2022

1st Semester Examination
COMPUTER SCIENCE

Paper : COS 196
(Algorithm Lab using Python)

(Practical)

Full Marks : 50   Time : Two Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.

COS 196 (M_1)

Answer any *one* question : $20 \times 1 = 20$

1. Implement a tail recursive and non-tail recursive version of any algorithm using python.

2. Write a program using python to sort a list using Quicksort using divide and conquer strategy.

3. Write a program using python to sort a list using Merge sort using divide and conquer strategy.

4. Implement a matrix chain multiplication problem using dynamic programming using python.

5. Write a program to find all-pair shortest path from a given graph using python.

[PNB + Viva-voce : 05]

P.T.O.

COS 196 (M$_2$)

Group - A

Answer any *one* question :   10×1=10

1. Install Virtualbox / VMware Workstation with different flavors of Linux or Windows OS on top of windows.

2. Install a C compiler in the virtual machine created using a virtual box and execute Simple Programs.

3. Install Google App Engine. Create hello world app and other simple web applications using python/java.

Group - B

Answer any *one* question :   10×1=10

4. Use the GAE launcher to launch the web applications.

5. Simulate a cloud scenario using CloudSim and run a scheduling algorithm that is not present in CloudSim.

6. Find a procedure to transfer the files from one virtual machine to another virtual machine.

7. Install Hadoop single node cluster and run simple applications like wordcount.

[PNB + Viva-voce : 05]