



PBN-003-0011011 Seat No. _____
First Year B. Sc. (Sem. I) (CBCS) (W.I.F. 2016)
Examination
November / December - 2018
MB - 101 : Basic Aspects of Microbiology
Faculty Code : 003
Subject Code : 0011011

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1 (a) Objective : 4
- (1) What is the study of fungi called ?
 - (2) Who discovered the first vaccine ?
 - (3) Give examples of prokaryotic cell.
 - (4) Define Microorganism.
- (b) Answer in brief : (any 1 out of 2) 2
- (1) Give contribution of Antony van Leuwenboek.
 - (2) Enlist five kingdoms of Whittaker's classification with example.
- (c) Answer in detail : (any 1 out of 2) 3
- (1) Give difference between prokaryotic and eukaryotic cell.
 - (2) Explain Germ theory of disease.
- (d) Write a note on : (any 1 out of 2) 5
- (1) Applied areas of microbiology.
 - (2) Spontaneous generation versus biogenesis.
- 2 (a) Objective : 4
- (1) Give examples of basic stains.
 - (2) Define : Resolution.
 - (3) Wavelength of Ultra-violet light is _____.
 - (4) Write function and an example of mordant.
- (b) Answer in brief : (any 1 out of 2) 2
- (1) Explain in brief about Chromophores.
 - (2) Define : Numerical aperture.

- (c) Answer in detail : (any 1 out of 2) 3
- (1) Give steps of preparation for light microscopic examination.
 - (2) Explain : Fluorescent microscopy.
- (d) Write a note on : (any 1 out of 2) 5
- (1) Bright field microscopy.
 - (2) Electron microscopy.
- 3** (a) Objective : 4
- (1) Some bacteria contain gelatinous material around the cell wall, called _____.
 - (2) Ribbon like structure, helps attachment of cell to the surface is _____.
 - (3) Which type of bacterial granules are composed of polyphosphate ?
 - (4) What do you understand by peritrichous type of flagella ?
- (b) Answer in brief : (any 1 out of 2) 2
- (1) Explain shapes of bacteria with examples.
 - (2) What is cyst ? Give example of cyst containing bacteria.
- (c) Answer in detail : (any 1 out of 2) 3
- (1) Explain : Structure of bacterial cell membrane.
 - (2) Write down about formation of endospore.
- (d) Write a note on : (any 1 out of 2) 5
- (1) Structure and functions of cell wall of bacteria.
 - (2) Structure and function of bacterial flagella.
- 4** (a) Objective : 4
- (1) What do you understand by facultative anaerobes ?
 - (2) Bacteria which use inorganic substance as source of electron are called _____.
 - (3) Microbes grow best at temperature above 45°C. called _____.
 - (4) Enlist methods for isolation of pure culture.

- (b) Answer in brief : (any 1 out of 2) 2
 (1) Define pure culture
 (2) Explain assay media.
- (c) Answer in detail : (any 1 out of 2) 3
 (1) What are selective media ? Explain with example.
 (2) Write down about cultural characteristics.
- (d) Write a note on : (any 1 out of 2) 5
 (1) Nutritional types of bacteria.
 (2) Physical condition required by bacteria for growth.
- 5** (a) Objective : 4
 (1) The first phase of bacterial growth curve is known as _____.
 (2) Define : Generation time.
 (3) Give full form of : CFU.
 (4) Give examples of budding bacteria.
- (b) Answer in brief : (any 1 out of 2) 2
 (1) Define growth rate. How it relates with generation time ?
 (2) What is synchronous growth ?
- (c) Answer in detail : (any 1 out of 2) 3
 (1) Derive an equation that is used to calculate the number of generation.
 (2) Explain continuous culture of bacteria.
- (d) Write a note on : (any 1 out of 2) 5
 (1) Growth curve of bacteria.
 (2) Describe modes of cell division in bacteria.
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