



Regulation R18

Subject code:205DE

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

**B.Tech V Semester Supplementary Examinations, December 2021**  
**OPERATING SYSTEMS**

(Electronics and Communication Engineering)

Maximum Marks: 70

Date:08.02.2022 Duration: 3 Hours

- Note:
1. This question paper contains two parts A and B.
  2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
  3. Part B consists of 5 Units. Answer any one full question from each Unit.
  4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 Define an operating system.
- 2 Define system call.
- 3 Define short term scheduler.
- 4 Define semaphore.
- 5 Define segmentation.
- 6 Define page frame.
- 7 State FIFO page replacement policy.
- 8 How can we say that a process is thrashing?
- 9 Define access right.
- 10 How the access matrix is implemented?

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 a) State and explain the basic functions or services of an operating system? (5M)  
b) Explain the differences between multiprogramming and time-sharing systems? (5M)  
OR
- 12 a) Is OS being a resource manager? If so, justify your answer. (5M)  
b) Discuss about operating system structure based on modules. (5M)
- 13 Write short notes on:  
a) Batch operating system b) Multiprogramming c) Multitasking (3+3+4)  
OR
- 14 a) Discuss inter process communication with the help of communication models. (5M)  
b) Discuss about classical problems of synchronization. (5M)
- 15 a) Explain in detail about resource allocation graph with example. (5M)  
b) Describe about deadlock prevention. (5M)  
OR
- 16 a) Distinguish between page table and inverted page table? (5M)  
b) Distinguish between internal and external fragmentation? (5M)
- 17 Explain thrashing, what are the causes of thrashing & explain the working set model for the same. (10M)  
OR
- 18 Explain disk structure in detail. (10M)
- 19 a) List the different file system allocation methods? (5M)  
b) Define protection in file system. How it is implemented? (5M)  
OR
- 20 Explain: a) Capability based system. (5M) b) Language based protection. (5M)