Roll No. ☐☐☐☐☐☐☐☐☐☐☐          Total No. of Pages : 02

Total No. of Questions : 18

**B.Tech.(CSE)/(IT) (2012 to 2017)   (Sem.–4)**
# OPERATING SYSTEMS
**Subject Code : BTCS-401**
**M.Code : 56604**

Time : 3 Hrs.                                    Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

## SECTION-A

**Write briefly :**

1. Explain the need of an Operating System.

2. Explain the term PCB in brief.

3. Define the term deadlock with an example.

4. Define the term thrashing. What is the cause of thrashing? Explain.

5. Differentiate between Paging and Segmentation scheme of Memory Management.

6. What is meant by Disk Scheduling? Why Disk Scheduling is necessary?

7. What is the need of I/O traffic controller? Discuss.

8. Explain in brief about the Physical File system.

9. Differentiate between Protection and Security.

10. Write two advantages of Windows based Operating System.

## SECTION-B

11.   Explain in brief about the functions of Kernel and shell.

12.   Write a detailed note on Process Synchronization.

13.   Write a brief note on Segmentation scheme of memory management.

14.   Write a brief note on Logical File System.

15.   Write a brief note on Windows based Operating Systems.

## SECTION-C

16.   Write a detailed note on operating system structures.

17.   a)   Explain in detail about device management policies.

      b)   Write a detailed note on I/O system in reference to device management.

18.   a)   Write a brief note on Layered Architecture in relation to file management

      b)   Explain in detail the following CPU scheduling algorithms :

           (i)   Shortest Job First

           (ii)  Multilevel feedback Queue scheduling

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**