

Total number of printed pages-7

53 (FPT 404) FDMB

2016

FOOD MICROBIOLOGY

Paper : FPT 404

Full Marks : 100.

Time : Three hours

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

Answer **any five** questions.

1. (i) Why microbes are important in Food ?
Discuss giving examples of various types of microbes involved with foods.

5

- (ii) Answer in **one or two** sentence(s) :

1×10=10

(a) What is an yeast ?

(b) What is the indicator microorganism for milk pasteurization ?

Contd.

- (c) What is the substrate molecule of citric acid cycle?
- (d) Name the first bacteriocin, discovered from lactic acid bacteria.
- (e) What enzyme is present in the lysosome?
- (f) Name any bacteria which can produce spore.
- (g) Define a fermentation process.
- (h) What is the resolution power of a microscope?
- (i) What is the function of mitochondria?
- (j) Why sterilization is different from pasteurization?
- (iii) Write the procedure of gram staining procedure. 5
2. (i) Draw the structure of a prokaryotic cell and write the functions of *any six* components. 8

- (ii) What are the different types of fermentation processes? 4
- (ii) Write *four* differences between a prokaryotic and an eukaryotic cell. 4
- (iv) How many types of yeasts are present? Explain with example. 4
3. (i) Define metabolism. Describe the glucose metabolism pathway. 1+10=11
- (ii) Fill in the blanks : 1×5=5
- (a) Glucose is converted to _____ in the first step of glycolysis.
- (b) _____ is the final acceptor of electron pair in electron transport chain.
- (c) Oxidoreductase enzyme undergoes _____ and _____ reactions.
- (d) Ribosomes are responsible for _____ synthesis in microorganisms.

- (iii) Tabulate the total ATP yield from the aerobic oxidation of glucose by eukaryotic cell. 4
4. (i) Write a note on lactic acid bacteria. 6
- (ii) What is bacteriocin? What are the different classes of bacteriocins produced by bacteria? Explain with example. $1+6=7$
- (iii) Name *any three* Indian fermented foods. 3
- (iv) What is the type of fermentation in the following foods? $1 \times 4 = 4$
- (a) Yogurt
 - (b) Vinegar
 - (c) Wine
 - (d) Buttermilk
5. (i) Define mycotoxins. Write about *four* major groups of mycotoxins. $1+4=5$
- (ii) Write *four* advantages of genetically modified foods. 4

(iii) Define the following : $1 \times 6 = 6$

(a) D-value

(b) Z-value

(c) Sterilization

(d) Pasteurization

(e) F-value

(f) TDT

(iv) What is the main microorganism found in ice-cream? What different factors affect the quality of ice-cream?

$1 + 4 = 5$

6. (i) Write short notes on : $5 \times 2 = 10$

(a) Bacterial food borne disease

(b) Viral food borne disease

(ii) What are parasites? How they cause diseases in human through consumption of spoiled food? Explain with example. $1 + 4 = 5$

(iii) Name the connective organisms of the following disease. 3

- (a) Salmonellosis
- (b) Campylobacteriosis
- (c) Listeriosis

(iv) What are disinfection and disinfectant? 2

7. (i) Choose the correct answer : $1 \times 5 = 5$

(a) (Flaming/Incineration) is a method of destroying contaminated material by burning them.

(b) 70% (alcohol solution/absolute) alcohol solutions is more effective at killing microbes.

(c) (Thermophilic/mesophilic) bacteria are able to grow at 50°C .

(d) (70s/80s) ribosome is present in prokaryotes.

(e) (Anabolism/Catabolism) is a process of biosynthesis of complex molecule from simple molecules.

(ii) What are the physical methods of sterilization? 5

- (iii) What are the different factors which affect the microbial growth in foods? Explain in detail. 10

2018

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Topic: FPT-404

Time: Three hours

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All marks for the questions

Answer any five questions.

Why microbes are important in Food?
Give the following examples of various
types of microbes involved with food.

(iii) Answer the following questions.

What is a food preservative?

Give the role of preservatives in food.

How do they work?