation prevents contamination**
16. Enrichment culture enhances the growth of **desired organisms**
17. Aseptic techniques prevent **contamination**

18. The stationary phase occurs when **nutrients are depleted**
19. Micromanipulator isolates a **single bacterial cell**
20. Continuous growth occurs in a **chemostat system**
21. The measurement of viable count uses **plate count method**
22. Turbidometry measures bacterial density **optically**
23. In biphasic growth, bacteria use **two carbon sources**
24. Laminar air flow provides a **dust-free sterile environment**
25. Autoclave uses **steam under pressure for sterilization**

Descriptive Questions:

1. What is biodiversity conservation?
2. Define heterotrophs and give examples.
3. What are the phases of bacterial growth curve?
4. Differentiate between sterilization and disinfection.
5. What is lyophilization?