2013

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.

1. (a) What are the importances of microbial secondary metabolites ?

(b) Which group of microbes are pharmaceutically more important and why ?

(c) Write briefly the fermentation process of tetracycline production.

(d) Why is prokaryotic expression system advantageous for production of recombinant therapeutic proteins. 2+(1+1)+4+2

2. (a) Write a note on the production of SCP giving emphasis on the substrate material that support the growth of micro-organism. 5

(b) Define the terms : 1×5

(a) malting, (b) mashing, (c) wort, (d) hops, (e) sparking wine.

3. Write short notes on (any *four*) : $2\frac{1}{2}\times4$

(a) Probiotic organisms ;

(b) Importance of steroid biotransformation ;

(c) Pluripotent and multipotent stem cells ;

(d) 'PHB is an unique biopolymer' — justify the statement ;

(e) Top and Bottom yeast ;

(f) Edible mushroom ;

Group — B

[Marks : 20]

Answer any *two* questions.

4. (a) What types of bacteria are most likely to be present when canned food spoils ?

(b) Define Thermal Death time and decimal reduction time. State their importances in Canning industry.

(c) Mention the attractive features of food preservation through use of radiation.

(d) What is Miso ? Give the slow sheet for manufacture of Miso. 3+3+2+2

5. Write short notes on: $2\frac{1}{2} \times 4$

(a) Principles of food Preservation ;

(b) Natural colour as food additives ;

(c) Use of nano technology in drug delivery ;

(d) Acidophilus milk.

6. Write the principles of cheese making.

Give an account of changes during ripening of cheese.

Mention the art of Vinegar production. 4+3+3

———