Department of Computer Science & Engineering (CSE), Lovely Professional University

Subject -code : **CSE316**, **CA-1** Subject Name : **Operating System**

Maximum marks : **30** **Set-1** Max Time Allotted : **45 mints**

Name …… Section…….Roll No. …….

Write the correct answer against the appropriate question.

1:	**2:**	**3:**	**4:**	**5:**	**6:**	**7:**	**8:**	**9:**	**10:**
11:	**12:**	**13:**	**14:**	**15:**	**16:**	**17:**	**18:**	**19:**	**20:**
21:	**22:**	**23:**	**24:**	**25:**	**26:**	**27:**	**28:**	**29:**	**30:**

Q1. What is an operating system?
a) Interface between the hardware and application programs
b) Collection of programs that manages hardware resources
c) System service provider to the application programs
d) All of the mentioned

Q2. Which of the following is/are pre-emptive CPU scheduling algorithms ?
a) Priority
b) Round Robin
c) Shortest Job First
d) All of these

Q3: The number of processes completed per unit time is known as _____
a) Output
b) Throughput
c) Efficiency
d) Capacity

Q4: The state of a process is defined by ___
a)Tthe final activity of the process
b) The activity just executed by the process
c) The activity to next be executed by the process
d) The current activity of the process

Q5: A Process Control Block (PCB) does not contain which of the following?
a) Code
b) Stack
c) Bootstrap program
d) Data

Q6: To access the services of the operating system, the interface is provided by the _____
a) Library
b) System calls
c) Assembly instructions
d) API

Q7: What is a Process Control Block?
a) Process type variable
b) Data Structure
c) A secondary storage section
d) A Block in memory

Q8: The entry of all the PCBs of the current processes is in _____
a) Process Register
b) Program Counter
c) Process Table
d) Process Unit

Q9: What is the degree of multiprogramming?
a) The number of processes executed per unit time
b) The number of processes in the ready queue
c) The number of processes in the I/O queue
d) The number of processes in memory

Q10. CPU scheduling is the basis of _____
a) Multiprogramming operating systems
b) Larger memory sized systems
c) Multiprocessor systems
d) None of the mentioned

Q11. What is the objective of multiprogramming?

a) Have a process running at all time
b) Have multiple programs waiting in a queue ready to run
c) To increase CPU utilization
d) None of the mentioned

Q12. What is a long-term scheduler?
a) It selects processes which have to be brought into the ready queue
b) It selects processes which have to be executed next and allocates CPU
c) It selects processes which heave to remove from memory by swapping
d) None of the mentioned

Q13: What will happen when a process terminates?
a) It is removed from all queues
b) It is removed from all, but the job queue
c) Its process control block is de-allocated
d) Its process control block is never de-allocated

Q14. What is a medium-term scheduler?
a) It selects which process has to be brought into the ready queue
b) It selects which process has to be executed next and allocates CPU
c) It selects which process to remove from memory by swapping
d) None of the mentioned

Q15: What is a short-term scheduler?
a) It selects which process has to be brought into the ready queue
b) It selects which process has to be executed next and allocates CPU
c) It selects which process to remove from memory by swapping
d) None of the mentioned

Q16. In a time-sharing operating system, when the time slot given to a process is completed, the process switches from the running state to the _____
a) Blocked state
b) Ready state
c) Suspended state
d) Terminated state

Q17: Suppose that a process is in "Blocked" state, waiting for some I/O service. When the service is completed, it goes to the _____
a) Running state
b) Ready state
c) Suspended state
d) Terminated state

Q18. Which one of the following is **not true**?
a) Kernel remains in the memory during the entire computer session
b) Kernel is made of various modules which can not be loaded in running operating system
c) Kernel is the first part of the operating system to load into memory during booting
d) Kernel is the program that constitutes the central core of the operating system.

Q19. If a process fails, most operating system write the error information to a _____
a) New file
b) Another running process
c) Log file
d) None of the mentioned

Q20. The portion of the process scheduler in an operating system that dispatches processes is concerned with _____
a) Assigning ready processes to waiting queue
b) Assigning running processes to blocked queue
c) Assigning ready processes to CPU
d) All of the mentioned

Q21. The operating system is responsible for which of the following
a) Bad-block recovery
b) Booting from disk
c) Disk initialization
d) All of the mentioned

Q22. In real time operating system _____
a) Process scheduling can be done only once
b) all processes have the same priority
c) kernel is not required
d) A task must be serviced by its deadline period

Q23. For real time operating systems, interrupt latency should be _____
a) Zero
b) Minimal
c) Maximum
d) Dependent on the scheduling

Q24. The operating system maintains a _____ table that keeps track of how many frames have

been allocated, how many are there, and how many are available.
a) Memory
b) Mapping
c) Page
d) Frame/process

Q25. Which of the following type of operating system allows parallel Processing of processes?
a) Multiple-programming operating system
b) Multi-tasking operating system
c) Multi-processing operating System
d) Batch operating system

Q26: **What is convoy effect ?**
a. Process in not present in main memory
b. All process are waiting for the long process to complete.
c. All process are waiting for the small process to complete
d. All process are executing in pre-emptive scheduling manner.

Read the data care fully from **Table-1** and **answer the following questions (27-28)** based on it. Table is mentioned below.

Solve the Problem by using Pre-emptive-Priority scheduling Algorithm, by considering/taking **lower priority number as a highest priority** of the process.

Q27. Find the average waiting time of the processes.
a) 5.5 ms
b) 5.6 ms
c) 5.4 ms
d) 5.3 ms

Q28. Find the average turnaround time of the processes.
a) 8.3 ms
b) 8.5 ms
c) 8.8 ms
d) 8.6 ms

Note: - Read the data carefully from **Table-2** and **answer the following questions (29-30)** based on it.
Solve the Problem by using **Shortest job remaining first** (SJRF) scheduling Algorithm, in pre-emptive order of scheduling.

Table-2		
Process	**Arrival time**	**Burst time**
P0	**0**	**5**
P1	**3**	**3**
P2	**2**	**6**
P3	**4**	**3**
P4	**1**	**4**

Q29. Find the average waiting time of the process.
a) 5.5 ms
b) 5.6.ms
c) 5.7 ms
d) 5.8 ms

Q30. Find the average turnaround time of the process.
a) 12 ms
b) 10 ms
c) 11 ms
d) 13 ms

Table -1			
Process Number	**Arrival time**	**Burst time**	**Priority**
P0	**0**	**5**	**4**
P1	**3**	**2**	**3**
P2	**2**	**4**	**1**
P3	**4**	**3**	**2**
P4	**1**	**2**	**3**