



Booklet Series

B

No. of Printed Pages : 16

Serial Number of the
Test Booklet

612040

PAPER CODE

PAPER/II-06/BCA

B

Roll No. : _____

Name of the Candidate : _____

Test Duration : 03 Hours

Total Questions : 100

Total Maximum Marks : 200

INSTRUCTIONS TO CANDIDATES

1. Candidates will be admitted to the Examination Hall/Room on production of their Admit Card and Original ID such as **EPIC/Aadhaar/Driving License** with a view to establish the true identity of the candidate.
2. Candidates shall reach the venue of examination at least 30 minutes in advance and admission will be refused to a candidate who is late by 10 minutes from the start of the examination.
3. No candidate shall be permitted to leave the Examination Hall/Room until the time for the examination is over or until permitted to do so but not until the half of the allotted time.
4. Candidates must use a **BLUE/BLACK** ball point pen ONLY to make entries on the OMR Answer Sheet.
5. The candidates should not bring any articles (other than those specified above) such as books, notes, loose sheets, mobile phones, pagers, digital diaries, calculators, smart watches, etc. inside the Examination Hall/Room. Any candidate found in possession of the said articles will be liable to be de-barred from applying all future examinations to be conducted by the Board.
6. After receiving the Test Booklet with OMR inserted, the candidates may pull out the OMR Answer Sheet and fill in the necessary details. However the candidates are not allowed to break open the seal of the Test Booklet until the invigilator informs them to do so.
7. Mark carefully your Roll Number, Question Booklet Code and Booklet Series on the OMR Answer Sheet and append signature at the appropriate place. Write your Roll Number and **Name in the Question Booklet**. In the absence of the Roll Number and Question Booklet Series on the OMR Answer Sheet, it may NOT be evaluated.
8. The entire Test is of Objective Type Questions comprising 100 questions.
9. Candidates must check that the Question Booklet contains 100 multiple choice questions. If any discrepancy found, report to the invigilator immediately.
10. Every question carries a total of 2 marks each. Candidates will also keep in mind that there is negative marking of $1/3^{\text{rd}}$ for every wrong answer.
11. Rough work may be done on the space provided in this Question Booklet, but not on the OMR Answer Sheet.
12. In the event of a mistake made in marking the Roll Number in the OMR Answer Sheet or the OMR Series the candidates will not be given a new OMR Answer Sheet but he/she will be allowed to use whitener or correcting fluid for correction of the Roll Number and the Booklet Series only.
13. **Change of answer will not be permitted in the OMR Answer Sheet. Using of correcting fluid (of any sort) will be treated as wrong attracting negative marking.**
14. The candidates must abide by such instructions as may be specified on the cover of the Answer Paper or instructions to candidates given at the back of the Admit Card. If a candidate fails to do so or indulges in improper conduct, he/she will render himself/herself liable to expulsion from the examination or such other punishment as the Board deemed fit to impose.
15. At the end of the Test, candidates must submit the OMR Answer Sheet to the invigilator on duty. Candidates shall be allowed to take their Question Booklet only after the end of the examination session.
16. Any candidate found to be intoxicated with alcohol and/or psychotropic substances will be expelled from the Examination Hall/Room.
17. Examination centre once opted cannot be changed.

PLEASE REFER THE BACKSIDE OF THE QUESTION BOOKLET FOR MORE INSTRUCTIONS.

PAPER/II-06/BCA

SEAL



1. What is the most common data rate for PCI (Peripheral Component Interconnect) expansion buses operating over a 32-bit channel ?
(A) 100 MBps (B) 133 MBps
(C) 200 MBps (D) None of these
2. What is one of the basic diagnostic uses of a BIOS setup utility ?
(A) Checking if the system clock is losing time
(B) Installing the operating system
(C) Formatting the hard drive
(D) Creating user accounts
3. What type of operators are ++ and -- in C ?
(A) Binary operators
(B) Assignment operators
(C) Logical operators
(D) Unary operators
4. What do lines beginning with # in a C program represent ?
(A) Comments
(B) Variable declarations
(C) Error messages
(D) Preprocessing directives
5. What is the primary purpose of the wall command in Unix/Linux ?
(A) To monitor CPU usage
(B) To send a file to all users
(C) To display a message on all logged-in users' terminals
(D) To shut down the system

6. In C-programming why are symbolic constants written in capital letters by convention ?
(A) To avoid compiler errors
(B) Because lowercase names are reserved
(C) To distinguish them from variables and improve readability
(D) It's required by the C standard
7. What are the three essential components of a computer virus ?
(A) Destruction, replication and display
(B) Search, copy, and anti-detection routines
(C) Interface, memory and execution
(D) Encryption, storage and deletion
8. Why must a virus be attached to a host program to run ?
(A) Because a virus cannot execute independently
(B) Because it relies on the host program's memory
(C) Because it needs access to the internet
(D) Because host programs are more secure





9. What are reserved words (keywords) in a programming language ?
- (A) User-defined variables
 - (B) Functions created by the programmer
 - (C) Words with special meaning that cannot be redefined
 - (D) Optional syntax elements
10. What is an identifier in C ?
- (A) A keyword used by the compiler
 - (B) A special symbol
 - (C) A token made up of letters, digits and underscores
 - (D) A predefined function
11. What is the primary function of the power supply exhaust fan ?
- (A) To cool the power supply and remove hot air from the case
 - (B) To bring cool air into the case
 - (C) To blow dust off the components
 - (D) None of the above
12. What kind of devices commonly use USB front-panel ports for temporary attachment ?
- (A) Monitors and power supplies
 - (B) Flash drives and cameras
 - (C) RAM and SSDs
 - (D) CPUs and motherboards



13. What is the class called that provides its features to another class in inheritance ?
- (A) Derived class
 - (B) Child class
 - (C) Base class
 - (D) Sub class
14. What is meant by a "multiple indirect base class" ?
- (A) A class that inherits from itself
 - (B) A base class that is inherited more than once through multiple paths
 - (C) A derived class that does not inherit from any other class
 - (D) A class that is inherited from only one base class
15. What character encoding system is most commonly used in C ?
- (A) Unicode
 - (B) ASCII
 - (C) UTF-8
 - (D) ISO 8859-1
16. What is the purpose of the `abs()` function in C ?
- (A) To return the factorial of a number
 - (B) To return the square root of a number
 - (C) To return the absolute value of an integer
 - (D) To return the absolute value of a float





17. What is the primary role of an operating system ?
(A) To create hardware components
(B) To compile programming languages
(C) To directly control user input
(D) To manage a computer's hardware and serve as a basis for application programs
18. In multitasking systems, the CPU executes multiple processes by
(A) Running them all simultaneously
(B) Switching among them frequently
(C) Waiting for I/O operations to complete
(D) None of the above
19. What technological advancement in the 1980s allowed for millions of transistors to be placed on a single chip ?
(A) Microprogramming
(B) Very Large Scale Integration (VLSI)
(C) Magnetic Core Memory
(D) Semiconductor Lithography
20. What were supercomputers primarily used for ?
(A) Running web servers
(B) Massive scientific and engineering calculations
(C) Hosting online gaming platforms
(D) Managing financial transactions



21. What does `printf()` do in a C program ?
(A) Reads input from the user
(B) Prints formatted output to the screen
(C) Declares a variable
(D) Allocates memory
22. Which C library must be included to use `printf()` and `scanf()` ?
(A) `stdlib.h`
(B) `string.h`
(C) `math.h`
(D) `stdio.h`
23. How are character constants written in C ?
(A) Between double quotes
(B) Between parentheses
(C) Between square brackets
(D) Between single quotes
24. Which object is used to control standard output in C++ ?
(A) `cin`
(B) `cerr`
(C) `clog`
(D) `cout`
25. What is associated with each disk drive to manage its operations ?
(A) Disk controller
(B) CPU core
(C) RAM module
(D) GPU





26. What does the acronym DVD officially stands for ?
- (A) Digital Versatile Disk
 - (B) Disk Video Display
 - (C) Data Visual Disk
 - (D) None of the above
27. Which command is used to add constraints to an existing table after it has already been created in SQL ?
- (A) INSERT INTO
 - (B) UPDATE TABLE
 - (C) MODIFY TABLE
 - (D) ALTER TABLE
28. What is the role of access control in a DBMS ?
- (A) To ensure referential integrity
 - (B) To restrict unauthorized access to the database
 - (C) To automatically back up data
 - (D) None of the above
29. What is the main goal of exception handling in C++ ?
- (A) To slow down the program during runtime
 - (B) To combine error handling and normal code logic
 - (C) To keep normal functionality separate from error handling
 - (D) To eliminate all runtime errors automatically

30. When using a custom exception class, what does the throw statement throw ?
- (A) A pointer to a function
 - (B) An integer value
 - (C) An object of the exception class
 - (D) A line number
31. What happens if a virus attaches to a non-executable file type like .TXT ?
- (A) It corrupts data but doesn't reproduce
 - (B) It gains admin privileges
 - (C) It becomes more dangerous
 - (D) It spreads faster across the system
32. What is a boot sector virus designed to attack ?
- (A) A specific sector on a hard drive that loads at startup
 - (B) The antivirus software
 - (C) Files in the recycle bin
 - (D) The graphical user interface of the OS
33. What does the mode "w" in fopen() function stands for ?
- (A) Read
 - (B) Execute
 - (C) Append
 - (D) Write



34. What does `fopen()` return if a file cannot be accessed ?
(A) 0 (B) -1
(C) NULL (D) EOF
35. What type of data is an enumeration in C++ ?
(A) Floating point
(B) String
(C) Integral
(D) Boolean
36. Which keyword is used to define an enumeration in C++ ?
(A) `define` (B) `enum`
(C) `enumerate` (D) None of these
37. What device do computers usually connect to in a wireless LAN setup ?
(A) Access Point (AP)
(B) Modem
(C) Bluetooth hub
(D) None of these
38. What does "full duplex" mean in the context of TCP connections ?
(A) Data can go in both directions at the same time
(B) Data can go in both directions, but only alternately
(C) Data can go only one way at a time
(D) Data must be compressed before transmission

39. In `printf("%d", number);`, what does `%d` indicate ?



- (A) A placeholder for a floating-point number
(B) A placeholder for a character
(C) A placeholder for an integer in decimal format
(D) A string formatting command
40. How are statements normally executed in a C program ?
(A) Randomly
(B) In reverse order
(C) In parallel
(D) In sequence
41. What is a number called when it is represented in base 16 ?
(A) Decimal number
(B) Binary number
(C) Octal number
(D) Hexadecimal number
42. What kind of control structure is the `for` statement in C ?



- (A) Conditional
(B) Sequential
(C) Iterative (looping)
(D) Branching



43. What happens to a process when it is swapped out ?
(A) It is terminated
(B) It is restarted
(C) It is permanently paused
(D) It is removed from memory and reintroduced later to continue execution

44. What is the first step in a typical instruction-execution cycle ?
(A) Fetch the instruction from memory
(B) Fetch the operands
(C) Decode the instruction
(D) Store results back in memory

45. Which storage medium has the slowest access time ?
(A) Main memory
(B) Magnetic disk
(C) Solid-state disk
(D) Tape or optical disk

46. What does SDRAM stands for ?
(A) Static Data RAM
(B) Synchronous Dynamic RAM
(C) Speedy Dual RAM
(D) Simple DRAM

47. Which of the following functions counts the number of cells in a range that are empty ?
(A) COUNTBLANK
(B) COUNTA
(C) COUNT
(D) COUNTIF

48. In word processors which command is used to change the line spacing in a paragraph ?
(A) Line and Paragraph Spacing
(B) Paragraph Formatting
(C) Text Options
(D) Indents and Spacing

49. What kind of loop is the do...while statement in C ?
(A) Pre-test loop
(B) Recursive loop
(C) Infinite loop
(D) Post-test loop

50. What is the primary function of the goto statement in C ?
(A) To exit a program
(B) To skip the rest of a loop iteration
(C) To return a value from a function
(D) To jump unconditionally to a labeled statement

51. What is the core of a coaxial cable made of ?
(A) Copper
(B) Fiber glass
(C) Aluminum
(D) Steel





52. What kind of computers typically participate in a P2P (Peer-to-Peer) network ?

- (A) Home computers
- (B) Government servers
- (C) Supercomputers
- (D) Dedicated data centers only

53. How does a device typically communicate with a computer system ?

- (A) By copying files
- (B) By sending signals over a cable or through the air
- (C) By using keyboard input
- (D) By storing data internally

54. What is the role of the bootstrap program (or boot loader) ?

- (A) To manage user accounts
- (B) To locate and load the operating system kernel
- (C) To perform virus checks
- (D) None of the above

55. The assumption that all attributes contain only atomic values is known as



- (A) First Functional Dependency
- (B) First Normal Form (1NF)
- (C) Relational Closure Rule
- (D) Foreign Key Constraint

56. What is the purpose of using the Entity-Relationship (ER) model ?

- (A) To define SQL queries
- (B) To program stored procedures
- (C) To design the conceptual schema of a database application
- (D) To manage operating system resources

57. Why would you use a friend function with a class ?



- (A) To increase inheritance
- (B) To allow access to protected members only
- (C) To grant access to private members from an external function or class
- (D) To prevent other functions from accessing private members

58. What feature does C++ offer to avoid the problem of uninitialized objects ?

- (A) Manual memory allocation
- (B) Friend functions
- (C) Implicit initialization through constructors
- (D) Destructor overloading

59. What is the purpose of the `getchar()` macro in C ?



- (A) To get a string from the user
- (B) To convert integers to characters
- (C) To print a character
- (D) To read a character from the keyboard



60. What is a pointer in C ?
- (A) A variable that stores data directly
 - (B) A type of loop
 - (C) A constant value
 - (D) An address of an object in memory
61. What is the purpose of a function prototype in C ?
- (A) To declare a function's variables
 - (B) To define the function's body
 - (C) To specify the function's argument types, return type and name
 - (D) To automatically generate function documentation
62. What is recursion in C programming ?
- (A) When a function calls itself
 - (B) When a function returns a constant value
 - (C) When a function loops over a range of values
 - (D) When a function calls another function
63. Which network device is used to join separate LANs into a larger system ?
- (A) Repeater
 - (B) Router
 - (C) Switch
 - (D) Bridge



64. What is the primary concern of the physical layer ?
- (A) Transmitting raw bits over a communication channel
 - (B) Ensuring encryption and authentication
 - (C) Routing of data packets
 - (D) Organizing files on a server
65. What logical storage unit does the operating system define to manage storage ?
- (A) File
 - (B) Partition
 - (C) Block
 - (D) Cluster
66. What does ALPC stands for in the context of Windows operating systems ?
- (A) Advanced Local Procedure Call
 - (B) Asynchronous Local Procedure Control
 - (C) Advanced Link Procedure Call
 - (D) Automatic Load Port Communication
67. What is the purpose of a try block in C++ ?
- (A) To ignore all errors
 - (B) To automatically fix exceptions
 - (C) To contain code that might throw exceptions
 - (D) To define error messages





68. What is the purpose of the cin object in C++ ?

- (A) To display output to the screen
- (B) To handle file input
- (C) To control standard input from the keyboard
- (D) To write error messages

69. What does "call-by-reference" mean in C ?



- (A) The function gets a copy of the argument's value
- (B) The function gets a constant version of the argument
- (C) The function does not receive any arguments
- (D) The function gets the memory address of the argument, allowing it to modify the original variable

70. What does the size of operator in C++ return ?

- (A) The memory address of an object
- (B) The number of bits an object occupies
- (C) The size of an object in bytes
- (D) The value stored in the object

71. What is the information stored in the DBMS catalog called ?

- (A) Primary data
- (B) File descriptors
- (C) Query logs
- (D) Meta-data



72. In the formal relational model terminology, what is a row in a table called ?

- (A) Attribute
- (B) Record
- (C) Field
- (D) Tuple

73. Which of the following is a reliable, connection-oriented transport protocol ?



- (A) UDP (User Datagram Protocol)
- (B) HTTP (Hyper Text Transfer Protocol)
- (C) IP (Internet Protocol)
- (D) TCP (Transmission Control Protocol)

74. What kind of communication does IRC (Internet Relay Chat) provide ?

- (A) File sharing
- (B) Real-time text-based chat
- (C) Video conferencing
- (D) Voice calls over IP

75. What is a constructor without parameters called in C++ ?



- (A) Parameterized constructor
- (B) Inline constructor
- (C) Copy constructor
- (D) Default constructor



76. What is it called when a class contains a data member that is an object of another class in C++ ?

- (A) Inheritance
- (B) Encapsulation
- (C) Has-A relationship
- (D) Is-A relationship

77. What is the main purpose of a while loop ?

- (A) To execute a statement only once
- (B) To jump to a different part of the program
- (C) To declare a variable
- (D) To repeat a group of statements while a condition is true

78. Which function marks the starting point of execution in a C program ?

- (A) start() (B) init()
- (C) begin() (D) main()

79. What is the purpose of heated rollers in the laser printer ?

- (A) To fuse the toner to the paper
- (B) To smooth out the image
- (C) To clean the paper
- (D) To apply more toner

80. What component allows a PROM (Programmable Read-Only Memory) to be programmed ?



- (A) Fuses
- (B) Magnets
- (C) Switches
- (D) Capacitors

81. What is the role of the Korn shell (ksh) in executing shell scripts ?

- (A) It compiles scripts into machine code
- (B) It acts as a command interpreter reading and executing the script line by line
- (C) It transforms scripts into GUI applications
- (D) It connects scripts to cloud APIs automatically

82. What command is suggested for parsing command-line arguments in shell scripts ?



- (A) getopt (B) args
- (C) read (D) None of these

83. Which instruction class uses the ALU (Arithmetic-Logical Unit) for address calculation ?


- (A) Arithmetic-logical instructions
- (B) Memory-reference instructions
- (C) Branch instructions
- (D) Jump instructions



84. What is the maximum number of rows in an Excel Worksheet (2007) ?



- (A) 65,536
- (B) 1,048,576
- (C) 256
- (D) 32,768



85. What type of output does the cerr object handle in C++ ?
(A) Buffered error output
(B) Standard output
(C) Unbuffered error output
(D) File output
86. What are the >> and << operators used for in C++ I/O ?
(A) Logical comparison
(B) Bitwise shifting
(C) Formatted input and output
(D) Memory management
87. What is the purpose of the who command in Unix/Linux ?

(A) To display current running processes
(B) To list all system users in the /etc/passwd file
(C) To display information about users on the system
(D) To display the disk usage of each user
88. What is the primary purpose of the cd command in Unix/Linux ?
(A) Change directory
(B) Delete a directory
(C) Create a new directory
(D) Display the current directory
89. What does the function call pow(2.0, 3.0) return ?
(A) 6.0 (B) 5.0
(C) 8.0 (D) 9.0

90. What is the primary purpose of using arrays in C ?
(A) To create random numbers
(B) To store multiple values of different types
(C) To allocate dynamic memory
(D) To store many variables of the same type
91. What does the manipulator endl do in a C++ output stream ?
(A) Clears the output screen
(B) Adds a tab space
(C) Generates a line feed (new line)
(D) Ends the program
92. What does the get() method do in C++ ?

(A) It writes a character to the output stream
(B) It reads a single character from a stream and stores it in a variable
(C) It handles formatted input
(D) It checks for the end of the stream
93. What is assembly language a symbolic representation of ?

(A) Machine language
(B) Operating system instructions
(C) High-level language
(D) Pseudocode



94. What is the software that supports virtual machines called ?

- (A) Virtualization Engine
- (B) Hypervisor or Virtual Machine Monitor (VMM)
- (C) Operating System Kernel
- (D) Guest OS Controller

95. What is the primary purpose of the cat command in Unix/Linux ?

- (A) Copy files from one directory to another
- (B) Display the contents of a file
- (C) Change the permissions of a file



(D) None of the above

96. What is the primary purpose of the



grep command in Unix/Linux ?

- (A) Display the contents of a file
- (B) Search for a pattern in a file or output
- (C) Delete lines in a file
- (D) List the files in a directory

97. What is the index of the first element in a C array ?



- (A) 0
- (B) 1
- (C) -1
- (D) It depends on the compiler

98. In C, what is a string ?

- (A) A single character
- (B) A pointer to an integer
- (C) An array of characters
- (D) None of the above

99. What kind of values do variables and functions take in Boolean algebra ?

- (A) Only 0 and 1
- (B) Only integers
- (C) Any real number
- (D) Complex numbers

100. Where is the result of the ALU (Arithmetic Logic Unit) operation stored ?



- (A) Main memory
- (B) Output register
- (C) Cache
- (D) Control unit