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Seat No : _____

No of printed pages: 02

SARDAR PATEL UNIVERSITY
B.Sc III SEMESTER EXAMINATION
Tuesday, 26th November 2019
2:00 pm to 5:00 pm
BIOTECHNOLOGY: US03CBIT22
MICROBIAL BIOTECHNOLOGY

Note: Figures to the right indicates marks.

Total Marks: 70

Q.1 Multiple Choice Questions.

[10]

- i) Which of the following is not the basic shape of the bacteria?
a) Rod shape b) Comma shape c) Spiral shape d) None of these
- ii) The _____ filter is made up of diatomaceous earth material.
a) Seitz b) Berkefeld c) Chamberland Pasteur d) Membrane
- iii) Yeast is _____ organism.
a) Unicellular, Prokaryotic b) Multicellular, Prokaryotic
c) Unicellular, Eukaryotic d) Multicellular, Eukaryotic
- iv) The first application of gene amplification to industrial strains was for the improvement of _____ production.
a) Enzyme b) Antibiotics c) Vaccines d) Proteins
- v) Generally, the production medium for fermentation contains _____
a) Source of C & N b) Growth factors c) Mineral salts d) All of these
- vi) Proteases is/are produced by _____.
a) *Bacillus subtilis* b) *B.licheniformis* c) *Aspergillus niger*. d) all of these
- vii) In cheese production during coagulation milk is converted into _____.
a) Lactic acid b) Curd c) Whey d) Both (b) & (c)
- viii) Siderophores secreted by phosphate solubilizing microorganisms chelate the _____ present in the root zone.
a) Iron b) Mg c) Mn d) Cu
- ix) Mycorrhiza is a symbiotic association between fungus & _____.
a) Root b) Stem c) Leaves d) Fruits
- x) Dhingri mushroom is the common name of _____ species mushroom.
a) *Pleurotus* b) *Volvariella* c) *Agaricus bisporus* d) *A. brunnescens*

(1)

(P.T.O)

Q.2 Answer the following questions in short. (Attempt any 10) [20]

- i) Define Virus. Give its characters.
- ii) Differentiate between Plasmolysis & Plasmoptysis.
- iii) Write the practical applications of alcohols & phenol.
- iv) What is Auxotrophic mutant? Give its suitable example.
- v) What is secondary screening? Give its importance.
- vi) Give uses of yeast extracts in fermentation media.
- vii) What do you mean by Probiotics?
- viii) Give the advantages & disadvantages of continuous fermentation.
- ix) Write in brief about bread making.
- x) Define the term Biofertilizer.
- xi) Give the advantages & disadvantages of biopesticides.
- xii) What are bioplastics?

Q.3 Explain in detail the different kinds of heat radiation used to destroy the microorganisms. [10]

OR

- Q.3 a) Give an elaborative note on halogen compounds used as a chemical antimicrobial agent. [06]**
- b) Write a note on mode of action & practical applications of heavy metals. [04]**

Q.4 Define primary screening. Discuss in detail various techniques used for isolation of microorganisms. [10]

OR

- Q.4 a) Discuss the role of molasses & sulfite waste liquor used as a synthetic media in fermentation. [05]**
- b) Give an account on parasexual cycle in strain improvement & also give its applications. [05]**

- Q.5 a) Give an account on cheese production. [05]**
- b) Define Batch fermentation. Explain it in detail. [05]**

OR

- Q.5 a) Discuss in detail production of amylase from microorganisms. [05]**
- b) Describe the production of yogurt. [05]**

- Q.6 a) Explain in detail the production of single cell protein & give its application [05]**
- b) Write short note on Bioinsecticide. [05]**

OR

- Q.6 a) Give an account on process of mushroom cultivation. [05]**
- b) Write short note on bacterial biofertilizer. [05]**

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