

2013

M.Sc.

2nd Semester Examination

MICROBIOLOGY

PAPER—X (MCB-204)

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.

Group—A

(Computer and Bioinformatics)

[Marks : 20]

Answer Q. No. 1 any *two* from the rest.

1. Answer any *four* : 2×4 :
- (a) What is system software?
 - (b) What do you mean by logical operator?
 - (c) Convert :

$$(9527)_{10} = (?)_8 = (?)_{16}$$

(Turn Over)

- (d) What do you mean by secondary memory ?
- (e) Find 10's complement of $(7364)_{10}$.
- (f) Write the functions of ALU.
2. (a) What is the difference between $a++$ and $++a$?
- (b) Perform $(101101)_2 + (100101)_2$
- (c) Write the features of first generation computer. 2+2+2
3. (a) Write a C program to convert a given temperature from Centigrade to Fahrenheit. 4+2
- (b) Write few words about data types of C. 4+2
4. (a) What is header files in C ?
- (b) Write a short note in identifier.
- (c) Write a C program to print the following structure : 1+2+3

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Group—B

[Marks : 20]

Answer any *two* questions.

5. Write down the steps followed in BLAST algorithm ? What is the difference between phylogram and cladogram ? What is a molecular dock ? 5+3+2
6. (a) What is Dynamic Programming algorithm ? Write note on NW or SW with example using sequences (amino acid or nucleotide) of minimum 8 (eight) characters.
(b) What is multiple sequence alignment ?
7. Justify the statement :
- (a) 'Gap opening penalty should be greater than GAP Extension penalty'.
(b) What is the difference between similarity and homology ?
(c) What is SCOP ?
(d) What is composite database ?
(e) Expand : UPGMA. 3+2+2+2+1

