

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B. TECH. (D.T.) DEEGRE COURSE 2018-19

Semester	: I (New Syllabus)	Academic Year	: 2018-2019
Course No.	: DM - 101	Course Title	: Fundamentals of Microbiology
Credits	: 2+1=3	Total Marks	: 50
Day & Date	: Friday, 04/01/2019.	Time	: 11.00 to 13.00 Hrs.

- Note :**
- 1) All questions from **Section 'A'** are compulsory.
 - 2) Solve **Any Five** questions from **Section 'B'**.
 - 3) Draw neat and well labelled diagram wherever necessary

SECTION –‘A’

Q. 1. A) Choose the most appropriate answer from the options given below. (05)

- i) In Prokaryotes the ribosome are
 - a) 70S
 - b) 80S
 - c) 50S
 - d) 30S
- ii) Which of the following is present in Prokaryotes?
 - a) Nucleus
 - b) Golgi apparatus
 - c) Mitochondria
 - d) Vesicles
- iii) Which of the following correctly represents the flow of genetic information?
 - a) RNA \longrightarrow DNA \longrightarrow Protein
 - b) Protein \longrightarrow RNA \longrightarrow DNA
 - c) DNA \longrightarrow RNA \longrightarrow Protein
 - d) RNA \longrightarrow Protein \longrightarrow DNA
- iv) Mesophiles can grow at
 - a) Low temperature
 - b) Moderate temperature
 - c) High temperature
 - d) None of these
- v) Two sugars found in nucleic acids are
 - a) Sucrose and Ribose
 - b) Glucose and Fructose
 - c) Deoxyribose and Ribose
 - d) Deoxyribose and Glucose

B) Do as directed. (05)

- i) Nucleolus (Define the term)
- ii) What is Protoplast? (Answer in a sentence)
- iii) Who is the inventor of Microscope? (Answer in a sentence)
- iv) bacteria usually have greater amount of peptidoglycan in their cell walls than do bacteria. (Fill in the blanks)
- v) Microscopes are of two categories; and, depending upon the principle on which magnification is based. (Fill in the blanks)

Q. 2 A) Rewrite the following statement after making necessary corrections. (05)

- i) The plasmid contains genes which is not essential for bacterial life.
- ii) Galactose is a pentose Sugar.
- iii) The bacteriophage is a bacterium.
- iv) Smallest living cells with cell wall are viruses.
- v) Uracil is a nucleotide base in DNA.

(P.T.O.)

B) Match the Pairs.

(05)

Column "A"

- i) Growth Factor
- ii) Isotonic Solution
- iii) Louis Pasture
- iv) Proteolytic enzyme
- v) Leeuwenhoek

Column "B"

- a) Sodium Chloride
- b) Trypsin
- c) Bacteria
- d) Vitamin
- e) Fermentation

SECTION – 'B'

- Q. 3 Discuss in brief about the contribution of Leeuwenhoek and Pasture in the field of Microbiology. (06)
- Q. 4 Discuss about the structure of a eukaryotic and prokaryotic cell with labelled diagram. (06)
- Q. 5 Discuss in detail method for controlling microflora in water and air. (06)
- Q. 6 Write short notes on the following. (02)
- A) Transduction (02)
 - B) Conjugation (02)
 - C) Transformation (02)
- Q. 7 A) Write in brief about the 'Microbial nutrition'. (03)
- B) Comments on 'Scope of Microbiology'. (03)
- Q. 8 Differentiate between the following (02)
- A) Bright Field and Dark Field. (02)
 - B) Simple Staining and Gram Staining. (02)
 - C) Flagella and Pilli. (02)
- Q. 9 A) What is Microbial Growth? (02)
- B) Discuss about factors affecting the growth of Microorganisms. (04)
