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PC 11464-NH

BS/2111

C PROGRAMMING AND DATA STRUCTURES-BAP-201

Semester–III

Time Allowed : Three Hours] [Maximum Marks : 45

Note :- Candidates are required to attempt *five* questions in all selecting at least *two* questions each from Sections A and B. Section C is compulsory.

SECTION—A

1. What are the various formatted and unformatted input output functions available in C ? Explain giving examples. 9

2. Define functions. What are the advantages of using functions ? What do you mean by function declaration and function definition ? What are the various methods of parameter passing to function ? Explain. 9

3. What is meant by lifetime and scope of variables and explain the various types of storage classes ? 9

4. Write a program to print the palindrome numbers between any two given numbers. 9

SECTION—B

5. Define data structures. What are the uses of data structures ? Differentiate between linear and non-linear data structures. 9

6. What do you mean by sparse array ? How sparse arrays are stored in main memory ? What are the advantages and disadvantages of sparse array ? 9

7. Define a queue data structure. Write an algorithm to insert and delete an element from a linear queue. 9

8. Write an algorithm to implement bubble sort. 9

SECTION—C

9. (a) What do you mean by user defined data types ? 1.5

   (b) Differentiate between break and continue statement. 1.5

   (c) What are the merits and demerits of unions ? 1.5

   (d) What are the drawbacks of arrays ? 1.5

   (e) How stack is represented in memory ? 1.5

   (f) Compare linear search and binary search. 1.5