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Total No. of Questions : 7] [Total No. of Printed Pages : 4

(2034)

UG (CBCS) IInd Year Annual Examination

2807

B.Sc. PHYSICS

(Computational Physics)

(SEC-I)

Paper : PHYS 204 TH

Time : 3 Hours] **[Maximum Marks : 50**

Note :– Attempt *five* questions in all.

1. (a) What do you understand by a flowchart ? What are the different symbols used in flowchart ? Explain some advantages and limitations of using flowchart. 5

   (b) Write an alogrithm to solve a quadratic equation and draw flowchart for the same problem. 5

2. (a) Define expression. Discuss categories of expressions supported by FORTRAN 77. 5

(b) Explain various formatted and unformatted input-output (I/o) statements supported by FORTRAN. Explain the following :

(i) I Format

(ii) F Format

(iii) E Format

(iv) X Format

5

3. (a) What are control statement ? Discuss the working of the following control statements.

(i) Logical IF statement

(ii) Arithmetic IF statement

(iii) Block IF statement

(iv) Unconditional GOTO statement

4

(b) What are arrays in FORTRAN ? What is their utility ? Discuss its different types.

3

(c) What is significance of subprograms ? Explain subroutine subprogram and various rules which are to be observed while defining and calling subroutine subprograms.

3

4. (a) How an input file for Latex is prepared ? Discuss the procedure to compile a latex file. 5

(b) Explain the purpose of preamble in Latex. Mention few commands used in the preamble. 5

5. (a) What are list making environment ? Prepare a Latex input file to produce three different types of lists found in Latex. 5

(b) What do you mean by floating bodies in Latex ? How can you create floating figure ? Explain figure environment along with making a caption. 5

6. (a) What do you mean by call referencing ? Explain different types of referencing. 5

(b) What do you understand by a formula ? How is it entered in the Excel spread sheet ? Explain different parts of the formula in the Excel. 5

Turn Over

7. (a) What are Gnuplot ? Mention its important features and commands. 4

(b) Write Gnuplot scripts to understand the animation of progressive wave. 3

(c) Briefly explain some of statistical functions in MS-Excel. 3