SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : OS(13A05501) **Course & Branch**: B.Tech - CSE

Year & Sem: III-B.Tech & I-Sem **Regulation:** R13

UNIT –I

Operating Systems Overview-Operating System Structure-Processes

1. A) Explain Functions of Operating Systems.	5M
B) Explain Operating system operations.	5M
2. A) Explain Operating System Structure.	5M
B) Explain System Programs.	5M
3. A) Explain process States with neat diagram.	5M
B) What are the IPC systems?	5M
4. A) Explain Kernel Data Structures.	5M
B) Explain Protection & Security.	5M
5. A) Explain Operating System Services.	5M
B) Explain System calls.	5M
6. A) Write short notes on user and operating system interfaces.	5M
B) What are the Operations on Processes?	5M
7. Explain Computing Environments.	10M
8. A) Explain Operating System Debugging.	5M
B) Explain System Boot.	5M
9. A) Explain Open- Source Operating Systems	8M
B) What are the differences between process & Program?	2M
10. Define the following:	
A) Process.	3M
B) Program.	3M
C) Process Control Block.	4M

UNIT –II

Threads-Process Synchronization-CPU Scheduling

1. A) Explain Multicore Programming. 5M

B) Explain Thread Libraries. 5M

2. A) Explain Scheduling Criteria. 4M

B) Evaluate FCFS CPU Scheduling algorithm for given Problem 6M

Process	P1	P2	P3	P4
Process Time	10	15	8	6
Arrival Time	5	3	0	4

3. A) Explain about threading issues. 5M

B) What is Implicit Threading? 5M

4. Evaluate SJFS CPU Scheduling algorithm for given Problem 10M

Process	P1	P2	P3	P4
Process Time	10	5	18	6
Arrival Time	5	3	0	4

5. A) Explain Multi-Threading models. 5M

B) Explain fork ( ) & exec ( ) System calls. 5M

6. Evaluate Round CPU Scheduling algorithm for given Problem 10M

Time slice =3 ms.

Process	P1	P2	P3	P4
Process Time	10	5	18	6
Arrival Time	5	3	0	4

7. Evaluate pre-emptive Priority CPU Scheduling algorithm for given Problem 10M

Process	P1	P2	P3	P4
Process Time	10	5	18	6
Arrival Time	5	3	0	4
Priority	3	1	4	2

8. A) What is Semaphore? Explain the usage &implementation of Semaphore? 6M

B) What is Monitor? What is the usage of monitor? 4M

9. Explain about classic Problems of Synchronization. 10M

10. A) Write the difference between user level thread and kernel level thread 5M

B) What are all the state of process? Explain with neat sketch. 5M

UNIT –III

Memory Management-Virtual Memory-Deadlocks

1. A) What is Paging? Explain with Example 5M

B) What is page Fault? How to handle it? 5M

2. Explain Dead lock Avoidance (Banker's Algorithm) with Example. 10M

3. A) What is Segmentation ? Explain with Example. 5M

B) Explain Segmentation with Paging. 5M

4. Explain Dead lock detection (Banker's Algorithm) with Example. 10M

5. Explain Dynamic memory partition allocation with Example. 10M

6. A) Explain about swapping? 4M

B) What is contiguous memory allocation? Explain it. 6M

7. A) What are methods follow for handling deadlock. 5M

B) How recovery data from deadlock. 5M

8. A) What is characterization of deadlock. 4M

B) What is page replacement? Explain it. 6M

9. A) Explain memory mapped files. 7M

B) What is thrashing. Explain. 3M

10. Explain the structure of page table. 10M

UNIT –IV

Mass Storage Structure-File System Interface-File System Implementation

1. Write short notes on File Access Methods. 10M
2. A) What is MFT? Explain with Example 5M

   B) What is MVT? Explain with Example 5M
3. Write short notes on

   A) RAID 5M

   B) SSTF – Disk Scheduling. 5M
4. A) Explain the stable storage implementation. 5M

   B) What is file sharing and explain about it. 5M
5. Brief explains about free space management and file system mounting. 10M
6. Write short notes on

   A) Disk structure 3M

   B) File sharing 3M

   C) Directory implementation. 4M
7. What is the concept of a file, explain file system implementation. 10M
8. A) What is disk scheduling? 5M

   B) What is an allocation method? 5M
9. Explain about swap space management. 10M
10. Write short notes on

    A) File attributes 5M

    B) File Operations 5M

UNIT –V

I/O System-Protection-Security

1. A) Define Protection Domain with Example. 5M

   B) Explain about protection Matrix with Example. 5M
2. A) Discuss about cryptography process. 5M

   B)B) Explain about C-List with Example. 5M
3. A) Define Protection & Security. 5M

   B) Explain about ACL with Example. 5M
4. A) Explain in detail about system and network threats. 5M

   B) How firewalling used to protect system and network? 5M
5. Write short notes on transforming I/O request to hardware operations. 10M

6. A) What is revocation of access rights? Explain.	5M
B) Write short notes on capability-based systems.	5M
7. A) Write in detail about goals of protection.	5M
B) Explain based protection with example.	5M
8. A) What is access matrix?	5M
B) Explain the implementation of access matrix.	5M
9. A) What are the different ways of implementing security defenses? Explain.	5M
B) Write short notes on computer-security classifications.	5M
10. Explain in detail about application I/O interfaces.	10M

Prepared by:**Mr. B. Vivek & Mr. A. Sathish**

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UNIT –I

Operating Systems Overview-Operating System Structure-Processes

1. Which one is the non-preemptive scheduling algorithm_____ [ ]
   A) SJF B) FCFS C) Round Robin D) Priority
2. The sum of Burst time and Waiting time gives us _____ [ ]
   A) Turnaround time B) average Turnaround time C) AWT D) none
3. Process is _____ entity [ ]
   A)static B) dynamic C) a(or) b D) both
4. Program is _____ entity [ ]
   A) static B)dynamic C) a(or) b D) both
5. Next state to ready state of process is _____ [ ]
   A) Running B) terminated C) waiting D) suspended
6. Based on request of process P1 OS creates another process P2 , then P1 is called as__ [ ]
   A) spawned process B)spawning process C)child process D)none
7. Based on request of process P1 OS creates another process P2 , then P2 is called as__ [ ]
   A) spawned process B)spawning process C)child process D)none
8. PCB stands for_____
9. CPU switches from one process to another process this is called [ ]
   A)process Switching B)context switching C)CPU switching D)none
10. Process switches from one state to another state this is called [ ]
    A)process Switching B)context switching C)CPU switching D)none
11. The operating system is the program most intimately involved with the_____ [ ]
    A)Software B)Hardware C)Input D)Output
12. The job of system are kept initially on the disk in the _____ [ ]
    A) Job table B)Job stack C)Job pool D)Job queue
13. A Program loaded into memory and executing is called_____ [ ]
    A)Work B)Function C)Process D)Program

14. Kernel mode is also called_____ [ ]

A)Supervisor mode B)System mode C)Privileged mode D)All the above

15. Process is an _____ entity [ ]

A)Passive entity B)Table entity C)Active entity

D)Both a&b

16. In which environment clients &servers are not distinguished from one another____[ ]

A)Client-server environment B)Peer-to-peer computing C)Web-based computing

D)Time sharing

17. _____is most famous open-source operating system [ ]

A) Kernel B)Linux C)Windows D)Shell

18. It is job of _____ to defend a system from external and internal attacks [ ]

A)Protectors B)Antivirus C)Security D)All the above

19. If several jobs are ready to run at the same time the system must choose among them. This decision is called_____ [ ]

A)Job scheduling B)CPU scheduling C)Program scheduling

D)Time scheduling

20. A technique that allows the execution of process that is not completely in memory is called_____

[ ]

A)Cache memory B)Physical memory C)Both a&b D)Virtual memory

21. Shell is the exclusive feature of [ ]

A) UNIX B) DOS C) System software D) Application software

22. A program in execution is called [ ]

A) Process B) Instruction C) Procedure D) Function

23. Interval between the time of submission and completion of the job is called [ ]

A) Waiting time B) Turnaround time C) ThroughputD) Response time

24. A scheduler which selects processes from secondary storage device is called [ ]

A) Short term B) Long term C) Medium term D) Process scheduler

25. Program 'preemption' is [ ]

A) forced de allocation of the CPU from a program which is executing on the CPU.

B) release of CPU by the program after completing its task.

C) forced allotment of CPU by a program to itself.

D) a program terminating itself due to detection of an error.

26. Which of the following is not a fundamental process state [ ]

A) ready B) terminated C) executing D) blocked

27. Which of the following loader is executed when a system is first turned on [ ]

A) Boot loader B) Compile C) Bootstrap loader D) Relating loader

28. Which scheduling policy is most suitable for a time-shared operating system [ ]

A) Shortest-job First B) Elevator C) Round-Robin D) First-Come-First-Serve

29. A_____ manages the execution of user program to prevent errors andimproper use of the Computer [ ]

A)Software program B)Hardware program C)Application program D)Control program

30. _____program include all program not associated with operation of the system [ ]

A)Application B)System C)Software D)Control

31. The SJF algorithm is special case of the_____ algorithm [ ]

A)FCFS B)Priority-scheduling C)Round-robin D)None

32. _____is the module that gives control of the CPU to the process selected by the short-term scheduler. [ ]

A)Scheduler B)Matcher C)Dispatcher D)User mode

33. _____provides more concurrency than the many-to-one model by allowing another thread to run when a thread makes a blocking system call. [ ]

A) Many to many B)One to one C)One to many D)None

34. The number of processes that are completed per time unit, called_____ [ ]

A)Turnaround time B)Throughput C)CPU utilization D)Response time

35. The interval from the time of submission of a process to the time of completion is the..[ ]

A)Waiting time B)Throughput C)CPU utilization D)Turnaround time

36. All the other processes wait for the one big process to get off the CPU this effect is called [ ]

A)Gantt chart B)FCFS C)Convey effect D)Burst time

37.Process is defined as_____ [ ]

A)static program B)running program C)both D)none

38. Estimated run time for each process is _____ [ ]

A)turnaround time B)burst time C)waiting time D)all

39. _____program include all program not associated with operation of the system [ ]

A)Application B)System C)Software D)Control

40. What is the mounting of file system? [ ]

A) crating of a file system B) deleting a file system

C) attaching portion of the file system into a directory structure

D) removing portion of the file system into a directory structure

UNIT –II

Threads-Process Synchronization-CPU Scheduling

1. User level threads are managed by_____ [ ]
   A)kernel B)application C)a or b D)none
2. Kernal level threads are managed by_____ [ ]
   A)kernel B)application C)a or b D)none
3. Thread is a_____
4. Process is defined as_____ [ ]
   A)static program B)running program C)both D)none
5. Estimated run time for each process is _____ [ ]
   A)turnaround time B)burst time C)waiting time D)all
6. FCFS drawback_____ [ ]
   A) convey effect B)starvation C)aging D)all
7. Priority scheduling drawback_____ [ ]
   A) convey effect B)starvation C)aging D)all
8. _____technique increases priority of process [ ]
   A) convey effect B)starvation C)aging D)all
9. In round robin Ready QUEUE is a_____ [ ]
   A)linear Queue B)double ended queue C)circular Queue D)any
10. Multi-processor Scheduling contains _____ no of CPUs [ ]
    A)only one B)more than one C)any D)none

11. Among this which is benefit of multithreading_____ [ ]
    A)Responsiveness B)Resource sharing C)Economy D)All of the above
12. _____involves distributing not data but tasks (threads) across multiple computing cores. [ ]
    A)Data parallelism B)Task parallelism C)Both a&b D)None
13. The _____maps many user-level threads to one kernel thread. [ ]
    A)One to one B)One to many C)Many to one D)Many to many
14. A _____ provides the programmer with an API for creating and managing threads. [ ]
    A)Thread documents B)Thread library C)Thread directory D)Thread manual
15. The number of processes that are completed per time unit, called_____ [ ]
    A)Turnaround time B)Throughput C)CPU utilization D)Response time

16. The interval from the time of submission of a process to the time of completion is the_____ [ ]

A)Waiting time B)Throughput C)CPU utilization D)Turnaround time

17. All the other processes wait for the one big process to get off the CPU this effect is called____ [ ]

A)Gantt chart B)FCFS C)Convey effect D)Burst time

18. The CPU is allocated to the selected process by _____ [ ]

A)Scheduler B)Matcher C)Dispatcher D)User mode

19. SJF is _____ [ ]

A)Preemptive B)Non-preemptive C)Both a&b D)none

20. With _____ scheme, the process that requests the CPU first is allocated the CPU first.[ ]

A)SJFS B)FCFS C)Priority scheduling D)None

21. Whenever trap or interrupt occurs, the hardware switches from_____ [ ]

A)User mode to kernel mode B)Mode bit to 0 C)Both a&b D)0 to mode bit

22. The instruction to switch to kernel mode is an example of a_____ [ ]

A)System instruction B)Supervisor instruction C)Privileged instruction D)All the above

23. A system is _____ if it can perform more than one task simultaneously. [ ]

A)Concurrency B)Perpendicular C)Parallel D)Similar

24. _____focuses on distributing subsets of the same data across multiple computing cores and performing the same operation on each core. [ ]

A)Data parallelism B)Task parallelism C)Both a & b D)None

25. Threads are created in windows API using _____ function [ ]

A)CreateThread() B)createthread() C)Createthread D)CreateThread

26.____ is used in UNIX systems to notify a process that a particular event has occurred. [ ]

A)Translator B)Signal C)Both a & b D)Notify

27. Which provide the shortest average time____ [ ]

A)FCFS B)SJF C)Round robin D)None

28. The SJF algorithm is special case of the_____ algorithm [ ]

A)FCFS B)Priority-scheduling C)Round-robin D)None

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35. In which environment clients &servers are not distinguished from one another_____ [ ]

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C)Web-based computing D)Time sharing

36. Next state to ready state of process is _____ [ ]

A) Running B) terminated C) waiting D) suspended

37. Based on request of process P1 OS creates another process P2 ,

then P1 is called as__ [ ]

A)spawned process B)spawning process C)child process D)none

38. Based on request of process P1 OS creates another process P2 ,

then P2 is called as__ [ ]

A) spawned process B)spawning process C)child process D)none

39. _____technique increases priority of process [ ]

A)convey effect B)starvation C)aging D)all

40. In round robin Ready QUEUE is a_____ [ ]

A)linear Queue B)double ended queue C)circular Queue D)any

UNIT –III

Memory Management-Virtual Memory-Deadlocks

1. Out of all memory allocation algorithms, the best algorithm is [ ]

A) First- Fit Alg. B) Worst-Fit Alg. C) Best-Fit Alg. D) All

2. A File is generally stored on [ ]

A) Main memory B) Secondary memory C) RAM D) ROM

3. The page table contains [ ]

A) base address of each page in physical memory B) page offset C) page size

D) none of the mentioned

4. Cache memory is a part of [ ]

A) Secondary memory B) Main memory C) ROM D) All

5. Bringing a program from Secondary memory to main memory is called [ ]

A) Swap in B) Swap out C) Swapping D) All

6. SSTF stands for [ ]

A) Shortest Sector Time First B) Shortest Seek Time First

C) Shortest Scan Time First D) all the above

7. Seek Time of a disk is [ ]

A) Reading time of a cylinder B) Writing of a cylinder

C) Updating of a cylinder D) Searching time of a cylinder

8. One of the following algorithms is not a Disk-Scheduling algorithm [ ]

A) SSTF alg. B) SCAN alg. C) LRU alg. D) FCFS alg.

9. The 3 different Permissions are represented always in this order [ ]

A) WXR B) RXW C) RWX D) XRW

10. Segment of code contains instructions of shared resource is called [ ]

A) Critical section B) mutex C) semaphore D) none

11. Software based solution to critical section problem is [ ]

A) semaphore B) monitor C) Peterson's D) none

12. $P_i \rightarrow R_j$ is called _____edge [ ]

A)assignment edge B)requesting edge C)a (or) b D)none

13. One of the following page Replacement algorithms is the worst algorithm [ ]

A) FIFO B) Optimal C) LRU D) All

14. The best disk scheduling algorithm is [ ]

A) FCFS B) SSTF C) SCAN D) none

15. Software based solution to critical section problem is [ ]

A) semaphore B) monitor C) Peterson's D) none

16. Wait-for-graph is used to detect dead lock for _____instances of resources [ ]

A)single B)multiple C)a(or) b D)none

17. Semaphore can be accessed by_____ operations [ ]

A) wait B) signal C) a(or)b D) none

18. Solution of critical section problem must satisfy [ ]

A) mutex B) progress C) bounded waiting D) all

19. Semaphore is a_____ [ ]

A) negative no B)positive no C) non negative integer D) none

20. The SCAN algorithm for disk Scheduling is also called [ ]

A) SSTF alg B) FCFS alg C) Elevator alg D) None

21. The time taken by disk arm to rotate the desired sector is [ ]

A) Seek time B) Search time C) Reading time D) Rotation Latency

22. When a page is required by CPU, then the page is loaded into main memory is called [ ]

A) Paging B) Segmentation C) Demand paging D) All

23. In Segmentation _____fragmentation occurs [ ]

A)internal B)external C)a & b D)none

24. A deadlock avoidance algorithm dynamically examines the _____, to ensure that a circular wait condition can never exist. [ ]

A)resource allocation state B)system storage state

C)operating system D)resources

25. Which one of the following is not a secondary storage? [ ]

A) magnetic disks B) magnetic tapes C) RAM D) none of the mentioned

26. Cache memory is a part of [ ]

A) Secondary memory B) Main memory C) ROM D) All

27. The data-in register of I/O port is [ ]

A) read by host to get input B) read by controller to get input

C) written by host to send output D) written by host to start a command

28. Program always deals with [ ]

A) logical address B) absolute address C) physical address D) relative address

29. The page table contains [ ]

A) base address of each page in physical memory B) page offset C) page size

D) none of the mentioned

30. Because of virtual memory, the memory can be shared among [ ]

A) processes B) threads C) instructions D) none of the mentioned

31. The pager concerns with the [ ]

A) individual page of a process B) entire process C) entire thread D) first page of a process

32. When a program tries to access a page that is mapped in address space but not loaded in physical memory, then [ ]

A) segmentation fault occurs B) fatal error occurs C) page fault occurs D) no error occurs

33. In FIFO page replacement algorithm, when a page must be replaced [ ]

A) oldest page is chosen B) newest page is chosen C) random page is chosen

D) none of the mentioned

34. A process is thrashing if [ ]

A) it is spending more time paging than executing

B) it is spending less time paging than executing

C) page fault occurs

D) swapping cannot take place

35. Which one of the following is the deadlock avoidance algorithm? [ ]

A) banker's algorithm B) round-robin algorithm C) elevator algorithm D) karn's algorithm

36. For effective operating system, when to check for deadlock? [ ]

A) every time a resource request is made B) at fixed time intervals C) both (A) and (B)

D) none of the mentioned

37. A problem encountered in multitasking when a process is perpetually denied necessary resources is called

A) deadlock B) starvation C) inversion D) aging

38. The request and release of resources are _____. [ ]

A) command line statements B) interrupts C) system calls D) special programs

39. Multithreaded programs are: [ ]

A) lesser prone to deadlocks B) more prone to deadlocks

C) not at all prone to deadlocks D) None of these

40. Process is defined as_____ [ ]

A)static program B)running program C)both D)none

UNIT –IV

Mass Storage Structure-File System Interface-File System Implementation

1. Which one of the following is not a secondary storage? [ ]
   A) magnetic disks B) magnetic tapes C) RAM D) none of the mentioned
2. Which private network uses storage protocol rather than networking protocol? [ ]
   A) storage area network B) local area network C) wide area network D) none of the mentioned
3. The time for the disk arm to move the heads to the cylinder containing the desired sector is called [ ]
   A) disk time B) seek time C) arm time D) sector time
4. Which algorithm of disk scheduling selects the request with the least seek time from the current head positions? [ ]
   A) SSTF scheduling B) FCFS scheduling C) SCAN scheduling D) LOOK scheduling
5. Operating system is responsible for [ ]
   A) disk initialization B) booting from disk C) bad-block recovery D) all of the mentioned
6. A swap space can reside in [ ]
   A) separate disk partition B) RAM C) cache D) none of the mentioned
7. RAID level 1 refers to [ ]
   A) disk arrays with striping B) disk mirroring C) both (A) and (B) D) none of the mentioned
8. When we write something on the disk, which one of the following cannot happen? [ ]
   A) successful completion B) partial failure C) total failure D) none of the mentioned
9. During recovery from a failure [ ]
   A) each pair of physical block is examined B) specified pair of physical block is examined
   C) first pair of physical block is examined D) none of the mentioned
10. he replacement of a bad block generally is not totally automatic because [ ]
    A) data in bad block cannot be replaced B) data in bad block is usually lost
    C) bad block does not contain any data D) none of the mentioned
11. Management of metadata information is done by [ ]
    A) file-organization module B) logical file system C) basic file system D) application programs
12. A file control block contains the information about [ ]
    A) file ownership B) file permissions C) location of file contents D) all of the mentioned

13. Which table contains the information about each mounted volume? [ ]

A) mount table B) system-wide open-file table C) per-process open-file table D) all of the mentioned

14. To create a new file application program calls [ ]

A) basic file system B) logical file system C) file-organisation module D) none of the mentioned

15. When a process closes the file [ ]

A) per-process table entry is removed B) system wide entry's open count is decremented

C) both (A) and (B) D) none of the mentioned

16. What is raw disk? [ ]

A) disk without file system B) empty disk

C) disk lacking logical file system D) disk having file system

17. The data structure used for file directory is called [ ]

A) mount table B) hash table C) file table D) process table

18. In which type of allocation method each file occupy a set of contiguous block on the disk? [ ]

A) contiguous allocation B) dynamic-storage allocation

C) linked allocation D) indexed allocation

19. If the block of free-space list is free then bit will [ ]

A) 1 B) 0 C) Any of 0 or 1 D) none of the mentioned

20. Which protocol establishes the initial logical connection between a server and a client? [ ]

A) transmission control protocol B) user datagram protocol C) mount protocol

D) datagram congestion control protocol

21. _____ is a unique tag, usually a number, identifies the file within the file system. [ ]

A) File identifier B) File name C) File type D) none of the mentioned

22. To create a file [ ]

A) allocate the space in file system B) make an entry for new file in directory

C) both (A) and (B) D) none of the mentioned

23. By using the specific system call, we can [ ]

A) open the file B) read the file C) write into the file D) all of the mentioned

24. File type can be represented by [ ]

A) file name B) file extension C) file identifier D) none of the mentioned

25. Which file is a sequence of bytes organized into blocks understandable by the system's linker?

[ ]

A) object file B) source file C) executable file D) text file

26. Mapping of file is managed by [ ]

A) file metadata B) page table C) virtual memory D) file system

27. Mapping of network file system protocol to local file system is done by [ ]

A) network file system B) local file system C) volume manager D) remote mirror

28. Which one of the following explains the sequential file access method? [ ]

A) random access according to the given byte number B) read bytes one at a time, in order

C) read/write sequentially by record D) read/write randomly by record

29. file system fragmentation occurs when [ ]

A) unused space or single file are not contiguous B) used space is not contiguous

C) unused space is non-contiguous D) multiple files are non-contiguous

30. The three major methods of allocating disk space that are in wide use are : [ ]

A) contiguous B) linked C) indexed D) hashed

31. In contiguous allocation : [ ]

A) each file must occupy a set of contiguous blocks on the disk

B) each file is a linked list of disk blocks

C) all the pointers to scattered blocks are placed together in one location D) None of these

32. In linked allocation : [ ]

A) each file must occupy a set of contiguous blocks on the disk

B) each file is a linked list of disk blocks

C) all the pointers to scattered blocks are placed together in one location D) None of these

33. Address Binding is : [ ]

A) going to an address in memory B) locating an address with the help of another address

C) binding two addresses together to form a new address in a different memory space

D) a mapping from one address space to another

34. Binding of instructions and data to memory addresses can be done at : [ ]

A) Compile time B) Load time C) Execution time D) All of these

35. Dynamic loading is : [ ]

A) loading multiple routines dynamically B) loading a routine only when it is called

C) loading multiple routines randomly D) None of these

36. The address generated by the CPU is referred to as : [ ]

A) physical address B) logical address C) Neither A nor B D) both A&B

37. The address loaded into the memory address register of the memory is referred to as :

[ ]

A) physical address B) logical address C) Neither A nor B D) both A&B

38. The run time mapping from virtual to physical addresses is done by a hardware device called the : [ ]

A) Virtual to physical mapperB) memory management unit C) memory mapping unit

D) None of these

39. The base register is also known as the : [ ]

A) basic register B) regular register C) relocation register D) delocation register

40. The size of a process is limited to the size of : [ ]

A) physical memory B) external storage C) secondary storage D) None of these

UNIT –V

I/O System-Protection-Security

1. If one or more devices use a common set of wires to communicate with the computer system, the connection is called _____. [ ]

A) CPU B) Monitor C) wirefull D) bus

2. A ____ a set of wires and a rigidly defined protocol that specifies a set of messages that can be sent on the wires. [ ]

A) port B) node C) bus D) None of these

3. When device A has a cable that plugs into device B, and device B has a cable that plugs into device C and device C plugs into a port on the computer, this arrangement is called a _____. [ ]

A) port B) daisy chain C) bus D) cable

4. The _____ present a uniform device-access interface to the I/O subsystem, much as system calls provide a standard interface between the application and the operating system. [ ]

A) devices B) buses C) device drivers D) I/O systems

5. A _____ is a collection of electronics that can operate a port, a bus, or a device. [ ]

A) controller B) driver C) host D) bus

6. An I/O port typically consists of four registers status, control, _____ and _____ registers. [ ]

A) system in, system out B) data in, data out C) flow in, flow out D) input, output

7. The _____ register is read by the host to get input. [ ]
   A) flow in B) flow out C) data in D) data out
8. The _____ register is written by the host to send output. [ ]
   A) status B) control C) data in D) data out
9. The hardware mechanism that allows a device to notify the CPU is called _____. [ ]
   A) polling B) interrupt C) driver D) controlling
10. The CPU hardware has a wire called _____ that the CPU senses after executing every instruction. [ ]
    A) interrupt request line B) interrupt bus C) interrupt receive line
    D) interrupt sense line
11. Which principle states those programs, users and even the systems be given just enough privileges to perform their task? [ ]
    A) principle of operating system B) principle of least privilege
    C) principle of process scheduling D) none of the mentioned
12. _____ is an approach to restricting system access to authorized users. [ ]
    A) Role-based access control B) Process-based access control
    C) Job-based access control D) none of the mentioned
13. For system protection, a process should access [ ]
    A) all the resources B) only those resources for which it has authorization
    C) few resources but authorization is not required D) all of the mentioned
14. The protection domain of a process contains [ ]
    A) object name B) rights-set C) both (A) and (B) D) none of the mentioned
15. If the set of resources available to the process is fixed throughout the process's lifetime then its domain is [ ]
    A) static B) dynamic C) neither static nor dynamic D) none of the mentioned
16. Access matrix model for user authentication contains [ ]
    A) a list of objects B) a list of domains C) a function which returns an object's type
    D) all of the mentioned
17. Global table implementation of matrix table contains [ ]
    A) domain B) object C) right-set D) all of the mentioned
18. For a domain _____ is a list of objects together with the operation allowed on these objects.
    A) capability list B) access list C) both (A) and (B) D) none of the mentioned

19. Which one of the following is capability based protection system? [ ]

A) hydra B) Cambridge CAP system C) both (A) and (B) D) none of the mentioned

20. In UNIX, domain switch is accomplished via [ ]

A) file system B) user C) super user D) none of the mentioned

21. When an attempt is to make a machine or network resource unavailable to its intended users, the attack is called [ ]

A) denial-of-service attack B) slow read attack C) spoofed attack D) starvation attack

22. The code segment that misuses its environment is called a [ ]

A) internal thief B) Trojan horse C) code stacker D) none of the mentioned

23. The internal code of any software that will set of a malicious function when specified conditions are met, is called [ ]

A) logic bomb B) trap door C) code stacker D) none of the mentioned

24. The pattern that can be used to identify a virus is known as [ ]

A) stealth B) virus signature C) armored D) multipartite

25. Which one of the following is a process that uses the spawn mechanism to ravage the system performance? [ ]

A) worm B) Trojan C) threat D) virus

26. What is a trap door in a program? [ ]

A) a security hole, inserted at programming time in the system for later use

B) a type of antivirus C) security hole in a network D) none of the mentioned

27. Which one of the following is not an attack, but a search for vulnerabilities to attack? [ ]

A) denial of service B) port scanning

C) memory access violation D) dumpster diving

28. File virus attaches itself to the [ ]

A) source file B) object file C) executable file D) all of the mentioned

29. Multipartite viruses attack on [ ]

A) files B) boot sector C) memory D) all of the mentioned

30. In asymmetric encryption [ ]

A) same key is used for encryption and decryption B) different keys are used encryption and decryption C) no key is required for encryption and decryption D) none of the mentioned

31. Buffering is done to : [ ]

A) cope with device speed mismatch B) cope with device transfer size mismatch

C) maintain copy semantics D) All of these

32. Caching is _____ spooling. [ ]

A) same as B) not the same as C)either same or not D) None of these

33. Caching : (choose all that apply) [ ]

A) holds a copy of the data B) is fast memory C) holds the only copy of the data

D) holds output for a device

34. Spooling : (choose all that apply) [ ]

A) holds a copy of the data B) is fast memory C) holds the only copy of the data

D) holds output for a device

35. The _____ keeps state information about the use of I/O components. [ ]

A) CPU B) OS C) kernel D) shell

36. The _____ can be turned off by the CPU before the execution of critical instruction sequences that must not be interrupted. [ ]

A) non mask able interrupt B) blocked interrupt C) mask able interruptD) None of these

37. The _____ is used by device controllers to request service. [ ]

A) non mask able interrupt B) blocked interrupt C) mask able interruptD) None of these

38. The interrupt vector contains : [ ]

A) the interrupts B) the memory addresses of specialized interrupt handlers

C) the identifiers of interrupts D) the device addresses

39. Division by zero, accessing a protected or nonexistent memory address, or attempting to execute a privileged instruction from user mode is all categorized as _____. [ ]

A) errors B) exceptions C) interrupt handlers D) All of these

40. For large data transfers, _____ is used. [ ]

A) DMA B) programmed I/O C) controller register D) None of these

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