

**Anekant Education Society's**  
**Tuljaram Chaturchand College, Baramati**  
**Autonomous**

**CLASS: F.Y.B.Sc MICROBIOLOGY**

**PAPERCODE - MICRO-1202**

**PAPER :II SEMESTER-II**

**PAPER TITLE: BASIC TECHNIQUES IN MICROBIOLOGY**

**1 MARK QUESTION:-**

1. Define Pure culture
2. Define Autographs
3. Define Heterotroph
4. Define Extremophiles
5. Define Chemolithotroph
6. Define photoautotrophs
7. Define Preservation
8. Define halophiles
9. Define selective media
10. Define differential media
11. Define enrichment
12. Define bacterial growth
13. Define specific growth rate
14. Define generation time
15. Define diauxic growth
16. Define synchronous culture
17. Define pure culture
18. Name the method which is used to obtain pure culture
19. ....ml culture is required for pour plate method
20. ....ml culture is required for spread plate method
21. Agar powder is extracted from.....
22. Chemoautotrophs were also called as.....
23. Cryopreservation in liquid nitrogen is done at.....
24. A phase in which microorganisms grow at rapid rate is called as.....
25. Temperature range for the growth of psychrophiles is.....
26. Temperature range for the growth of mesophiles is.....

27. Temperature range for the growth of thermophiles is.....
28. State -True or False-
- Mac conkeys agar medium is selective as well differential
  - Cryopreservation is done in liquid nitrogen
  - Chemotrophs use light as energy source
  - Spread plate method is used to obtain pure culture
  - Winogradskys column is used to cultivate large diversity of microorganisms
  - Lyophilization is done at - 40°C

## **2 MARK QUESTIONS:-**

- Give examples of selective media
- Give examples of differential medium
- Give examples of Chemolithotrophs
- Give examples of Acidophiles
- Give examples of Basophiles
- Give examples of Halophile
- Give examples of green sulfur bacteria
- Give examples of purple sulfur bacteria
- Give role of buffer
- Enlist methods of culture preservation
- Enlist the names of common ingredients of media
- Enlist the classes of microorganisms based on nutrient requirements
- Enlist the names of any two culture collection centers
- Give role of peptone
- Give role of NaCl
- Give role of agar agar powder in media
- Name any two methods used for the enumeration of bacteria
- Name any two methods used for the isolation of bacteria
- Name any two heavy metals showing inhibition of bacterial growth
- Enlist the name of phases of bacterial growth

## **4 MARK QUESTIONS:-**

- Explain classification of microorganisms based on their nutritional requirements
- Explain growth factor requirements of bacteria
- Explain the factors affecting the growth of bacteria
- Give role of peptone
- Give role of NaCl in medium
- Give role of agar in medium
- Define medium. Give role of yeast extract and meat extract in media

8. Explain the types of medium.
9. Explain synthetic and semi synthetic medium with examples
10. Explain MacConkeys medium is selective as well as differential
11. Give short note on enrichment medium
12. Explain Streak plate technique
13. Explain Sprade plate technique
14. Explain Pour plate technique
15. Explain serial dilution technique
16. Give short note on extremophiles
17. Explain winogradskys column
18. Comment on carbon, nitrogen and oxygen requirements of bacteria
19. Explain the role of different elements in microorganisms growth
20. Give short note on synchronous culture
21. Explain diauxic growth

#### **6.MARK QUESTIONS:-**

- 1 Give short note on diauxic growth
- 2 Explain synchronous culture
- 3 Explain phases of bacterial growth
- 4 Define media. Give role of common ingredients used in medium
- 5 Define preservation. Explain the techniques of culture preservation
- 6 Explain any two microscopic methods used for the enumeration of bacteria
- 7 Give short note on turbidometric method
- 8 Comment on - chemical methods used for the estimation of cell carbon and nitrogen
- 9 Explain Winogradskys column in detail
- 10 Name the culture collection centers and their role in details
- 11 Explain Streak plate technique
- 12 Explain Sprade plate technique
- 13 Explain Pour plate technique
- 14 Explain cultivation of chemoautotrophs
- 15 Define media. Explain types of media
- 16 Comment on –role of any two different factors affecting bacterial growth
- 17 Explain growth curve

#### **12 SMARKS QUESTIONS:-**

1. What is isolation? Explain different methods used for the isolation of bacteria
2. Define media. Explain different types of media with suitable examples
3. Define bacterial growth. Explain different phases of growth of bacteria

4. Define bacterial growth. Explain different factors affecting the growth of bacteria
5. Explain any two methods of enumeration of bacteria in details
6. Give classification of microorganisms on the basis of nutritional requirements. Explain the methods of cultivation of photosynthetic bacteria
7. Give classification of microorganisms on the basis of nutritional requirements. Explain the methods of cultivation of chemoautotrophic bacteria
8. Define growth. Explain microscopic methods used for the enumeration of bacteria
9. Define growth. Explain plate count and turbidometric methods

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