B.E. Computer Science & Engineering (Model Curriculum) Semester-IV
# SE203CS - Operating Systems

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Notes : 1. All questions are compulsory.
2. All questions carry equal marks.
3. Due credit will be given to neatness and adequate dimensions.
4. Assume suitable data wherever necessary.
5. Diagrams and Chemical equation should be given wherever necessary.
6. Illustrate your answers wherever necessary with the help of neat sketches.

**1.** a) Discuss in detail User's View and System's View of Operating system using suitable diagram. **8**

b) Define system call. List and explain various types of system calls. **8**

**OR**

**2.** a) Define operating system. Explain various components of computer system along with operating system. **8**

b) Explain- **8**

i) Process states

ii) PCB

**3.** a) Explain process synchronization with suitable diagram. **8**

b) Explain- **8**

i) Arrival time

ii) Burst time

iii) Waiting time

iv) Turn around time

**OR**

**4.** a) Discuss following CPU Scheduling algorithm with suitable example. **8**

i) RR

ii) FCFS

b) Explain Message Passing using appropriate diagram. **8**

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| **5.** | a) | Explain three different types of file structure with diagram. | **8** |
| | b) | Explain with appropriate diagram the concept of Executable file and Archive file. | **8** |

**OR**

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| **6.** | a) | List and explain common system calls related to files. | **8** |
| | b) | Explain single level directory structure and Hierarchical directory structure with diagram. | **8** |
| **7.** | a) | Explain various memory allocation techniques. | **8** |
| | b) | Discuss fragmentation with its types. Discuss types of Fragmentation. | **8** |

**OR**

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| **8.** | a) | Explain Address Binding with appropriate diagram. | **8** |
| | b) | Explain the concepts of Main Memory and Virtual Memory. | **8** |
| **9.** | a) | List security measures at different levels. | **8** |
| | b) | List and explain various of threats. | **8** |

**OR**

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| **10.** | a) | Explain cryptography as a security tool. | **8** |
| | b) | Explain symmetric encryption. | **8** |

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