

P P SAVANI UNIVERSITY

Fifth Semester of B.Sc. Examination
Nov.-Dec.-2020

SSMB3150-Industrial Microbiology II

08.01.2021, Friday

Time: 10:00 a.m. to 12:30 p.m.

Maximum Marks: 60

Section-A (Total Marks - 20)

Q.1 Objectives (20MCQ Compulsory-1 mark each)

(20)

1

- A Batch
- B Filter
- C Continuous
- D Submerged

2

- The destruction of microorganisms by moist heat is described by
- A Zero order reaction
 - B First order reaction
 - C Second order reaction
 - D Third order reaction

3

- _____ method is used for sterilization
- A Moist Heat
 - B Staining
 - C Microbial Inoculation
 - D Incubation

4

- Halogens like _____ combine with amino acids and produce acids which inhibit microbial growth.
- A Chlorine
 - B Iodine
 - C Both A and B
 - D None

5

- _____ have strong bactericidal properties.
- A Quaternary Ammonium Salts
 - B Oil
 - C Agar
 - D None

6

- Main aim of inoculum preparation is
- A To minimize contamination
 - B To increase production
 - C To decrease lag phase of desired organisms
 - D All of the above

7

- The length of the lag phase is affected by
- A The size of the inoculum
 - B Physiological condition
 - C Both A and B
 - D None

8

- _____ is a process in which fermentation is carried out in batches
- A Batch fermentation
 - B SSF Fermentation
 - C Submerged fermentation
 - D Continuous fermentation

9

- Glucose is used as _____ source in fermentation.
- A Carbon
 - B Sulfur
 - C Hydrogen

- 10 D Nitrogen
Industrially important microorganism are grown in large vessel containing nutrient media this vessel called as
A Baffle
B Impellor
C Fermentor
D Sparger
- 11 Which of the following is a down stream process?
A Screening
B Product recovery
C Media sterilization
D Inoculum preparation
- 12 Cell lysis becomes an important operation if the product is
A Extracellular
B Heat labile
C Toxic
D Intracellular
- 13 Which of the following is true in case of extraction of any fermentation product?
A It should occupy less steps and take less time
B It should occupy more steps and take long time
C It should occupy less steps and take long time
D It should occupy more steps and less time
- 14 Which of the following factor increase the difficulties of products recovery?
A pH of the medium Neuurospora
B only cell fragments
C Cell fragments, soluble and insoluble medium components
D only insoluble medium components
- 15 In fermenter, up to the production of desirable product is termed
A Upstream Process
B Down Stream Process
C Both A and B
D None
- 16 Which method of purification allows separation of solids from fluids by interfering a medium through which only the fluid can pass?
A Filtration
B Precipitation
C Centrifugation
D None
- 17 Which equipment works using the sedimentation principle, where the centripetal speed causes denser substances to separate out along the radial direction?
A Centrifuge
B Filter
C Both A and B
D None
- 18 A centrifuge is used to separates molecules on the basis of their,
A Size
B Shape
C Density
D All of the above
- 19 Which separation technique is based on differential partitioning between two phases that is mobile and stationary?
A Filtration
B Precipitation
C Centrifugation
D Chromatography

- 20 Microbes involve in Ethanol production are
A *Saccharomyces cerevisiae*
B *Candida utilis*
C *Zymomonas mobilis*
D All

Section-B (Total Marks - 40)

- Q.1 Short Notes (attempt all four compulsory- 3 marks each) (12)**
A Name the various chromatographic techniques used in purification of product
B What are the various factors affecting the biomass production?
C What is Red heat sterilization ?
D What are the various applications or advantages of SCP?

- Q.2 Explain in detail (attempt any four-7 marks each) (28)**
A Explain Moist heat sterilization method
B In detail explain Yeast Inoculum Development
C Ethanol Production
D Explain various Filtration and Cell Disruption Techniques used in Down Stream Process
E Lactic Acid Production