

Examination - 1<sup>st</sup> Semester MSc(Chemistry) , 2020  
Subject - Computer for Chemist  
Paper - CH-407  
Full Mark – 50

Time – 2 Hours

(Answer All Questions)

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1. Answer Any Four : ( 4\*5 = 20 marks )
- Convert the following expression into its equivalent C statement:  
i)  $b^2 + 4ac + 7c^3$       ii)  $(x^2 + 4xy) - (x^4/y)$
  - What are the different types of variables used in C programming ? Give two examples of each category of basic C variable . Also state the rules to construct C variable .
  - What are the different types of constants used in C Programming language ? Explain each one in brief.
  - What are the different types of Loop Control Statements ? Explain each one in brief .
  - Write a C Program to calculate area of a circle where radius is to be taken as input through the keyboard .
  - Write a C Program to take three integer numbers through keyboard and calculate their sum and average .
2. ( 2\*7.5 = 15 marks )
- Write a C Program to calculate Pressure using Van der Waals Equation .  
 $( P + \frac{an^2}{V^2} ) ( V - nb ) = nRT$  . Also draw the flow chart
  - Write a C Program to check whether a number is odd or even .  
Also draw the flow chart
- OR
- Write a C Program to implement the following Kinetic Gas Equation .  
 $PV = \frac{1}{3} mNc^2$  . Also draw the flow chart
  - Write a C Program to check whether a number is prime number or not .  
Also draw the flow chart

3.

( 2\*7.5 = 15 marks )

- a. What are the different types of programming languages ? Explain each one in brief .
- b. Differentiate between :
  - (i) Compiler and Assembler
  - (ii) Application Software and System Software

**OR**

- c. Write short notes on : MS Word
- d. State the features of C programming languages .