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Your Roll No.

913

B.Sc. (Hons.)/II

C

CHEMISTRY—Paper XII (a)

(Computers and their Applications to Chemistry)

Time : 1 Hour

Maximum Marks : 25

(Write your Roll No on the top immediately on receipt of this question paper.)

Attempt *All* questions.

1. Write the full form of the following : 2

(i) ROM

(ii) BASIC

(iii) DOS

(iv) ALU.

2. Differentiate between the following : 2

(i) Bug and virus

(ii) BIT and BYTE.

P.T.O.

3. Express the following as BASIC expressions : 2

$$(i) \quad k = \frac{2.303}{t} \ln \left(\frac{a}{a-x} \right)$$

$$(ii) \quad V = \frac{nRT}{\left(P + \frac{an^2}{V^2} \right)} + nb$$

4. Correct the errors in the following statements : 4

(i) N = "New Delhi"

(ii) LS = Len (AS)

(iii) A * 1 = 8

(iv) FOR I = 10 TO 1 STEP 2.

5. What is the purpose of the following library functions : 2

(i) RND

(ii) LOG

(iii) ABS

(iv) SIN.

6. Write the output of the following program : 3

```
10 DIM AS(6)
```

```
20 FOR I = 1 TO 6
```

```
30 READ AS(I)
```

```
40 NEXT I
```

```
50 FOR I = 6 TO 1 STEP -1
```

```
60 PRINT AS(I)
```

```
70 NEXT I
```

```
80 DATA AJAY, SANJAY, RANI, RAMESH, VIBHA, MAYA,
```

```
90 END
```

7. Convert the following binary numbers into decimal numbers : 2

(i) $(110011)_2$

(ii) $(11111101)_2$

8. Write a program in BASIC to plot five concentric circles using FOR NEXT loop. 3
9. Write a program in BASIC to find the product of first six natural numbers. Draw the flowchart for the same program. 5