

B.C.A.- II CBCS Pattern Semester-IV
UBCAT403 - Paper-III : Algorithm and Data Structures

P. Pages : 2

Time : Three Hours



GUG/W/23/11977

Max. Marks : 40

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- Notes :
1. All questions are compulsory and carry equal marks.
 2. Draw neat and labelled diagram and use supported data wherever necessary.
 3. Avoid vague answer and write specific answer related to question.

Either:

1. a) Give the memory representation of two dimensional array. 4
- b) What is Recursion? Give the advantages & disadvantages of recursion. 4

OR

- c) What is Sorting? Explain selection sort in detail. 4
- d) Write an algorithm to multiply two numbers using recursion. 4

Either:

2. a) Define Stack. Explain various representation of stack. 4
- b) Write an algorithm to insert an item in a queue. 4

OR

- c) Define Queue. Give the various operations performed on queue. 4
- d) Write an algorithm to Pop a element from a stack. 4

Either:

3. a) What is linked list? Give the application of linked list in detail. 4
- b) What do you mean by garbage collection? Explain. 4

OR

- c) What is Dynamic memory management? Explain. 4
- d) Write an algorithm to remove an item from linked list. 4

Either:

4. a) Explain Postorder Traversal of Binary Tree with suitable example. 4
- b) Write PRIM's algorithm. Explain with example. 4

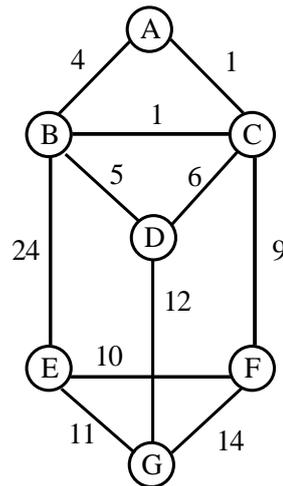
OR

c) What is Binary search tree. Explain.

4

d) Find Minimum spanning Tree for the following.

4



5. Solve all the questions.

a) Give the properties of recursion.

2

b) Give the application of queue.

2

c) Explain the concept of Double linked list.

2

d) Define Binary Tree.

2
