



- Notes :
1. Illustrate your answers wherever necessary with the help of neat sketches.
  2. All questions are compulsory.

**1. Multiple choice questions Answer all the question. 20**

- i) When a finite cell line undergoes transformation & acquires the ability to divide indefinitely it becomes-
  - a) Continuous cell line.
  - b) Infinite cell line.
  - c) Discontinuous cell line.
  - d) Both b & c
- ii) The anaerobic conversion of sugar into alcohol by micro-organism is called as-
  - a) Sterilization
  - b) Pasteurization.
  - c) Fermentation.
  - d) Sanitization.
- iii) Outer membrane is present in cell wall of-
  - a) Gram +ve bacteria.
  - b) Only gram -ve bacteria.
  - c) Both gram +ve & -ve bacteria
  - d) only gram +ve bacteria.
- iv) The fourth postulate of Koch postulate was appended by-
  - a) E. Jenner
  - b) Ruska
  - c) L. Pasteur
  - d) E. F. Smith
- v) The organ of locomotion in bacteria are-
  - a) Flagella
  - b) Pilli
  - c) Pseudopods
  - d) Both a & b
- vi) Roll tube method of isolation is mostly used for isolation of-
  - a) Canophiles
  - b) Obligate anaerobes
  - c) Aerobes
  - d) Obligate aerobes
- vii) The method of streaking in which there is no overlapping of streaking zones is-
  - a) Discontinuous method
  - b) Continuous methods
  - c) Consistent method
  - d) None of the above
- viii) The phase of maximum multiplication resulting in increased population of bacteria with reduced generation is-
  - a) Lag phase
  - b) Decline phase
  - c) Log phase
  - d) Stationary phase
- ix) The process of killing microorganism including spores is-
  - a) Disinfection
  - b) Sanitization
  - c) Sterilization
  - d) Filtration
- x) Which of the following are chemical indicators of sterilization.
  - a) Browne's tube
  - b) Witness tube
  - c) Royce sachet
  - d) All the above

- xi) A fully assembled infectious virus is called as-
- |           |                   |
|-----------|-------------------|
| a) Micron | b) Virion         |
| c) Prion  | d) None the above |
- xii) Glycerol may be used as preservative upto a % of-
- |       |       |
|-------|-------|
| a) 15 | b) 50 |
| c) 10 | d) 1  |
- xiii) Best autoclaving is achieved at-
- |                     |                    |
|---------------------|--------------------|
| a) 121°C for 15 min | b) 120°C for 1 hrs |
| c) 110°C for 2 hrs  | d) 100°C for 3 hrs |
- xiv) Total aerobic microbial count present in test substance is determined by following method except-
- |                         |                         |
|-------------------------|-------------------------|
| a) Membrane Filtration  | b) Total plate count    |
| c) Most probable number | d) Turbidimetric method |
- xv) Sanitization is mostly used in-
- |                                    |
|------------------------------------|
| a) Hospitals                       |
| b) Research Laboratories           |
| c) Food Processing & Catering unit |
| d) All the above                   |
- xvi) About 80-90% of the fungal cell wall is made up of-
- |              |           |
|--------------|-----------|
| a) Cellulose | b) Chitin |
| c) Proteins  | d) Lipids |
- xvii) Who is the founder of microbiology-
- |               |            |
|---------------|------------|
| a) L. Pasteur | b) R. Koch |
| c) E. Jenner  | d) Ruska   |
- xviii) DOP (Dioctyl Phthalate) test is used for validation of-
- |                    |                |
|--------------------|----------------|
| a) Membrane filter | b) HEPA filter |
| c) Aseptic room    | d) Autoclave   |
- xix) Staphylococcus aureus is used for assay of-
- |                |                  |
|----------------|------------------|
| a) Bleomycin   | b) Carbenicillin |
| c) Doxycycline | d) Kanamycin     |
- xx) Paul Erich coined the term-
- |                  |                     |
|------------------|---------------------|
| a) Physiotherapy | b) Hydrotherapy     |
| c) Chemotherapy  | d) All of the above |

**2. Solve any two.**

**20**

- a) Define and classify media. Explain in detail common ingredients of culture media.
- b) Define sterilization. Discuss principle, working and application of Autoclave.
- c) Write in detail about the construction and design of an aseptic area.

3. Short answers solve **any seven**.

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- a) Explain phenol as disinfectant.
- b) Write a short note on Gram staining.
- c) Explain techniques of preservation of pure culture in short.
- d) Write a short note on SEM (Scanning Electron Microscopy).
- e) Differentiate between flagella & Pili.
- f) Give the contribution of Louis Pasteur.
- g) Explain the Lytic growth cycle of bacteriophage.
- h) Explain microbiological assay of antibiotics by cup plate method.
- i) How will you detect microbial contamination in pharmaceuticals.

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