B. SC. DEGREE (C.B.C.S.S) EXAMINATION, MARCH 2018
(2015 Admission Regular)
SEMESTER VI - CORE (PHYSICS)
PH6B09TB - COMPUTATIONAL PHYSICS

Time : 3 Hours   **Maximum Marks : 60**

Part A

I. Answer all questions. Each question carries 1 marks   **(5x1=5)**

1. Define bit, byte, word and instruction.
2. What is the function of an accumulator ?
3. What are identifiers ?
4. What is automatic type conversion?
5. Give the name of second order R-K method.

Part B

II. Answer any Five questions. Each question carries 2 marks   **(5x2=10)**

6.   Explain the functioning of flag registers.
7.   Explain the difference between microprocessor and microcomputer.
8.   Explain the difference between the execution of a break statement and exit ().
9.   Write a statement that displays the variable PHYSICS in a field 10 characters wide.
10. Explain the operator precedence in C++.
11. Distinguish between fundamental and derived datatypes in C++.
12. State the formula of Euler's method.illustrate the concept graphically.
13. Give simpson's rule for numerical integration.

Part C

III. Answer any Five questions. Each question carries 5 marks   **(5x5=25)**

14. Briefly explain with appropriate program wherever necessary,the addition of two hexadecimal numbers 32H and 48H in registers A and B.
15. List the four categories of 8085 microprocessor instructions that manipulate data.
16. What are automatic variables?What functions can access an automatic variable?
17. What is an increment operator?Distinguish between prefix and postfix operation.
18. What are data type modifiers?Explain the advantages .
19. Write a C + + program to check whether a number is even or odd.
20. Explain the method of false position to find the solution of algebraic equations.
21. Derive trapezoidal rule.Why it is called so?

Part D

IV. Answer any Two questions. Each question carries 10 marks   **(2x10=20)**

22. Explain the internal architecture of microprocessor with necessary diagrams.
23. Explain the addressing modes of 8085 microprocessor.
24. Write a C+ +program to find whether the given number is odd, even or prime.
25. Derive Newton - Raphson formula for the solution of algebraic equations.Also obtain the solution of sin x-2x+1=0,by this method.