

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2018
(Third Semester)

Branch -**SOFTWARE SYSTEMS**
(Five year integrated)

OPERATING SYSTEM

Time: Three Hours

Maximum: 75 Marks

SECTION -A (30 Marks!)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

- 1 a Define operating system? What are the advantages of parallel system?
OR
b What is a virtual machine? How is it implemented?
- 2 a What is a process? Discuss various states of a process.
OR
b Differentiate Inter Process Communication and Process synchronization.
- 3 a Differentiate the two types of CPU scheduling? When is one preferred over the other?
OR
b Explain CPU scheduling criteria? How is Deterministic modeling of algorithm evaluation done?
- 4 a What is meant by loading and linking? Explain dynamic loading and linking.
OR
b What is fragmentation? How are they handled effectively?
- 5 a How is protection provided in a single as well as multi user system?
OR
b Discuss Interrupt driver I/O cycle? How is it better than polling mechanism.

SECTION -B (45 Marks)

Answer any **THREE** questions

ALL questions carry **EQUAL** Marks (3 x 15 = 45)

- 6 What is a system call? Explain any four types of system call.
- 7 Can a system detect that some of its processes are starving? If your answer is 'yes', explain how it can? Otherwise explain how the system can deal with the starvation problem.
- 8 Explain any three scheduling algorithms with suitable examples. (3 x 5)
- 9 Explain any three page replacement algorithms with examples. (3 x 5)