Reg. No.										

MANIPAL UNIVERSITY

THIRD SEMESTER B.S. (ENGG.) DEGREE EXAMINATION – DECEMBER 2015

SUBJECT: INDUSTRIAL MICROBIOLOGY (BT 232)

(BRANCH: IND.BIOTECH)
(NEW SCHEME)

Friday, December 18, 2015

Time: 10:00 -13:00 Hrs. Max. Marks: 100

Answer any FIVE full questions.

1A. Describe about rhizosphere. How soil microbes serve as biofertilizers in fixing atmospheric nitrogen? Elaborate with examples.
1B. Elaborate the immunofluorescence technique and also provide a sketch.

(10+10 = 20 marks)

2A. Classify various sterilization techniques in the form of a flow diagram.
2B. Describe the following with respect to light microscope:
i) Resolving power ii) Refractive index iii) Oil immersion lens

(10+10 = 20 marks)

3A. Why are microbial sources preferred for the production of enzymes?
3B. What are the three mechanisms of phosphorylation to generate ATP from ADP.
3C. Compare and contrast the multiplication of bacteriophage and animal virus.

(6+6+8 = 20 marks)

4A. Differentiate gram-positive and gram-negative bacteria with a labeled diagram.
4B. Explain the fluid mosaic model of plasma membrane.

(10+10 = 20 marks)

5A. Sketch the structure of Chlamydomonas and illustrate the life cycle.
5B. List out and describe the cause and mode of infection of few communicable diseases in India.

(10+10 = 20 marks)

6A. How does spore formation takes place in bacterial cells?
6B. Describe the generalized life cycle of Basidiomycetes.
6C. List the functions of single cell proteins.

(8+8+4 = 20 marks)

7A. Describe the mode of action of delta-endotoxin of Bacillus thuringiensis.
7B. What are the various methods of asexual and sexual reproduction in fungi?

(10+10 = 20 marks)

8A. Provide a sketch and describe the replication of DNA containing animal virus.
8B. Tabulate any five enzymes indicate their source with industrial importance.

(10+10 = 20 marks)