

Roll No.-----

<b>Paper Code</b>		
<b>3</b>	<b>7</b>	<b>3</b>
(To be filled in the OMR Sheet)		

प्रश्नपुस्तिका क्रमांक  
Question Booklet No.

O.M.R. Serial No.

--	--	--	--	--	--	--	--

प्रश्नपुस्तिका सीरीज  
Question Booklet Series  
**D**

## BCA (Fourth Semester) Examination, July-2022

### BCA-402(N) Operating System

Time : 1:30 Hours

Maximum Marks-100

जब तक कहा न जाय, इस प्रश्नपुस्तिका को न खोलें

- निर्देश : -
1. परीक्षार्थी अपने अनुक्रमांक, विषय एवं प्रश्नपुस्तिका की सीरीज का विवरण यथास्थान सही- सही भरे, अन्यथा मूल्यांकन में किसी भी प्रकार की विसंगति की दशा में उसकी जिम्मेदारी स्वयं परीक्षार्थी की होगी।
  2. इस प्रश्नपुस्तिका में 100 प्रश्न हैं, जिनमें से केवल 75 प्रश्नों के उत्तर परीक्षार्थियों द्वारा दिये जाने हैं। प्रत्येक प्रश्न के चार वैकल्पिक उत्तर प्रश्न के नीचे दिये गये हैं। इन चारों में से केवल एक ही उत्तर सही है। जिस उत्तर को आप सही या सबसे उचित समझते हैं, अपने उत्तर पत्रक (O.M.R. ANSWER SHEET) में उसके अक्षर वाले वृत्त को काले या नीले बाल प्वाइंट पेन से पूरा भर दें। यदि किसी परीक्षार्थी द्वारा किसी प्रश्न का एक से अधिक उत्तर दिया जाता है, तो उसे गलत उत्तर माना जायेगा।
  3. प्रत्येक प्रश्न के अंक समान हैं। आप के जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
  4. सभी उत्तर केवल ओ०एम०आर० उत्तर पत्रक (O.M.R. ANSWER SHEET) पर ही दिये जाने हैं। उत्तर पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
  5. ओ०एम०आर० उत्तर पत्रक (O.M.R. ANSWER SHEET) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाय।
  6. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी ओ०एम०आर० शीट उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें।
  7. निगेटिव मार्किंग नहीं है।
- महत्वपूर्ण : - प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्नपुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्ष निरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।

K-373



1. Operating system is a collection of \_\_\_\_\_.
  - (A) Software routines
  - (B) Input-output devices
  - (C) Hardware components
  - (D) All of these
  
2. The interval from the time of submission of a process to the time of completion is termed as \_\_\_\_\_.
  - (A) Waiting time
  - (B) Turnaround time
  - (C) Response time
  - (D) Throughput
  
3. Which of the following is not a part of the operating system ?
  - (A) Input/output control program
  - (B) Job control program
  - (C) Supervisor
  - (D) Performance
  
4. \_\_\_\_\_ refers to putting data of various I/O jobs in a buffer.
  - (A) Buffer
  - (B) spooling
  - (C) Swapping
  - (D) Switching
  
5. 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 the mentioned

6. 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
7. The heads of the magnetic disk are attached to a \_\_\_\_\_ that moves all the heads as a unit.
- (A) Spindle
  - (B) Disk arm
  - (C) Track
  - (D) None of the mentioned
8. \_\_\_\_\_ increases CPU utilization by organization jobs so that the CPU always has one to execute.
- (A) Network
  - (B) Distributed
  - (C) Time-sharing
  - (D) Multi-programming
9. A program that is loaded into memory and is executing is commonly referred to as a \_\_\_\_\_.
- (A) File
  - (B) Process
  - (C) Data
  - (D) Directory

10. Multitasking Operating Systems are also known as \_\_\_\_\_ systems.
- (A) Network
  - (B) Distributed
  - (C) Time-sharing
  - (D) Multi-programming
11. Disadvantage of batch operating system is:
- (A) Much of the work
  - (B) Increased performance
  - (C) Difficult to debug
  - (D) None
12. Program becomes process when \_\_\_\_\_ file loaded into memory.
- (A) Object
  - (B) Executable
  - (C) Source
  - (D) Class
13. The only work of scheduler is selection of \_\_\_\_\_.
- (A) Processes
  - (B) Memory
  - (C) Data
  - (D) Job
14. Short-Term Scheduler is also known as \_\_\_\_\_ scheduler.
- (A) Job
  - (B) Process
  - (C) CPU
  - (D) Memory

15. \_\_\_\_\_ are special system software which handle process scheduling in various ways.
- (A) Dispatcher
  - (B) Scheduler
  - (C) Controller
  - (D) Interrupt
16. The duty of the \_\_\_\_\_ scheduler is to bring the process from the JOB pool to the Ready state for its execution.
- (A) Short-term
  - (B) Long-term
  - (C) Medium-term
  - (D) None
17. Each file has its own index block which stores the addresses of disk space occupied by the file:
- (A) Index allocation
  - (B) Linked allocation
  - (C) Sequential allocation
  - (D) Contiguous allocation
18. \_\_\_\_\_ inefficient in case of direct access file.
- (A) Index allocation
  - (B) Linked allocation
  - (C) Sequential allocation
  - (D) Contiguous allocation
19. External fragmentation is a major issue with this type of allocation technique.
- (A) Index allocation
  - (B) Linked allocation
  - (C) Sequential allocation
  - (D) Contiguous allocation

20. \_\_\_\_\_ file organization provides, accessing the records directly.
- (A) Random access
  - (B) Sequential access
  - (C) Index access
  - (D) Index sequential access
21. A \_\_\_\_\_ is that in which the records are accessed in some sequence.
- (A) Index access
  - (B) Pointer access
  - (C) Sequential access
  - (D) Contiguous
22. A \_\_\_\_\_ is a sequence of bits, bytes, lines or records.
- (A) Directory
  - (B) File
  - (C) Drive
  - (D) Pendrive
23. Multiple instances of a resource type-Use the \_\_\_\_\_.
- (A) Resource allocation graph
  - (B) Deadlock detection
  - (C) Banker's algorithm
  - (D) None
24. Ensure that a system will never enter an unsafe state, is known as \_\_\_\_\_.
- (A) Detection
  - (B) Avoidance
  - (C) Deadlock
  - (D) Resource graph
25. \_\_\_\_\_ process can affect or be affected by the execution of another process.
- (A) Independent
  - (B) Free
  - (C) Running
  - (D) Cooperating

26. \_\_\_\_\_ is used for exchanging data between multiple threads in one or more processes or programs.
- (A) Synchronization
  - (B) Inter process communication
  - (C) Semaphore
  - (D) Queue
27. Atomic action is required in a critical section i. e. only one process can execute in its critical section at a time.
- (A) Two process
  - (B) Thread
  - (C) One process
  - (D) Two thread
28. A \_\_\_\_\_ condition is a situation that may occur inside a critical section.
- (A) Mutual
  - (B) Race
  - (C) Edit
  - (D) Entry
29. As per \_\_\_\_\_, operating system should be convenient to use, easy to learn, reliable, safe, and fast.
- (A) System goal
  - (B) User goal
  - (C) Data goal
  - (D) Process goal
30. A \_\_\_\_\_ can run in two modes-user mode and kernel mode.
- (A) File
  - (B) Memory
  - (C) Process
  - (D) Data

31. \_\_\_\_\_ are used to provide an interface between the operating system and the user programs.
- (A) System calls
  - (B) Kernel
  - (C) Process
  - (D) Files
32. External fragmentation reduced by the method known as \_\_\_\_\_.
- (A) Memory management
  - (B) Process editing
  - (C) Compaction
  - (D) File editing
33. In \_\_\_\_\_, a process address space is broken into fixed sized blocks called pages.
- (A) Memory
  - (B) Segmentation
  - (C) Paging
  - (D) File
34. Memory management scheme for a specific system depends on many factors, especially on the \_\_\_\_\_ of the system.
- (A) Software design
  - (B) Hardware design
  - (C) File design
  - (D) Memory design
35. A \_\_\_\_\_ operating system must have well-defined, fixed time constraints, otherwise the system will fail.
- (A) Network OS
  - (B) Real-time OS
  - (C) Distributed system
  - (D) DOS system

36. The time taken by the system to respond to an input and display of required updated information is termed as the \_\_\_\_\_.
- (A) Seek time
  - (B) Response time
  - (C) Edit time
  - (D) None
37. A \_\_\_\_\_ system runs on a server and provides the server the capability to manage data, user's, groups, security, application, and other networking functions.
- (A) Network system
  - (B) Central system
  - (C) Distributed system
  - (D) DOS system
38. Loosely coupled systems are also know as \_\_\_\_\_.
- (A) Network system
  - (B) Central system
  - (C) Distributed system
  - (D) DOS system
39. \_\_\_\_\_ use multiple central processors to serve multiple real-time applications and multiple users.
- (A) Network system
  - (B) Central system
  - (C) Distributed System
  - (D) DOS system
40. Computer systems that were designed primarily as batch systems have been modified to time-sharing systems :
- (A) DOS system
  - (B) Time-sharing system
  - (C) Network system
  - (D) None

41. This type of operating system does not interact with the computer directly.
- (A) Batch OS
  - (B) Multi-programming OS
  - (C) Multi-tasking OS
  - (D) None
42. Keeps track of time and resources used by various jobs and users. It is known as \_\_\_\_\_.
- (A) Memory Management
  - (B) File Management
  - (C) Job Accounting
  - (D) Security
43. Keeps track of information, location, uses, status etc. It is known as \_\_\_\_\_.
- (A) Memory system
  - (B) File system
  - (C) Device system
  - (D) None
44. Operating system act as a \_\_\_\_\_ of all hardware and software devices in our computer system.
- (A) Teacher
  - (B) Controller
  - (C) Manager
  - (D) Editor
45. A file system is normally organized into directories for easy \_\_\_\_\_ and usage.
- (A) Edit
  - (B) Navigation
  - (C) Analysis
  - (D) Discussion

46. Secondary storage-extension of main memory that provides large\_\_\_\_\_ storage capacity.
- (A) Volatile
  - (B) Nonvolatile
  - (C) RAM
  - (D) None
47. Keeps tracks of processor and status of process, is known as \_\_\_\_\_.
- (A) Memory Management
  - (B) Device Management
  - (C) Process Management
  - (D) None
48. Using higher level languages allows the code to be written \_\_\_\_\_.
- (A) Slow
  - (B) Faster
  - (C) Moderate
  - (D) Accurate
49. An operating system is a program that acts as an interface between the user and the computer hardware and controls the\_\_\_\_\_ of all kinds of programs.
- (A) Read
  - (B) Write
  - (C) Execution
  - (D) End
50. At first, operating systems were written in assembly, but now\_\_\_\_\_ is the language commonly used.
- (A) Java
  - (B) Python
  - (C) C/C++
  - (D) COBOL

51. Operating system \_\_\_\_\_.
- (A) Enables the programmer to draw a flow chart
  - (B) Provides a layer, user friendly interface
  - (C) Links a program with subroutine it references
  - (D) All of these
52. CPU scheduling is the basis of \_\_\_\_\_.
- (A) Multi-programming operating systems
  - (B) Larger memory sized systems
  - (C) Multiprocessor systems
  - (D) None of the mentioned
53. To access the services of the operating system, the interface is provided by the\_\_\_\_\_.
- (A) Library
  - (B) System calls
  - (C) Assembly instructions
  - (D) API
54. Network operating system runs on \_\_\_\_\_.
- (A) Server
  - (B) Every system in the network
  - (C) Both server and every system in the network
  - (D) None of the mentioned
55. The operating system is responsible for ?
- (A) Bad-block recovery
  - (B) Booting from disk
  - (C) Disk initialization
  - (D) All of the mentioned

56. \_\_\_\_\_ is the concept in which a process is copied into the main memory from the secondary memory according to the requirement.
- (A) Paging
  - (B) Demand paging
  - (C) Segmentation
  - (D) Swapping
57. To access the services of the operating system, the interface is provided by the\_\_\_\_\_.
- (A) System calls
  - (B) API
  - (C) Library
  - (D) Assembly instructions
58. A deadlock avoidance algorithm dynamically examines the \_\_\_\_\_ to ensure that a circular wait condition can never exist.
- (A) Operating system
  - (B) Resources
  - (C) System storage state
  - (D) Resource allocation state
59. When a process is in a “Blocked” state waiting for some I/O service. When the service is completed, it goes to the \_\_\_\_\_.
- (A) Terminated state
  - (B) Suspended state
  - (C) Running state
  - (D) Ready state
60. Which is not the function of the Operating System ?
- (A) Memory management
  - (B) Disk management
  - (C) Application management
  - (D) Virus protection

61. Among the following, which is an example of a spooled device ?
- (A) A line printer that prints the output of a number of jobs
  - (B) A terminal that inputs user data
  - (C) A I/O device to display graphics
  - (D) None
62. \_\_\_\_\_ is capable of overlapping I/O operation for one job with processor operations for another job.
- (A) Buffer
  - (B) Spooling
  - (C) Swapping
  - (D) Switching
63. A process which is copied from main memory to secondary memory on the basis of requirement is known as :
- (A) Demand Paging
  - (B) Paging
  - (C) Threads
  - (D) Segmentation
64. Is mutual exclusion required for shareable resources ?
- (A) Yes
  - (B) No
  - (C) May be
  - (D) None
65. Which of the following are two types of atomic operations performed by semaphores ?
- (A) Wait, signal
  - (B) Wait, stop
  - (C) Signal, stop
  - (D) Signal, wait

66. The operating system was developed by an American company Microsoft \_\_\_\_\_.
- (A) MS Office
  - (B) Windows
  - (C) Linux
  - (D) Unix
67. When can the binding of instructions and data to memory addresses be done ?
- (A) Load time
  - (B) Compile time
  - (C) Execution time
  - (D) All of the above
68. Which of the following is not an operating system ?
- (A) Linux
  - (B) DOS
  - (C) Oracle
  - (D) Windows
69. It becomes possible to have the computer read data from a tape, write data to disk and to write out to a tape printer while it is doing its computing task :
- (A) Buffer
  - (B) Spooling
  - (C) Swapping
  - (D) Switching
70. The most optimal CPU scheduling algorithm is \_\_\_\_\_.
- (A) Shortest job first
  - (B) First Come First Serve
  - (C) Round robin
  - (D) None

71. Device driver required in :
- (A) Register
  - (B) Main memory
  - (C) Disk
  - (D) Cache
72. What is the name of the technique in which the operating system of a computer executes several programs concurrently by switching back and forth between them?
- (A) Paging
  - (B) Windowing
  - (C) Partitioning
  - (D) Multitasking
73. To access the services of the operating system, the interface is provided by the \_\_\_\_\_.
- (A) System calls
  - (B) API
  - (C) Library
  - (D) Assembly instructions
74. The processors do not share memory or a clock. Instead, each processor has its own local memory :
- (A) Network
  - (B) Distributed
  - (C) Time-sharing
  - (D) Real-Time
75. What is the name given to the organized collection of software that controls the overall operation of a computer ?
- (A) Working system
  - (B) Operating system
  - (C) Controlling system
  - (D) Peripheral system

76. In what way is an operating system look like a government ?
- (A) It performs most useful functions by itself
  - (B) It creates an environment within which other programs can do useful work
  - (C) It does not often function correctly
  - (D) It is always concerned primarily with the individual's needs
77. The operating system is responsible for ?
- (A) Bad-block recovery
  - (B) Booting from disk
  - (C) Disk initialization
  - (D) All of the mentioned
78. Which of the following is not a resource that may be allocated by operating system?
- (A) CPU
  - (B) File system
  - (C) Memory
  - (D) Storage device
79. Sharing the processor, when two or more programs reside in memory at the same time, is referred as Sharing the processor, when two or more programs reside in memory at the same time, is referred as \_\_\_\_\_.
- (A) Batch
  - (B) Multi-programming
  - (C) Multi-tasking
  - (D) None
80. User action such as keystroke or mouse click are referred to as :
- (A) Interrupt
  - (B) Tasks
  - (C) Processes
  - (D) Event

81. Booting means \_\_\_\_\_.
- (A) Restarting computer
  - (B) Installing program
  - (C) Removing errors
  - (D) Switch off
82. First-in-First-Out (FIFO) scheduling is :
- (A) Non Preemptive Scheduling
  - (B) Preemptive Scheduling
  - (C) Fair Share Scheduling
  - (D) Deadline Scheduling
83. The duty of the \_\_\_\_\_ scheduler is to schedule the process from the ready state to the running state.
- (A) Short-term
  - (B) Long-term
  - (C) Medium-term
  - (D) None
84. By default we can save the file in :
- (A) Desktop
  - (B) Recycle bin
  - (C) My document
  - (D) My computer
85. Which of the following is NOT a valid deadlock prevention scheme ?
- (A) Release all resources before requesting a new resource
  - (B) Number the resources uniquely and never request a lower numbered resource than the last one requested
  - (C) Never request a resource after releasing any resource
  - (D) Request and all required resources be allocated before execution

86. The operating system is the most common type of \_\_\_\_\_ Software.
- (A) Communication
  - (B) Application
  - (C) System
  - (D) Word processing software
87. Which is not application software ?
- (A) Windows NT
  - (B) Page Maker
  - (C) WinWord XP
  - (D) Photoshop
88. Page-Table Length Register (PTLR) indicates size of :
- (A) Page Table
  - (B) Paging File
  - (C) Main Memory
  - (D) Virtual Memory
89. The SJF algorithm executes first the job :
- (A) That last entered the queue
  - (B) That first entered the queue
  - (C) That has been in the queue the longest
  - (D) With the least processor needs
90. The \_\_\_\_\_ is the module that gives a process control over the CPU after it has been selected by the short-term scheduler.
- (A) Dispatcher
  - (B) Scheduler
  - (C) Controller
  - (D) Interrupt

91. Divided logical memory into blocks with the same size as frames are called :
- (A) Pages
  - (B) Frames
  - (C) Page Table
  - (D) Segmentation
92. The number of processes completed per unit time is known as \_\_\_\_\_.
- (A) Output
  - (B) Throughput
  - (C) Efficiency
  - (D) Capacity
93. The OS manages the communications between the processor. They communicate with each other through various communication lines. This environment known as :
- (A) Network
  - (B) Distributed
  - (C) Time-sharing
  - (D) Real-Time
94. 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
95. The time taken to move the disk arm to the desired cylinder is called the \_\_\_\_\_.
- (A) Positioning time
  - (B) Random access time
  - (C) Seek time
  - (D) Rotational latency

96. In Operating Systems, which of the following is/are CPU scheduling algorithms ?
- (A) Round Robin
  - (B) Shortest Job First
  - (C) Priority
  - (D) All of the mentioned
97. The Operating system must guarantee response to events within fixed periods of time to ensure correct performance :
- (A) Network
  - (B) Distributed
  - (C) Time-sharing
  - (D) Real-Time
98. File type can be represented by \_\_\_\_\_.
- (A) File name
  - (B) File extension
  - (C) File identifier
  - (D) None of the mentioned
99. Process are classified into different groups in \_\_\_\_\_.
- (A) Shortest job scheduling algorithm
  - (B) Round robin scheduling algorithm
  - (C) Priority scheduling algorithm
  - (D) Multilevel queue scheduling algorithm
100. In priority scheduling algorithm \_\_\_\_\_.
- (A) CPU is allocated to the process with highest priority
  - (B) CPU is allocated to the process with lowest priority
  - (C) Equal priority processes cannot be scheduled
  - (D) None of the mentioned

\*\*\*\*\*

## **Rough Work / रफ कार्य**

**DO NOT OPEN THE QUESTION BOOKLET UNTIL ASKED TO DO SO**

1. Examinee should enter his / her roll number, subject and Question Booklet Series correctly in the O.M.R. sheet, the examinee will be responsible for the error he / she has made.
  2. **This Question Booklet contains 100 questions, out of which only 75 Question are to be Answered by the examinee. Every question has 4 options and only one of them is correct. The answer which seems correct to you, darken that option number in your Answer Booklet (O.M.R ANSWER SHEET) completely with black or blue ball point pen. If any examinee will mark more than one answer of a particular question, then the answer will be marked as wrong.**
  3. Every question has same marks. Every question you attempt correctly, marks will be given according to that.
  4. Every answer should be marked only on Answer Booklet (O.M.R ANSWER SHEET). Answer marked anywhere else other than the determined place will not be considered valid.
  5. Please read all the instructions carefully before attempting anything on Answer Booklet (O.M.R ANSWER SHEET).
  6. After completion of examination, please hand over the O.M.R. SHEET to the Examiner before leaving the examination room.
  7. There is no negative marking.
- Note:** On opening the question booklet, first check that all the pages of the question booklet are printed properly in case there is an issue please ask the examiner to change the booklet of same series and get another one.