

2018

CBCS

1st Semester

MICROBIOLOGY

PAPER—C2T

(Honours)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Bacteriology

1. Answer any five questions :

5×2

- (a) What is mesosome ? Write its functions.
- (b) What is a gas vacuole ? Relate its function to its structure.
- (c) What do you mean by pure culture ?
- (d) Write the differences between the cell wall of archaeobacteria and eubacteria.
- (e) What is sphaeroplast ? Write its importance.
- (f) What is glycocalyx ? Write the functions.

(Turn Over)

- (g) Differentiate between fimbriae and sex pili in relation to their functions.
- (h) What is endospore. Name one endospore forming bacterium.

2. Answer any *four* questions : 4×5

- (a) Why are peptones, yeast extract, beef extract and agar used in media preparation.
- (b) Name one acid-fast bacterium. Narrate the acid-fast staining procedure. 1+4
- (c) What is refraction and refractive index? How is lens strength related to focal length? Define numerical aperture. 2+2+1
- (d) Write the distinctive features of scanning and Transmission Electron microscope. What are these microscopes used for? 3+2
- (e) What is enrichment media and enrichment culture technique? Distinguish between selective and differential media with proper examples. 2+3
- (f) What are the generation or doubling time and the mean growth rate constant? How can they be determined from growth data? 2+3

3. Answer any *one* question : 1×10

- (a) What do you mean by polyphasic taxonomy? How it is helpful in microbial taxonomic study? 2+8
- (b) Compare the advantages and disadvantages of various techniques used for the isolation of microorganisms in pure culture. 5+5
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