

P P SAVANI UNIVERSITY

Fifth Semester of B.Sc. Examination

Nov.-Dec.-2020

SSMB3190 - Industrial Microbiology I/ Microbial Biotechnology I

09.01.2021, Saturday

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)

In microbial growth cycle, stationary phase is considered as

1

- A Active growth phase
- B Acclimatization phase
- C Starvation phase
- D None

2

_____ is part of upstream process

- A Media preparation
- B Media Sterilization
- C Effluent treatment
- D Both A and B

3

Glycerol can be used as _____ source.

- A Carbon
- B Nitrogen
- C Growth Stimulant
- D None

4

Quantitative analysis of volatile compounds is carried out by

- A HPLC
- B GC
- C TLC
- D HPAC

5

Separation of soluble substances present in solution can be achieved by

- A Decantation
- B Evaporation
- C Distillation
- D Both B and C

6

Ammonium sulphate present in medium is responsible for

- A Increase in pH
- B Decrease in pH
- C Neutral pH
- D None

7

The most common starch source used for producing beer is

- A Tapioca
- B Sorghum
- C Cassava
- D Malted barley

8

The organic substances on which enzymes acts are

- A Substrates
- B Coenzymes
- C Products
- D None

9

What is Industrial Microbiology?

- A Use of Microorganisms for industrial products
- B Use of Microorganisms for medical use
- C Use of Microorganisms for agricultural use
- D None

- 10 The main function of diffuser in fermentor is to provide
A Maximum aeration
B Maximum pH
C Maximum temperature
D All of the above
- 11 The common amino acids produced in industry by microorganisms are
A Lysine
B Glutamic acid
C Aspartic acid
D All
- 12 The raw material used for making wine is
A Grapes
B Orange
C Banana
D Tapioca
- 13 Microbial growth under industrial fermentation conditions usually utilizes ____ metabolism of the organism
A Luxury
B Rapid
C Slow
D Co metabolism
- 14 Sugar vinegar is made from
A Barley malt
B Molasses
C Apple
D Ethanol
- 15 In submerged fermentation process
A Water availability is limited
B Microorganisms act at surface only
C SSF is used
D Stirred tank reactor is used
- 16 Glutamic acid is used as
A Hair conditioner
B Flavor enhancer
C Nutritional supplement in animal fodder
D All
- 17 In microbial fermentation, antibiotic production occurs during
A Exponential phase
B Lag phase
C Decline phase
D Stationary phase
- 18 The characteristic of Secondary metabolite is
A It is not formed until microbe has completed its growth phase
B It may be a conversion of primary metabolite
C Both A and B
D None
- 19 Solvents are ____ category of microbial product
A Pharmaceutical
B Commercial
C Food product
D None
- 20 Which of the following is not a desired characteristic of the organism to be used for industrial application?
A should produce less amount of product

- B should be readily available
- C should grow rapidly
- D should be nonpathogenic

Section-B (Total Marks - 40)

Q.1 Short Notes (attempt all four compulsory- 3 marks each)

- A Write a note on Biofuels
- B What are the advantages of Biopolymer?
- C Give 3 examples of biofertilizers
- D Give the Characteristics of Penicillin

(12)

Q.2 Explain in detail (attempt any four-7 marks each)

- A Advantages, Disadvantages and Applications of Enzyme Immobilization
- B Industrial Strain Preservation
- C Microbial Growth Cycle
- D Cheese making
- E Insulin

(28)