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AG—04—2013

FACULTY OF SCIENCE

B.Sc. (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2013

BIOTECHNOLOGY

Paper BTT.5

(Microbiology)

(Thursday, 21-03-2013)

Time : 10.00 a.m. to 1.00 p.m.

Time—Three Hours

Maximum Marks—80

N.B. :— (i) All questions are compulsory.

(ii) Draw neat labelled diagram wherever necessary.

1. (a) Describe in detail cell wall of Gram Negative bacteria. 10

(b) What is motility ? Describe in detail the ultrastructure of
bacterial flagella. 10

P.T.O.

2. (a) Describe in detail the nutritional based classification of organism. 8

(b) Justify the 'Germ theory of disease. 7

Or

(a) Define the following terms : 8

(i) Synthetic media;

(ii) Enriched and enrichment media;

(iii) Selective media;

(iv) Differential media.

(b) Discuss the role of carbon and nitrogen sources in culture media. 7

3. (a) Describe in detail the sterilization by physical method. 8

(b) Define chemostat. Discuss in detail continuous culture. 7

Or

(a) Describe in detail the role of the following chemical sterilizing agent : 8

(i) Phenol;

(ii) HgCl_2 ;

(iii) Formaldehyde;

(iv) Glutaraldehyde.

(b) Define synchrony. Give the application of synchronized culture. 7

4. (a) What is numerical taxonomy ? Add a note on Bergey's manual. 8

(b) Describe in detail measurement of bacterial growth. 7

Or

(a) Define screening. Describe in detail primary screening. 8

(b) Enlist the application of micro-organism in Industrial, Research and pharmaceuticals with suitable examples. 7