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BJ—14—2016

FACULTY OF SCIENCE

B.Sc. (CS) (First Year) (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2016

(Revised Course)

COMPUTER SCIENCE

Paper S-2.3

(Data Structure Using C)

(Tuesday, 22-11-2016)

Time : 10.00 a.m. to 1.00 p.m.

Time—Three Hours

Maximum Marks—80

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

(ii) Figures to the right indicate full marks.

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| 1. | Attempt the following : | 20 |
| (a) | Define ADT. | |
| (b) | What is Array ? | |
| (c) | Define algorithm. | |
| (d) | What are operations ? | |
| 2. | (a) Explain types of data structure. | 8 |
| | (b) Explain data types and data object. | 7 |
| | <i>Or</i> | |
| | (c) Explain array. How to represent array in memory ? | 8 |
| | (d) Explain linked list with example. | 7 |
| 3. | (a) Explain Stack. | 8 |
| | (b) Write a program in C, to implement merge sort. | 7 |
| | <i>Or</i> | |
| | (c) Explain operation on queue and queue representation in memory. | 8 |
| | (d) Write a program in C to insert an element in stack. | 7 |

P.T.O.

4. (a) Explain concept of tree with example. 8
 (b) Explain BFS and DFS. 7
Or
 (c) Write a program in C to delete of an element from array. 8
 (d) Explain graph. 7
5. Write short notes on any *three* : 15
 (a) Linear data structure
 (b) Push and pop operation
 (c) Sort
 (d) Multiple stack
 (e) Deque.