

July 2014

M. Sc. IInd Semester Examination

CHEMISTRY

Paper X (V) : Computer for Chemist (MCH 410)

Time 3 Hours]

[Max. Marks : Regular 85 / Private 100 / Old ATKT 35

Note : This question paper is meant for all Regular, Private and Old ATKT students. Answer all five questions. All questions carry equal marks. The blind candidates will be given 60 minutes extra time.

1. (a) What is the purpose of memory in a computer? Define RAM and ROM.
(b) What are output devices? Briefly explain three output devices.

OR

- (a) What do you mean by computer language? What are the different types of computer languages?
(b) What is Unix? How does it differ from DOS?
2. (a) Write any two branching statements with example which are use in FORTRAN or C programming.
(b) Describe the constants and variables in FORTRAN or C language.

OR

Write short note on any three of the following with suitable example :

- (a) Input and Output Statement.
(b) Logical and Double Precision Variables.
(c) Arithmetic Assignment Statements and Termination Statements.
(d) Development and Important Features of C.
(e) Function and Subroutine.
3. Write a computer program (in FORTRAN/C) on Vanderwaal's constants a and b for a gas by:

$$a = \frac{PV^2}{n^2} \text{ and } b = \frac{V}{n}$$

OR

- (a) Write a computer program (in FORTRAN / C) for determination of rate constant of zero order reaction by $K = \frac{x}{t}$.
(b) Write a computer program (in FORTRAN / C) for determination of no. of half life by :

$$N = N_0 \left(\frac{1}{2} \right)^n$$

4. (a) What is alignment? How many types of alignment are supported by MS-Word?
(b) Write characteristics of X-Y Plot.

OR

- (a) Discuss the need of word processing and advantages of word processor.
(b) Explain the different types of graph in MS-Excel.

5. Write short notes on any three of the following :
(a) Applications of Internet for chemistry with search engine.
(b) RTF and Bitmap files.
(c) Scanning.
(d) Internet Browsers.
(e) Optical Mark Reader.