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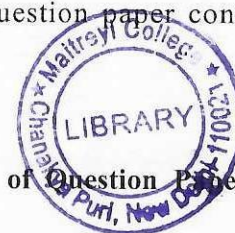
8

(c) What is the speciality of WHILE...WEND statement? Explain.

(d) What is the purpose of VIEW command?

(4,3,3,2)

[This question paper contains 8 printed pages.]



05.01.2024(M)
Your Roll No.....

Sr. No. of Question Paper : 4544

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Unique Paper Code : 32177903

Name of the Paper : DSE-II Applications of
Computers in Chemistry

Name of the Course : B.Sc. (Hons) Chemistry –
III

Semester : V

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt only **Six** Questions in All.
3. Question Number **1** is compulsory. Attempt any **five** questions out of remaining **six** questions.
4. Attempt all parts of a question together.
5. Calculator is allowed.

(1000)

P.T.O.

1. Attempt all the parts.

(a) Write the full form of the following abbreviations :

(i) QBASIC

(ii) PIXEL

(iii) BCD

(iv) IPO

(b) Write the following algebraic expressions in BASIC :

(i) $C = 2 \pi r$

(ii) $p = \frac{nRT}{V - nb} - \frac{an^2}{V^2}$

(iii) $G^\circ = -RT \ln Kc$

(iv) $r = k(a - x)(b - x)^2$

(c) Identify and correct the incorrect numeric/string variables (IF ANY)?

(i) REM

(ii) L7

(b) Write a program in QBASIC to determine the roots of the given equation using Iterative method,
 $x^3 + 8x^2 - 10 = 0$.

(c) Explain with examples the difference between USER DEFINED Functions and Library Functions in QBASIC.

(d) Write a program in QBASIC to calculate the sum of first 20 even numbers. (2,4,3,3)

7. (a) Write the BASIC statements to produce the following effects

(i) Assign the value represented by the variable A to the variable B

(ii) Reserve 9 spaces in a single array

(iii) If variable y has value less than equal to 50 then transfer control to 80 otherwise execute next statement

(iv) Find Cosine of angle C

(b) Illustrate the difference between INPUT and READ....DATA statement by giving examples.

(d) Explain with example :

(i) Syntax error

(ii) Subscript out of range

(iii) Type mismatch (4,2,3,3)

5. (a) Write the syntax of the following commands with one example

(i) PSET

(ii) LINE

(b) What is the difference between computer screen coordinates and world coordinates? Give the syntax for changing screen coordinates to world coordinates.

(c) Write a Program in QBASIC to find the value of π Cr using GOSUB---RETURN statement.

(d) Name the INPUT and OUTPUT devices used in computers. (4,3,3,2)

6. (a) Differentiate between relational and logical operators.

(iii) T6\$

(iv) 8VOL!

(v) J*5

(vi) PI\$

(vii) F4

(viii) XY%

(d) Explain the following terms :

(i) PRINT semi colon control and comma control statement

(ii) Debugging

(iii) RESTORE statement (4,4,4,3)

2. (a) Write a program in BASIC to read and print the following matrix and then carry out the transpose of following matrix.

$$\begin{vmatrix} 4 & 7 & 9 \\ 2 & 8 & 6 \\ 1 & 3 & 5 \end{vmatrix}$$

(b) Convert the given numbers :

(i) $(11001.11)_2$ to octal

(ii) $(1432.46)_{16}$ to binary

(c) Write differences between BIT, BYTE and NIBBLE.

(d) Write a BASIC program

where A\$= "DECEMBER 08,2022", make use of string library functions RIGHT\$, LEFT\$, MID\$ to print the output as 08 DECEMBER, 2022

(3,3,3,3)

3. (a) Explain Regula Falsi Method. Give one example of its application in chemistry.

(b) Debug the following Program and write the correct form

SCREEN

LOCATE 5,90

PRINT IDEAL GAS ISOTHERM

WINDOW (0,30)-0.5,400

FOR V=0.5 TO 0.05

P=0.082*T/x

PSET p, v

NEXT T

END

(c) Write a short note on machine language and assembly language.

(d) Write output of CINT (5.9) and FIX (5.9).

(3,4,3,2)

4. (a) Write a program in QBASIC to calculate the Mean and Standard Deviation for following observations obtained in the determination of metal ion concentration in industrial effluent sample:

0.142ppm, 0.171 ppm, 0.123ppm, 0.341 ppm, 0.161 ppm.

(b) Give the differences between PRINT TAB(X) and LOCATE command.

(c) Draw four concentric circle with origin at (125,95) in Screen 2.