

B. Sc. DEGREE EXAMINATION, NOVEMBER 2017
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FIFTH SEMESTER

COURSE : MAJOR – CORE
PAPER : MICROBIOLOGY
TIME : 3 HOURS
MAX.MARKS:100

SECTION – A

ANSWER ALL QUESTIONS (18 Marks)

I. Choose the correct answer (5x1=5)

- Vaccination was first introduced by -----.
(a) Edward Jenner (b). Louis Pasteur (c). Robert Koch (d). Flemming
- Secondary metabolites are synthesized during the growth phase -----.
(a) Lag (b) Log (c) Stationary (d) Decline
- Reverse transcriptase is actively present in -----.
(a) TMV (b) T4 (c) HSV (d) Retro virus
- Which one of the following is not a phosphate solubilizer?
(a) *Psuedomonas* (b) *Bacillus* (c) *Fussarium* (d) *Azospirillum*
- Biological indicator of contaminated water is -----.
(a) *E. coli* (b) *Samonella* (c) *Closteridium* (d) *Vibrio*

II. Fill in the blanks: (5x1=5)

- Prophage is a combination of bacterial chromosome and -----.
- The germ theory of disease was postulated by -----.
- Bunchy top of Banana is caused by -----.
- Botulism, the illness caused by bacterium -----.
- Major group of microbes in activated sludge process is -----.

III. True or False (4x1=4)

- Endospores are not a reproductive structure.
- Viruses are obligate parasite with no metabolism.
- Autotrophs uptake carbon from dead organic matters.
- Ozonation is an ideal treatment for potable water.

IV. Match the following (4x1=4)

- Prions - plaque formation
- F-factor - obligate anaerobe
- Plasmid - conjugation
- Clostridium* - proteinaceous particle
- extra chromosomal DNA

V. Answer any six questions, each answer not exceeding 50 words (6x3=18)

19. Contributions of Louis Pasteur
20. Whittaker's 5 kingdom concept
21. Chemolithotrophs
22. Differential medium
23. Virusoids
24. Prions
25. Plaque formation
26. Applications of VAM fungi
27. BOD and COD

SECTION - B

ANSWER ANY FOUR QUESTIONS EACH ANSWER SHOULD NOT EXCEED 200 WORDS. DRAW DIAGRAMS WHEREVER NECESSARY (4x6=24)

28. Explain in detail Koch's postulates.
29. Bring out roles of different physical agents in control of microbes.
30. Briefly explain the replication of Tobacco Mosaic Virus
31. Write notes on the pathogen, symptoms and control measures of little leaf of brinjal.
32. Describe the sampling techniques for testing air borne pathogens.
33. Draw labeled diagrams showing the processes of conjugation types.

SECTION - C

ANSWER ANY TWO QUESTIONS EACH ANSWER SHOULD NOT EXCEED 1000 WORDS. DRAW DIAGRAMS WHEREVER NECESSARY (2x20=40)

34. Write details on the ultrastructure of a bacterial cell.
35. Give an account on lytic and lysogenic life cycle of bacteriophage.
36. Illustrate and explain nitrogen cycle with reference to different groups of microbes in it.
37. With a flow chart describe sewage water treatment.
