# 2009

## MICROBIOLOGY

PAPER—XX

*Full Marks* : 40

*Time* : 2 hours

Answer any **two** questions from each Group

*The figures in the right-hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

*Illustrate the answers wherever necessary*

**Write the answers Questions of each Group in separate books**

GROUP—A

[*Marks* : 20]

1. (*a*) Why microbe-originated pharmaceutical products are so important?

(*b*) Write the names of four other β-lactam antibiotics beside penicillin.

(*c*) Briefly describe the fermentation process of tetracycline production. 3 + 2 + 5

2. (*a*) Write a brief note on microbial biotransformation of steroids.

(*b*) State the microbial activities in the malting process of barley for beer manufacture.

(*c*) Why probiotic organisms are most useful in the control of gastro intestinal disorders ? 4 + 3 + 3

3. Write short notes on (any *four*) : $2\frac{1}{2} \times 4$

(*i*) Polypeptide antibiotics

(*ii*) Pharmaceutical uses of dextrans

(*iii*) Wine defects

(*iv*) Characteristics of embryonic stem cells

(*v*) Multifunctional nanoparticle vector

(*vi*) Nanodevice-Respirocytes.

## GROUP—B

[*Marks*: 20]

**4.** Write short notes on (any *four*) : $2\frac{1}{2} \times 4$

(*i*) *Z* value

(*ii*) Food colourant

(*iii*) Bacteriocin

(*iv*) Pickle

(*v*) Canned food spoilage.

**5.** (*a*) Write down the procedure for cheese production with emphasis on microorganisms used and the raw materials needed.

(*b*) Write down four advantages for fermented foods. 10

6. (*a*) Name one fermented milk product preferred by Russian people. Give details of its production procedure.

(*b*) What is cold sterilizations.

(*c*) Name at least two applications of nanotechnology in medical science.

(*d*) Write down the raw material and microorganism used in SUFU preparation. (1 + 3) + 2 + 2 + 2

---