

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc(SS) DEGREE EXAMINATION MAY 2023
(Sixth Semester)

Branch – SOFTWARE SYSTEM (Five Years Integrated)

UNIX ARCHITECTURE & PROGRAMMING

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

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

- 1 The following part of the UNIX operating system interacts with its hardware.
(i) Vi editor (ii) shell (iii) kernel (iv) none of these
- 2 Which command is used for making the scripts interactive?
(i) chmod +w (ii) chmod +rw (iii) chmod +r (iv) chmod +x
- 3 The positional parameters are _____.
(i) special variables and patterns
(ii) pattern matching parameters
(iii) special variables to read user input
(iv) From the command lines, the special variables for assigning arguments
- 4 The shell script is _____.
(i) File containing a series of commands (ii) File containing special symbols
(iii) group of commands (iv) group of functions
- 5 Each entry in the inode table is the size of
(i) 32kb (ii) 64 Gb (iii) 64kb (iv) 64 bytes
- 6 Which option is used with ls command for knowing the inode number of the file?
(i) -l (ii) -i (iii) -a (iv) -o
- 7 Which is not the component of the Context of a Process?
(i) user-level context (ii) data
(iii) stack (iv) Queue
- 8 The kernel calculates the process priority as _____.
(i) $(CPU/2)+60$ (ii) $(CPU/3)+60$ (iii) $(CPU/2)+50$ (iv) $(CPU/3)+50$
- 9 _____ is a kernel process that swaps out memory pages that are no longer part of the working set of process.
(i) page reference (ii) page stealer (iii) page fault (iv) page management
- 10 Which is not the bit field in Page Table Entry of Demand Paging Data Structure?
(i) Valid (ii) Reference (iii) Read (iv) Age

SECTION - B (25 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 5 = 25)

- 11 a) Explain about the comparison commands with suitable example.
OR
b) Discuss about wild card characters and explain shell wild card characters with example.

Cont...

- 12 a) Write a short note on positional parameters.
OR
b) Brief about redirection operation.
- 13 a) Highlight the advantages and disadvantages of Buffer Cache.
OR
b) Illustrate the conversion of a pathname into an inode.
- 14 a) Outline different states of a process.
OR
b) Illustrate the movement of a process based on Priority Queues.
- 15 a) Brief about the demand paging in memory management.
OR
b) Write a short note on page fault.

SECTION -C (40 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 8 = 40)

Question no. 16 is compulsory

- 16 Explain the directory commands with suitable example.
- 17 a) Explain the concept of decision making with example.
OR
b) Describe the architecture of file system.
- 18 a) Explain the procedures for reading and writing disk blocks.
OR
b) Describe the structure of regular file.
- 19 a) Explain about the operations performed to manipulate regions in a stack.
OR
b) Elaborate the method of process scheduling.
- 20 a) Describe the parts of the swapping process.
OR
b) Elaborate the concept of the page-stealer process.

Z-Z-Z

END