

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2019 – 2020 & thereafter)

SUBJECT CODE: 19CS/PC/OC14

M. Sc. DEGREE EXAMINATION, NOVEMBER 2022
INFORMATION TECHNOLOGY
FIRST SEMESTER

COURSE : MAJOR CORE
PAPER : OPERATING SYSTEMS : CONCEPTS AND APPLICATIONS
TIME : 1 ½ HOURS **MAX. MARKS: 50**

SECTION - A

Answer ALL the questions. **(5x2=10)**

1. List the services provided by operating system.
2. What do you mean by PCB?
3. What is called exclusive lock?
4. What is called thrashing?
5. What is masquerading?

SECTION - B

Answer any FOUR of the following questions: **(4x5=20)**

6. Discuss the data structures used in implementing the operating system services.
7. What is deadlock? Enumerate the necessary conditions for deadlock.
8. Discuss the main advantages of using multiprocessor systems.
9. Discuss about Demand paging with a neat diagram.
10. Explain the free space management.
11. Discuss in detail about the trap and emulate method in virtualization.

SECTION - C

Answer any TWO of the following questions: **(2x10=20)**

12. Discuss the different scheduling methods used by the CPU to allocate the processes.
13. Consider the following page reference string: 7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1.
Using FIFO, optimal and LRU algorithms, calculate total number of page faults and success ratio. Assume there are three frames and initially all frames are empty
14. Explain the two approaches to virtualization in detail.
