P131/CMP507/EE/20230119

Time : 3 Hours **Marks : 80**

Instructions :

1. All Questions are Compulsory.
2. Each Sub-question carry 5 marks.
3. Each Sub-question should be answered between 75 to 100 words. Write every questions answer on separate page.
4. Question paper of 80 Marks, it will be converted in to your programme structure marks.

1. Solve any **four** sub-questions.
   a) What is Operating System? State its functions. 5
   b) A system has two process and three resources. Each process needs a maximum of two resources is deadlock possible. Explain with answer. 5
   c) List and explain different scheduling policies for short term scheduling. 5
   d) Explain the concept of semaphore with suitable example. 5
   e) Explain basic structure of IPC in detail. 5

2. Solve any **four** sub-questions.
   a) What is non-contiguous allocation method? Explain general concept. 5
   b) Explain I/O procedure. 5
   c) What is paging? 5
   d) What do you mean by System Booting? 5
   e) Define DMA (Direct Memory Access) controller. Explain its working. 5

3. Solve any **four** sub-questions.
   a) Explain different types of Operating Systems. 5
   b) Explain Scheduling philosophies. 5
   c) Write the definition of process. 5
   d) Explain different states of process with suitable diagram. 5
   e) Write a short note on : Layered OS. 5

4. Solve any **four** sub-questions.

a) Discuss memory management is Operating System. 5

b) What do you understand by demand paging? 5

c) What is Interrupt Service Routine (ISR)? 5

d) Differentiate between time sharing and real time operating system. 5

e) What is batch system in OS? 5