

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.TECH. (D.T.) DEGREE COURSE 2017-18

Semester	: I (New Syllabus)	Academic Year	: 2017-2018
Course No.	: DM-101	Course Title	: Fundamentals of Microbiology
Credits	: 2+1=3	Total Marks	: 50
Day & Date	: Tuesday, 09.01.2018	Time	: 11.00 to 13.00 Hrs.

- Note :** 1) Section "A" is 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) Gram Positive cell wall is made up of
 - a) Peptidoglycon
 - b) Lipopolysaccharide
 - c) Phospholipids
 - d) Glycerophosphate
- ii) Organisms appearing as bunch of grapes
 - a) Streptococci
 - b) Staphylococci
 - c) Monococci
 - d) Diplococci
- iii) The father of microbiology
 - a) Antony Van Leeuwenhock
 - b) Hippocrates
 - c) Robert Hooke
 - d) Louis Pasteur
- iv) Use of Agar Agar in media is suggested by
 - a) Jacob Hencle
 - b) Robert koch
 - c) Fenny Filshemens
 - d) Louis Pasteur
- v) The virus that kills the bacteria is called
 - a) Bacteriaophage
 - b) Bacteriocin
 - c) Yeast
 - d) Mold

B) Answer in one line / one word. (05)

- i) The first formed substance in a cell is called.
- ii) The Englishman who first used the word Cell.
- iii) Bacterial division or reproduction is called.
- iv) The organelle of a cell where the genetic material is stored.
- v) The microscope in which the magnification is obtained by the use of electron beams.

Q. 2 A) Define / explain in one line / word. (05)

- i) Protoplast
- ii) Viruses
- iii) Mordant
- iv) Mutation
- v) Thermophiles

(P.T.O.)

- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) Crystal violet is the counter stain used in Gram's staining.
 - ii) Yeast is multicellular microorganism.
 - iii) The cell cannot survive if cell wall is damaged or removed.
 - iv) The spore is the active form of a bacterium.
 - v) Thin layer of viscous substance present around the cell wall is called slime.

SECTION – 'B'

- Q. 3 Describe in detail factors affecting the bacterial growth. Write about classification based on temperature. (06)
- Q. 4 Discuss in detail principles of microscopy. Write in detail about any two microscopes. (06)
- Q. 5 Differentiate between Eukaryotic and Prokaryotic organisms. (06)
- Q. 6
- a) Write a short note on cell theory. (02)
 - b) Write a short note on Spontaneous generation theory. (02)
 - c) Write a note on microbial classification systems. (02)
- Q. 7
- a) Draw a well labeled diagram about Bacterial cell structure. (03)
 - b) State principle of Gram's staining. (03)
- Q. 8 Write a short note on following.
- a) Louis Pasteur (02)
 - b) Koch postulates (02)
 - c) Microbial taxonomy. (02)
- Q. 9
- a) Enlist various microflora are found in air, soil and water. (02)
 - b) Differentiate between DNA and RNA. (04)
