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Total Number of Pages: 1

**M.Sc.I**  
**FBEF610**

**6<sup>th</sup> Semester Regular Examination 2017-18**

**Computational methods in physics**

**BRANCH: M.Sc.I(AP)**

**Time: 3 Hours**

**Max marks: 70**

**Q.CODE: C523**

**Answer Question No.1 which is compulsory and any five from the rest.**

**The figures in the right hand margin indicate marks.**

**Answer all parts of a question at a place.**

- Q1 Answer the following questions: (2 x 10)**
- a) What is computer hardware and software?
  - b) What is data storage?
  - c) What does algorithm mean and the major characteristics of an algorithm?
  - d) What is flowchart and what are the basics symbols of flowchart?
  - e) What is the difference between structure and union?
  - f) What are the different functions of an operating system?
  - g) What is data type and write different types of data types?
  - h) What is the meaning of mkdir and rmdir commands?
  - i) Write the formula of sine series and cosine series?
  - j) Write the syntax of variable declaration?
- Q2**
- a) What is the meaning of memory and explain the different types of memory? (5)
  - b) Write a program and draw the flow chart of addition between three numbers. (5)
- Q3**
- a) What is structure ? Write a c program to store information of students using structure. (5)
  - b) Write the algorithm of division of two complex numbers. (5)
- Q4** Write the program, algorithm and draw the flow chart of quadratic equation? (10)
- Q5**
- a) Write a C program to find the largest or smallest of a given set of numbers. (5)
  - b) Write a C program to find the factorial of a number. (5)
- Q6**
- a) Write a C program to generate and print first hundred prime numbers (5)
  - b) Write the algorithm to find the sum of the digits of a number (5)
- Q7**
- a) Write a C program for sine series (5)
  - b) Write the algorithm of matrix multiplication and addition (5)
- Q8 Write short notes on ANY TWO: (5 x 2)**
- a) Unix Commands
  - b) Stored program concepts
  - c) Operating systems
  - d) Enumerated data types in C