

2012

M.Sc.

4th Semester Examination

MICROBIOLOGY

PAPER—MCB-402 (XX)

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.

Answer any two questions from each group.

Group — A

[Marks : 20]

Answer any two questions 10×2

1. (a) Write the characteristics of primary and secondary metabolites.
- (b) Schematically describe the production and extraction of Penicillin G.

(Turn Over)

(c) How 6-aminopenicillanic acid (APA) is produced ?

(d) What is semi synthetic antibiotics ?

3+3+3+1

2. (a) What are probiotics, prebiotics and synbiotics ? Site an example from each group.

(b) How probiotics are important ?

(c) With an example compare the distilled and undistilled alcoholic beverages.

$4\frac{1}{2}+3+2\frac{1}{2}$

3. Write short notes (any five) :

2×5

(a) Pharmaceutical uses of genetically engineered proteins.

(b) Single cell protein.

(c) Edible mushroom.

(d) Bacteriocin.

(e) Therapeutic applications of stem cell.

(f) Mention any one step of steroid biotransformation.

(g) Usefulness of biopolymer.

(h) Malting step of beer production.

Group — B**[Marks : 20]**Answer any *two* questions

10×2

4. (a) What information does the phosphatase test reveal about milk and how it is performed?
- (b) What is D value? State its significance.
- (c) Mention the process that are used to Pasteurized milk.
- (d) Name one oriental fermented food and give its flow chart for production. 3+2+2+3
5. Write short notes on: $2\frac{1}{2} \times 4$
- (a) LAB ;
- (b) Nano medicine ;
- (c) Nutritional value of fermented dairy products ;
- (d) Canning.
6. (a) List the important variants of fermented milk with user name of the country microbes involved in its production and nature of the product.

- (b) Write a brief account on Microbiology of Sauerkraut and Cucumber fermentation. 5+5
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