Total No. of Questions—**5**] [Total No. of Printed Pages—**2**

Seat No.	

[5363]-103

B.C.A./BBA (CA) (Sem. I) EXAMINATION, 2018

113 : PRINCIPLES OF PROGRAMMING AND ALGORITHMS

(2013 PATTERN)

Time : Three Hours **Maximum Marks : 80**

N.B. **:—** (*i*) *All* questions are compulsory.

(*ii*) Neat diagrams must be drawn wherever necessary.

1. Answer the following (*All*) : [8×2=16]

(*a*) Explain the term efficiency of algorithm.

(*b*) What is big O Notation ?

(*c*) Explain the terms Upper and Lower. Triangular Matrix.

(*d*) What is Searching ?

(*e*) What is initialization of variable ?

(*f*) What is flow chart ?

(*g*) What is Bubble Sort ?

(*h*) List types of arrays.

2. Answer the following (any *four*) : [4×4=16]

(*a*) Explain any *one* problem solving technique.

(*b*) Compare linear search and binary search.

(*c*) Explain symbols in flow charting.

(*d*) Write an algorithm to calculate simple interest.

(*e*) Draw a flow chart to print a table of given no.

P.T.O.

3. Answer the following (any *four*) : [4×4=16]

(*a*) What is dimension and index of an array.

(*b*) Explain searching and list the types of searching.

(*c*) What is an algorithm ? State its advantages.

(*d*) Write an algorithm to find factors of given No.

(*e*) Draw a flow chart to find sum of first N even numbers.

4. Answer the following (any *four*) : [4×4=16]

(*a*) Explain Binary search with example.

(*b*) Explain the concept of recursion.

(*c*) Write an algorithm to display prime nos. between 1 to 100.

(*d*) Draw a flow chart to find the given year is leap year or not.

(*e*) Draw a flow chart to calculate area of circle.

5. Answer the following (any *four*) : [4×4=16]

(*a*) List sorting techniques and explain any *one*.

(*b*) Explain program development life cycle.

(*c*) Draw a flowchart for finding average of *n* given numbers.

(*d*) Write an algorithm to find maximum of an array.

(*e*) Write an algorithm to find out given no. is even or odd.