MALLA REDDY UNIVERSITY

Department of Computer Science and Engineering

Subject Name: Operating Systems

Subject Code: MR22-1CS0147

Year & Semester: II-II

QUESTION BANK

Q.No	QUESTION	MARKS	SECTION	UNIT
1	List out various services of Operating Systems and explain each service.	8	Section-I	Unit-I
2	Explain the following terms and their working with diagram a) Simple Batch System b) Parallel Processing c) Time sharing d) Distributed Operating System e) Real-time Operating System	8	Section-I	Unit-I
3	Explain Structure of OS?	8	Section-I	Unit-I
4	What is System Call? Briefly explain different types of System calls?	8	Section-I	Unit-I
5	Explain about process scheduling and write the different types of schedulers in detail.	8	Section-I	Unit-I
6	Explain Process States and PCB with neat diagrams?	8	Section-I	Unit-I
7	Explain the scheduling criteria and Scheduling Queues?	8	Section-I	Unit-I
8	Briefly Explain Inter process Communication?	8	Section-I	Unit-I
9	Explain following Scheduling Algorithms with examples?	8	Section-I	Unit-I
10	Explain following Scheduling Algorithms with examples? a) ROUND ROBIN b) PRIORITY	8	Section-I	Unit-I
11	Illustrate the Petersons solution and semaphores provide a solution for criticalsection problem	8	Section-II	Unit-II
12	What is a critical section? Apply hardware solution for critical sectionproblem in detail.	8	Section-II	Unit-II
13	Briefly explain Readers and writers problem	8	Section-II	Unit-II
14	Explain in detail about Dinning Philosophers problem.	8	Section-II	Unit-II
15	What is a deadlock? Explain necessary conditions for deadlock?	8	Section-II	Unit-II

16	Explain Banker's algorithm for deadlock avoidance with an example?	8	Section-II	Unit-II
17	Explain about resource allocation graph (RAG)?	8	Section-II	Unit-II
18	Mention the Safe State and Unsafe State in Deadlock Avoidance	8	Section-II	Unit-II
19	Explain about Deadlock detection and Deadlock Recovery mechanisms in detail.	8	Section-II	Unit-II
20	Write a short notes on Deadlock Recovery mechanisms in detail	8	Section-II	Unit-II
21	Explain demanded paging?	8	Section-III	Unit-III
22	Describe t h e paging Concept?	8	Section-III	Unit-III
23	Illustrate the Internal and External Fragmentations in memory allocation.	8	Section-III	Unit-III
24	Write short notes on Contiguous memory.	8	Section-III	Unit-III
25	Describe the Segmentation in detail?	8	Section-III	Unit-III
26	Calculate page faults using FIFO algorithm for reference string 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1 for frame size 4 ?	8	Section-III	Unit-III
27	Explain Virtual Memory and Demand Paging with diagrams.	8	Section-III	Unit-III
28	Explain the differences between internal and external fragmentation?	8	Section-III	Unit-III
29	Calculate page faults using LRU algorithm for reference string 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1 for frame size 4?	8	Section-III	Unit-III
30	What is Belady's Anomaly? Explain with example.	8	Section-III	Unit-III
31	Explain about Linux Architecture and features?	8	Section-IV	Unit-IV
32	Explain about Vi editor with commands?	8	Section-IV	Unit-IV
33	Write about the following Linux commands with example. cat, date, echo,ls, man, pwd, cd, rm	8	Section-IV	Unit-IV
34	What is bash in shell programming?	8	Section-IV	Unit-IV
35	Briefly explain Shell Environment customization in detail?	8	Section-IV	Unit-IV
36	What does directory file in Linux contain?	8	Section-IV	Unit-IV
37	Explore the following commands with examples. i) mkdir ii) rmdir iii) chdir iv) getcwd	8	Section-IV	Unit-IV
38	Explain the Linux commands related to filters.	8	Section-IV	Unit-IV
39	Write a shell program to calculate the factorial of a given number.	8	Section-IV	Unit-IV
40	Explain the Linux commands related to pipes.	8	Section-IV	Unit-IV
41	Explain the File System Structure in detail?	8	Section-V	Unit-V
42	Explain the different system calls for File Management?	8	Section-V	Unit-V

43	Explore the following file directory commands with examples. i)Opendir ii) closedir iii)unmask iv)mkdir v)rmdir	8	Section-V	Unit-V
44	Explain about the use of read and write with file locking?	8	Section-V	Unit-V
45	Explain about sequential file organization in detail.	8	Section-V	Unit-V
46	Explain about direct file access method in detail.	8	Section-V	Unit-V
47	Explain about index hashing file access method in detail.	8	Section-V	Unit-V
48	Explain different commands for opening and reading directories.	8	Section-V	Unit-V
49	What are different types of File Locks? Explain shared vs. exclusivelocks	8	Section-V	Unit-V
50	Explain about File locking mechanism in detail.	8	Section-V	Unit-V