CMSM4121

Unit Test

Full marks: 15

Time : 25 Minutes

Please follow the following instructions.

1. Write your answers preferably in A4 sheets in handwritten format .
2. Each page will contain your name and roll numbers along with page number.
3. After completion of answers, scan it and convert it into pdf format and mail it to [cmsm4121@gmail.com](mailto:cmsm4121@gmail.com) . The subject line of your mail should contain your Roll number followed by name.
4. Make sure your answers are legible.
5. In case of multiple submissions, only the one received first will be evaluated.
6. Once you mail the answers please type your roll number in the chat box.

**Answer Question 1 and any one of the rest**

1.Critically comment on the following statements (4X2=8):

(i) The time complexity of an algorithm is the amount of time it needs to run to completion.

(ii) n2 + 3n + 2=Omega(1).

2. Show how ‘modified’ merge sort could be used to sort the following set of numbers:

27, 3, 10, 4, 12, 9, 17. (7)

3. Show how quick sort algorithm could be used to sort the following set of numbers:

34, 12, 7, 19, 29, 63, 22, 11, 2. (7)