

Nov-2017

Total No. of Questions—12]

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Seat No.	
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S.E. (Computer Engineering) (I Semester), EXAMINATION, 2017

PROGRAMMING AND PROBLEM SOLVING

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

N.B. :— (i) In Section I, attempt Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 or Q. No. 6.

(ii) In Section II, attempt Q. No. 7 or Q. No. 8, Q. No. 9 or Q. No. 10, Q. No. 11 or Q. No. 12.

(iii) Answers to the two Sections should be written in separate answer-books.

(iv) Neat diagrams must draw wherever necessary.

(v) Figures to the right indicate full marks.

(vi) Assume suitable data if necessary.

SECTION-I

1. (a) Explain the problem solving concepts for computer. [12]

(b) Define the data types of the following data items. Justify your answers : [4]

(i) Sum of money

(ii) Telephone No.

Or

2. (a) Construct a logical expression for the following policy on using a departmental store charge card for a customer to charge an item is that : [6]

(i) Customer must have a valid charge card and

(ii) Balance of less than Rs. 500 or charge of less than

P.T.O.

Rs. 50

(b) Explain problem analysis chart & structure chart of interactivity chart. [8]

(c) Write rules for drawing flow charts. [2]

3. (a) What are the different types of modules are needed for the solutions to the problems ? [6]

(b) Explain negative logic with suitable example. [6]

(c) Explain Decision table in detail with example. [6]

Or

4. (a) Using positive logic, write the algorithm & draw the flow charts for the following set of condition. [6]

Gross Salary Tax Rate

Gross < = 5000 3%

5001-8000 5%

8001-10000 8%

Gross = 10000 10%

(b) What are the different ways of send data in the modules? Explain with suitable example. [6]

(c) What do you mean by internal & external documentation ? Explain with suitable example. [6]

5. (a) Write Pseudo algorithm to compute the sum of squares of n numbers. [8]

(b) Given a number n devise Pseudo algorithm to compute its square root. [8]

Or

6. (a) Given some integer X , compute to value X^n where n is positive integer which is greater than 1. [8]

(b) Design Pseudo algorithm that convert Binary Number to

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Octal.

SECTION-II

7. (a) Write short notes on the following : [8]
(i) Table lookup Technique [8]
(ii) Pointer Technique [8]
(b) Write Pseudo algorithm to find minimum, maximum elements & how many times they both occur in an array of n elements. [8]
8. (a) Write a Pseudo algorithm to remove all duplicate from an ordered array. [8]
(b) Write a Pseudo algorithm for partition a randomly ordered array of n elements into two subsets such that elements less than equal to X are in one subset & element are greater than X are in other subset. [8]
9. (a) Explain algorithm for left-right justification of given text. [8]
(b) Write a pseudo algorithm to count number of characters in each line. [4]
(c) Explain search keyword from given text algorithm. [4]
10. (a) Write Pseudo algorithm for liner pattern search. [8]
(b) Explain algorithm for line editing. [8]
11. (a) Distinguish between the following terms : [9]
(i) Objects & Classes
(ii) Constructor & Destructors
(iii) Procedure-oriented & Object oriented programming
(b) Explain essential characteristics of an object oriented programming language. [4]
(c) What do you mean by polymorphism? Explain with suitable [4]

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P.T.O.

example.

Or

12. (a) Define a class bank account having data members : [5]
(1) Name of the depositor
(2) Account No.
(3) Type of account
(4) Balance amount in the account.
Member function :
(1) to assign initial values
(2) to deposit an amount
(3) to withdraw an amount after checking the balance
(4) to display name & balance
Write a main program to test the program for ' n ' depositors. [6]
(b) Explain the following terms :
(1) Static member function
(2) Friend function.
(c) Explain advantages & disadvantages of object oriented programming language. [4]
(d) What is the application of the scope resolution operators in C++ ? [2]

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