



**CSC 201**

**B.Sc. III<sup>rd</sup> SEMESTER EXAMINATION, 2024-25**

**COMPUTER SCIENCE**

**(Operating System)**

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**Paper ID**

(To be filled in the  
OMR Sheet)

Date (तिथि) : \_\_\_\_\_

**1472**

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Time : 1:30 Hrs.

समय : 1:30 घण्टे

Max. Marks : 75

अधिकतम अंक : 75

नोट : पुस्तिका में 50 प्रश्न दिये गये हैं, सभी प्रश्न करने होंगे। प्रत्येक प्रश्न 1.5 अंक का होगा।

**Important Instructions :**

1. The candidate will write his/her Roll Number only at the places provided for, i.e. on the cover page and on the OMR answer sheet at the end and nowhere else.
2. Immediately on receipt of the question booklet, the candidate should check up the booklet and ensure that it contains all the pages and that no question is missing. If the candidate finds any discrepancy in the question booklet, he/she should report the invigilator within 10 minutes of the issue of this booklet and a fresh question booklet without any discrepancy be obtained.

**महत्वपूर्ण निर्देश :**

1. अभ्यर्थी अपने अनुक्रमांक केवल उन्हीं स्थानों पर लिखेंगे जो इसके लिए दिये गये हैं, अर्थात् प्रश्न पुस्तिका के मुख्य पृष्ठ तथा साथ दिये गये ओ०एम०आर० उत्तर पत्र पर, तथा अन्यत्र कहीं नहीं लिखेंगे।
2. प्रश्न पुस्तिका मिलते ही अभ्यर्थी को जाँच करके सुनिश्चित कर लेना चाहिए कि इस पुस्तिका में पूरे पृष्ठ हैं और कोई प्रश्न छूटा तो नहीं है। यदि कोई विसंगति है तो प्रश्न पुस्तिका मिलने के 10 मिनट के भीतर ही कक्ष परिप्रेक्षक को सूचित करना चाहिए और बिना त्रुटि की दूसरी प्रश्न पुस्तिका प्राप्त कर लेना चाहिए।

1. What is function of 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
  
2. Every address generated by the CPU is divided into two parts. They are \_\_\_\_\_.
  - (A) frame bit & page number
  - (B) page number & page offset
  - (C) page offset & frame bit
  - (D) frame offset & page offset
  
3. With paging there is no \_\_\_\_\_ fragmentation.
  - (A) none
  - (B) internal
  - (C) external
  - (D) both
  
4. The segment base contains the \_\_\_\_\_.
  - (A) starting logical address of the process
  - (B) memory limit
  - (C) segment length
  - (D) starting physical address of the segment in memory

5. To \_\_\_\_\_ to a safe state, the system needs to keep more information about the states of processes.
- (A) abort the process
  - (B) queue the process
  - (C) roll back the process
  - (D) waiting to change condition
6. File type can be represented by \_\_\_\_\_.
- (A) file name
  - (B) file extension
  - (C) file identifier
  - (D) file pointer
7. 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
8. The Full form of RAID is :
- (A) Reduce Archive Independent Disks
  - (B) Redundant Array of Inexpensive Directories
  - (C) Redundant Array of Inexpensive Disks
  - (D) Redundant Array of Independent Disks

9. Optimal page - replacement algorithm is difficult to implement, because \_\_\_\_\_.
- (A) it requires a lot of information
  - (B) it is too complex
  - (C) it is extremely expensive
  - (D) it requires future knowledge of the reference string
10. What are the three additional operations to change the contents of the access-matrix?
- (A) Copy
  - (B) Owner
  - (C) Control
  - (D) All of the above
11. A process is thrashing if \_\_\_\_\_.
- (A) it spends a lot of time paging than executing
  - (B) it has no memory allocated to it
  - (C) it searches for memory
  - (D) it spends a lot of time executing, rather than paging
12. Which one of the following is not true?
- (A) kernel remains in the memory during the entire computer session
  - (B) kernel is the first part of the operating system to load into memory during booting
  - (C) kernel is made of various modules which cannot be loaded in running operating system
  - (D) kernel is the program that constitutes the central core of the operating system

13. The operating system is responsible for?
- (A) bad-block recovery.
  - (B) booting from disk
  - (C) disk initialization
  - (D) all of the mentioned
14. In real time operating system \_\_\_\_\_.
- (A) process scheduling can be done only once
  - (B) kernel is not required
  - (C) a task must be serviced by its deadline period
  - (D) all processes have the same priority
15. What does FAT mean?
- (A) File format attribute
  - (B) Font allocation tree
  - (C) File allocation table
  - (D) Font attribute table
16. Computer systems where there are multiple types of operating system, the decision to load a particular one is done by \_\_\_\_\_.
- (A) process control block
  - (B) file control block
  - (C) boot loader
  - (D) bootstrap

17. What is the full form of BIOS?
- (A) Built input-output system
  - (B) Binary input-output system
  - (C) Basic input/output system
  - (D) All of the above
18. What is a batch operating system?
- (A) Multiple copies of individual tasks
  - (B) Similar types of tasks are grouped together
  - (C) Tasks operating at different systems
  - (D) All of the above
19. What is a time sharing operating system?
- (A) Makes use of log files to do basic task
  - (B) One shell seems to be shared
  - (C) Allows users to use one system with two different terminals
  - (D) All of the above
20. What is the mean of the Booting in the operating system?
- (A) Restarting computer
  - (B) Install the program
  - (C) To scan disk
  - (D) To turn off

21. A thread is also called \_\_\_\_\_.
- (A) Light Weight Process (LWP)
  - (B) Heavy Weight Process (HWP)
  - (C) Process
  - (D) Both (A) and (B)
22. The kernel is \_\_\_\_\_ of user threads.
- (A) the part
  - (B) the creator
  - (C) un aware
  - (D) aware
23. In which type of kernel does the entire operating system run as a single program?
- (A) Monolithic kernel
  - (B) Microkernel
  - (C) Nano Kernels
  - (D) Hybrid Kernels
24. \_\_\_\_\_ is the heart of an operating system.
- (A) Software
  - (B) Programs
  - (C) CPU
  - (D) Kernel

25. To access the services of the operating system, the interface is provided by the \_\_\_\_\_.
- (A) Library function
  - (B) System calls
  - (C) Assembly instructions
  - (D) API remove
26. Cascading termination refers to the termination of all child processes if the parent process terminates \_\_\_\_\_.
- (A) Normally or abnormally
  - (B) Abnormally
  - (C) Normally
  - (D) None of the above
27. Which module gives control of the CPU to the process selected by the short-term scheduler?
- (A) dispatcher
  - (B) interrupt
  - (C) scheduler
  - (D) none of the mentioned
28. The processes that are residing in main memory and are ready and waiting to execute are kept on a list called \_\_\_\_\_.
- (A) job queue
  - (B) ready queue
  - (C) execution queue
  - (D) process queue

29. Which algorithm is defined in Time quantum?
- (A) shortest job scheduling algorithm
  - (B) round robin scheduling algorithm
  - (C) priority scheduling algorithm
  - (D) multilevel queue scheduling algorithm
30. What is the other name of the short-term scheduler?
- (A) Fix scheduler
  - (B) Duration scheduler
  - (C) Job scheduler
  - (D) CPU scheduler
31. Instructions are executed in which state?
- (A) New
  - (B) Ready
  - (C) Running
  - (D) Terminated
32. What is PCB (Process control block)?
- (A) just contains the information of terminated processes
  - (B) just contains information about new processes
  - (C) contains the information of processes that are in waiting for the state
  - (D) contains information about the process, i.e. registers

33. Which of the following is a condition that causes deadlock?
- (A) Mutual Exclusion and Circular wait
  - (B) Hold and wait
  - (C) No preemption
  - (D) All of these
34. One of the following purposes in banker's algorithm is used :
- (A) Preventing from deadlock
  - (B) Solving deadlock
  - (C) Recovering from deadlock
  - (D) Starving by deadlock
35. A Binary semaphore has a value of view of database that appears to an application program is known as:
- (A) 0
  - (B) -1
  - (C) 1
  - (D) 2
36. Which of the following is a condition that ensures that deadlock has been present in system?
- (A) Mutual Exclusion
  - (B) Hold and wait
  - (C) No preemption
  - (D) Circular wait

37. The segment of code in which the process may change common variables, update tables, write into files is known as \_\_\_\_\_.
- (A) program
  - (B) critical section
  - (C) non critical section
  - (D) synchronization
38. The bounded buffer problem is also known as \_\_\_\_\_.
- (A) Readers - Writers problem
  - (B) Dining - Philosophers problem
  - (C) Producer - Consumer problem
  - (D) Bakery problem
39. To ensure difficulties do not arise in the readers - writer's problem \_\_\_\_\_ are given exclusive access to the shared object.
- (A) readers
  - (B) readers and writers
  - (C) writers
  - (D) monitor
40. The \_\_\_\_\_ swaps processes in and out of the memory.
- (A) Memory Manager
  - (B) CPU
  - (C) CPU Manager
  - (D) User

41. The address generated by the CPU is referred to as \_\_\_\_\_.
- (A) Physical address
  - (B) Logical address
  - (C) Neither physical nor logical
  - (D) Specific address
42. The address loaded into the memory address register of the memory is referred to as \_\_\_\_\_.
- (A) Physical address
  - (B) Logical address
  - (C) Neither physical nor logical
  - (D) Specific address
43. The run time mapping from virtual to physical addresses is done by a hardware device called the \_\_\_\_\_.
- (A) Virtual to physical mapper
  - (B) Memory mapping unit
  - (C) Memory management unit
  - (D) Address adopter
44. The base register is also known as the \_\_\_\_\_.
- (A) basic register
  - (B) regular register
  - (C) index register
  - (D) relocation register

45. In contiguous memory allocation \_\_\_\_\_.
- (A) all processes are continuous
  - (B) each process is contained in a single contiguous section of memory
  - (C) the memory space is contiguous
  - (D) none of the mentioned
46. With relocation and limit registers, each logical address must be \_\_\_\_\_ the limit register.
- (A) equal to
  - (B) greater than
  - (C) less than
  - (D) average
47. In internal fragmentation, memory is internal to a partition and \_\_\_\_\_.
- (A) is being used
  - (B) is not being used
  - (C) is always used
  - (D) transferred to other place
48. A solution to the problem of external fragmentation is \_\_\_\_\_.
- (A) smaller memory space
  - (B) larger memory space
  - (C) compaction
  - (D) expansion

49. Physical memory is broken into fixed-sized blocks called \_\_\_\_\_.

(A) frames

(B) pages

(C) backing store

(D) table

50. Logical memory is broken into blocks of the same size called \_\_\_\_\_.

(A) frames

(B) pages

(C) backing store

(D) table

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