4TH SEM / CS&E /IT/ 2023(S)

TH-1 Operating System

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a.   Define PCB.
   b.   What is context switching?
   c.   Define external fragmentation.
   d.   What is a semaphore?
   e.   Write the difference between program and process.
   f.   Define Demand Paging.
   g.   What do you mean by circular wait.
   h.   Define file and directory.
   i.   What is Spooling?
   j.   What do you mean by Virtual Memory?

2.   Answer **Any Six** Questions   6 x 5
   a.   Briefly explain about contagious and non-contagious memory management.
   b.   Write the difference between spooling and buffering.
   c.   Define process and process state. Draw a suitable diagram to explain different states of a process.
   d.   What is a Page Fault? How it can be handled.
   e.   Define dead lock. Explain Bankers algorithm for deadlock prevention.
   f.   Explain the functions of I/O traffic controller and I/O scheduler.
   g   Write short notes (any two)
         a) Critical section
         b) Race condition.
         c) Process synchronisation.

3   Discuss about First Come First Serve (FCFS) and Shortest-Job-First   10
     (SJF) CPU Scheduling with suitable example.
4   Explain different structures of operating system.   10
5   Explain briefly the various File Access Methods.   10
6   Explain briefly different phases of a compiler.   10
7   Explain briefly about the different methods of allocating disk space.   10