

END SEMESTER/ RE-TEST EXAMINATION, 2020

Semester: 5th

Subject code: FPT-501

Introduction to Food Microbiology, Biochemistry & Biotechnology

Full Marks: 70 (Part A- 25 + Part B- 45)

Duration: 03 hours

Instructions:

1. All Questions of Part A are compulsory
2. Answer any five questions from PART-B.

PART-A

Marks-25

Question 1. Fill in the blanks

(1x10)

- a) Spiral shaped bacteria are known as _____.
- b) A bacterium that occurs as pairs of cocci are called _____.
- c) _____ medium is designed to suppress the growth of some microorganisms while allowing the growth of others.
- d) Media lacking a solidifying matrix is known as _____.
- e) The stage where the bacterial growth occurs is called the _____.
- f) _____ is the most common fungi in the world.
- g) Enzymes can be precipitated by using _____.
- h) The substance on which the enzymes act is termed as _____.
- i) The breakdown of molecules to obtain energy is called _____.
- j) The cell walls of bacteria can be lysed by the enzyme _____.

Question 2: Write True or False

(1x10)

- a) All enzymes are proteins but all proteins are not.
- b) A medium of which exact chemical composition is not known is referred to as synthetic medium.
- c) An enzyme made up of proteins only is known as holoenzyme.
- d) The process of conversion of sugar into ethyl alcohol and carbon-dioxide under anaerobic condition is called fermentation.
- e) All microorganisms cannot grow in a given culture medium.
- f) SCP is an edible multicellular microorganisms.
- g) The stage where no bacterial growth takes place is the decline phase.
- h) Gram-negative bacteria is more susceptible to antibiotics.
- i) Bacilli are rod-shaped bacteria.
- j) Cell wall is a layer that is made of a polymer called peptidoglycan.



Question 3: Choose the correct answer.

(1x5)

- a) Bacterial can be found in shape of
a) Spheres b) Rods c) Spirals d) All of these shapes.
- b) Enzyme can change the _____ of a chemical reaction.
a) Yield b) Rate c) Reactants d) Products
- c) The new molecule or substance released by the enzyme are called.
a) Substrates b) Activator c) Inhibitor d) Product
- d) The solidifying agent commonly used in preparation of media
a) Agar b) Silica gel c) Both (a) and (b) d) None
- e) Solid medium is usually used as
a) Slants b) Stabs c) Petridishes d) All of these

PART-B

Marks-45

Q.no.4

- a) Define death phase. In which phase the increase in cell number ceases and why? 3
- b) Explain in brief the conjugation mode of reproduction in bacteria. 4
- c) Give some important applications of lyophilization. 2

Q.no.5

- a) Draw and label the ultrastructure of a bacterial cell. 4
- b) Distinguish between pour plate and spread plate. 3
- c) What is selective media? Why do we have to use autoclave for the tubes medium? 2

Q.no.6

- a) What are enzymes? Explain the ES complex. 3
- b) Explain in brief the process of ethanol production from sugar. 4
- c) What is meant by Active site? 2

Q.no.7

- a) What is colony? Write the important characteristics of colony morphology. 4
- b) Define enrichment culture giving suitable examples. 3
- c) Write two important characteristics of prokaryotic cell. 2

Q.no.8

- a) Differentiate between Gram +ve and Gram -ve bacteria. 4
- b) Write the advantages of immobilized enzymes. 2
- c) Draw and label the fermenter of antibiotic production. 3

Q.no.9

- a) What is Streak plate method? 3
- b) How ATP is different from ADP? 3



c) Explain in brief why bacteria produce endospores.

3

Q.no.10

Write short notes on: (**any three**)

3x3

a)SCP b)Biomass c) Serial dilution d) Enzyme specificity

