B. TECH.

(SEM. IV) EXAMINATION, 2006-07
MICROBIOLOGY

Time : 3 Hours] [Total Marks : 100

Note : (1) Attempt all questions.
(2) All questions carry equal marks.

1 Attempt any two of the following : \(10 \times 2 = 20\)
   (a) Describe scope of microbiology and explain how it is helpful to animal and plant kingdom.
   (b) What is microscopy? Briefly explain microscopic techniques used in microbiology.
   (c) Describe morphological and physiological features of viruses.

2 Attempt any two of the following : \(10 \times 2 = 20\)
   (a) Describe microbial growth kinetics.
   (b) Explain diauxic growth factors influencing growth of microorganism.
   (c) Describe various sources of microbial nutrition and explain entry of nutrients into the cell.

3 Attempt any two of the following : \(10 \times 2 = 20\)
   (a) Describe briefly different microbial culture media.
(b) Explain isolation techniques used in bacterial culture. Give a brief account of maintenance of microbial culture.
(c) Describe characteristics features of pure culture.

4 Attempt any two of the following :  \(10 \times 2 = 20\)
(a) Describe physical methods of control of microorganisms.
(b) What is immune response? Explain various aspects of immune response.
(c) Describe microbial defense mechanisms.

5 Attempt any two of the following :  \(10 \times 2 = 20\)
(a) Discuss occurrence of various organisms in water. Describe their role in disease transmission.
(b) Define “aeromicrobiology.” What types of microbes are found in air? Are they relevant to public health? Comment.
(c) Give a brief account of food spoilage organisms. Suggest methods of food preservation from such organisms.