

Roll No.

41264

**B. Sc. (Hons.) Chemistry 4th Semester
Examination – May, 2019**

PHYSICS - I

Paper : CH(H) -404 Opt - i

Time : Three hours] [Maximum Marks : 40

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting at least *one* question from each Unit. Question No. 1 is *compulsory*. Marks are indicated against each question.

1. Answer the following in brief : 7 × 2 = 14
- (a) Define algorithm.
 - (b) Write the names and symbols of flow chart.
 - (c) Write the type and purpose of "READ" statement.
 - (d) What are Constraint ? Give examples .

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- (c) Define probability and entropy. Write relation between them.
- (f) What is physical significance of a wave function?
- (g) What is the conceptual difference between classical mechanics and quantum mechanics?

UNIT - I

2. Write an algorithm to find H. C. F. and L.C.M. of two numbers. 6.5
3. (a) Draw a flow chart to find sum of ten numbers using "Condition" Symbol. 3.5
- (b) What do you understand by IMPLICIT statement in FORTRAN? Explain with examples. 3
4. (a) Explain GO TO statement along with its types. 3
- (b) Write programs to attain addition and subtraction. 3.5

UNIT - II

5. Find the number of microstates, macrostates and thermodynamic probability when 4 particles are distributed in two compartment of equal size. 6.5
6. Derive Boltzmann distribution law. Also determine the values of A and B. 6.5

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UNIT - III

7. Define Phase velocity and group velocity. Obtain expression for both and derive relation between them. 6.5
8. State uncertainty principle and illustrate it with *one* experiment. 6.5

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