

MSc(SS) DEGREE EXAMINATION MAY 2026
(Sixth Semester)

Branch -SOFTWARE SYTEMS(Five years Integrated)

OPEN SOURCE TECHNOLOGIES

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Select the component of UNIX that acts as an interface between the user and the kernel. (i) File System (ii) Shell (iii) Hardware (iv) Compiler	K1	CO1
	2	Which command is used to search for a pattern in a file? (i) cat (ii) grep (iii) more (iv) head	K1	CO1
2	3	Choose the symbol which is used to access the second command-line argument. (i) \$0 (ii) \$1 (iii) \$2 (iv) \$3	K1	CO2
	4	Which system call is used to close a file descriptor? (i) stop() (ii) close() (iii) end() (iv) finish()	K1	CO2
3	5	Select the data structure that stores information about open files in UNIX. (i) Superblock (ii) Process table (iii) File table (iv) Buffer pool	K1	CO3
	6	When a new file is created in a UNIX file system, what does the system assign to it? (i) A new buffer (ii) A new inode (iii) A new process (iv) A new superblock	K1	CO3
4	7	How is a process defined in an operating system? (i) A program stored on disk (ii) A file in memory (iii) A program in execution (iv) A command interpreter	K1	CO4
	8	Which system call is used to create a new process in UNIX? (i) exec() (ii) create() (iii) newproc() (iv) fork()	K1	CO4
5	9	Select the IPC mechanism which is most suitable for high-speed communication. (i) Shared memory (ii) Signal (iii) Message queue (iv) Pipe	K1	CO5
	10	Which data structure maintains mapping between logical and physical memory in demand paging? (i) Inode table (ii) Page table (iii) Process table (iv) File table	K1	CO5

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Outline the File System in Unix.	K2	CO1
		(OR)		
	11.b.	Illustrate the task of Grep Family of commands in Unix.		
2	12.a.	Analyze the File System architecture in Shell.	K4	CO2
		(OR)		
	12.b.	Compare stat and fstat system calls.		
3	13.a.	Examine the structure of Buffer Pool.	K4	CO3
		(OR)		
	13.b.	Inspect the structure of regular File.		
4	14.a.	Explain about Process States.	K5	CO4
		(OR)		
	14.b.	Determine the concept of Process Identifiers.		
5	15.a.	Elaborate the Message Queues in Inter Process Communication.	K6	CO5
		(OR)		
	15.b.	Discuss briefly about Demand Paging in Memory Management.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain about Advanced Filters in Unix.	K2	CO1
2	17	Analyze Command Line Arguments and Positional Parameters in Shell.	K4	CO2
3	18	Examine the functions of an Inode Assignment to a new file.	K4	CO3
4	19	Justify the functions of Process Scheduling.	K5	CO4
5	20	Discuss in detail about Page Faults in Memory Management.	K6	CO5

Z-Z-Z END