

Total No. of printed pages = 4

FPT-501/IFMBB/5th Sem/2014/N

**INTRODUCTION TO FOOD
MICROBIOLOGY, BIOCHEMISTRY
AND BIOTECHNOLOGY**

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer any *five* questions.

1. (a) Define micro-organism. Give two examples
of beneficial micro-organism. 3
- (b) Explain why all micro-organisms cannot be
grown in a given culture medium ? 3
- (c) What is pour plate ? What are the three main
types (in terms of physical forms) of culture
media ? 1+3=4

[Turn over

- (d) What is immobilized enzymes ? Explain one important application of immobilized enzymes. 1+2=3
- (e) Differentiate between anabolism and catabolism. 1
2. (a) Define the following terms : 2×5=10
- (i) ATP
 - (ii) Reducing medium
 - (iii) Co-factors
 - (iv) Substrate
 - (v) Erose.
- (b) What is generation time ? Why a synchronous growth should take place in microbial growth ? 2
- (c) Explain the ES complex. 2
3. (a) What is Glycolysis ? Discuss the different events that take place in the glycolytic pathway. 7

- (b) Draw and label the ultrastructure of a bacterial cell. 4
- (c) What is Biomass ? What are the different micro-organisms used for biomass production ? 2
- (d) What is meant by active site in enzyme ? 1
4. (a) Differentiate between : $2 \times 3 = 6$
- (i) Prokaryote and Eukaryote
- (ii) Synthetic and Non-synthetic medium.
- (b) How the enzyme actions are inhibited ? 4
- (c) Give some important reasons why preserving a culture is important ? 2
- (d) What is colony texture ? 2
5. (a) What is metabolism ? Write a brief note on protein metabolism. 5
- (b) Give two examples of differential medium. 2
- (c) Explain the standard bacterial growth curve. 5
- (d) What is Lyophilization ? 2

6. (a) What is Binary fission ? Explain the conjugation mode of reproduction in bacteria.

6

(b) What is pure culture ? What is the purpose of pure culture isolation ?

1+2=3

(c) Give three important characteristics of bacteria.

2

(d) What types of enzymes secreted by yeast causes fermentation ? What are the products of fermentation of sugar ?

3

7. (a) Write short notes on :

4×3=12

(i) Enzyme specificity

(ii) Fermented food

(iii) Bread mold fungus

(iv) Enzymes in food industry.

(b) What is Disinfection ? Give examples. 2