

Roll No.-----

<b>Paper Code</b>		
<b>5</b>	<b>0</b>	<b>5</b>
(To be filled in the OMR Sheet)		

प्रश्नपुस्तिका क्रमांक  
Question Booklet No.

O.M.R. Serial No.

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प्रश्नपुस्तिका सीरीज  
Question Booklet Series  
**B**

**M.Sc (Electronics) First Semester,  
Examination, February/March-2022  
ELC-103(N)**

**C++ Programming and Data Structure**

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 भरें, 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 निर्धारित प्रश्नों से अधिक प्रश्नों के उत्तर दिये जाते हैं तो उसके द्वारा हल किये गये प्रथमतः यथा निर्दिष्ट प्रश्नोत्तरों का ही मूल्यांकन किया 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 प्रश्नपुस्तिका बुकलेट एवं ओ०एम०आर० शीट पृथक-पृथक 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।

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1. Where a condition is checked to see whether to do one or more iteration is:
  - (A) Definite iteration
  - (B) Sequencing
  - (C) Indefinite iteration
  - (D) None of these
2. Which one is the valid real constant?
  - (A) 85.46
  - (B) 85
  - (C) 0.85
  - (D) Both (A) and (C)
3. \_\_\_\_\_ variables are sensitive to the data type they point to.
  - (A) Char
  - (B) Pointer
  - (C) Integer
  - (D) Float
4. For example class boy, \_\_\_\_\_ is user defined data type of class.
  - (A) Class
  - (B) Type
  - (C) Boy
  - (D) User
5. When  $a=6$ ,  $c=++a$  what will be the value of  $c$ ?
  - (A) 6
  - (B) 7
  - (C) 8
  - (D) 9

6. When  $a=6$  and  $c=a++$  what is the value of  $c$ ?
- (A) 6
  - (B) 7
  - (C) 8
  - (D) 9
7. The statement `int A; b;` is invalid because \_\_\_\_\_.
- (A) Variable should be separated by Comma
  - (B) Capital A is not allowed
  - (C) Only one variable should be given
  - (D) All of these
8. What is a file?
- (A) A file is a selection of main storage used to store data.
  - (B) A file is another name for floppy disk.
  - (C) A file is a part of a program that is used to describe what the program should do.
  - (D) A file is a collection of information that has been given a name and its stored in secondary memory.
9. \_\_\_\_\_ literals are treated as array of characters.
- (A) Graphic
  - (B) Character
  - (C) String
  - (D) Non-graphic
10. Which one holds the values or constants in memory boxes?
- (A) Variable
  - (B) While
  - (C) Go to
  - (D) Switch

11. The basic types are collectively called as\_\_\_\_\_.
- (A) Looping
  - (B) Tokens
  - (C) Expression
  - (D) Variables
12. \_\_\_\_\_ are data items whose value cannot be changed.
- (A) Class
  - (B) Return
  - (C) Constants
  - (D) Variable
13. Every variable will be referred by its \_\_\_\_\_.
- (A) Data
  - (B) Int
  - (C) Name
  - (D) Address
14. Which storage class defines local variable known to the block in which they are defined?
- (A) Register
  - (B) Auto
  - (C) Extern
  - (D) Static
15. Allows users to define the user defined data type identifier.
- (A) Class
  - (B) Data
  - (C) Identifier
  - (D) Type definition

16. What is the length of long double data type?
- (A) 8
  - (B) 16
  - (C) 32
  - (D) 80
17. The names beginning with an underscore are reserved for \_\_\_\_\_ variable.
- (A) Global
  - (B) Local
  - (C) Internal system
  - (D) External system
18. Which punctuator is used to group a set of C++ statements?
- (A) {}
  - (B) []
  - (C) ()
  - (D) /
19. \_\_\_\_\_ refers to the process of changing the data type of the value stored in a variable.
- (A) Type char
  - (B) Type int
  - (C) Type float
  - (D) Type cast
20. \_\_\_\_\_ data types are structure, union, class and enumeration.
- (A) Derived
  - (B) Integer
  - (C) Built-in
  - (D) User defined

21. Which operator is used to compare numerical values?
- (A) Relational
  - (B) Conditional
  - (C) Assignment
  - (D) Arithmetic
22. \_\_\_\_\_ allocates memory, based on the data type of the variable.
- (A) Interpreter
  - (B) Link
  - (C) Converter
  - (D) Compiler
23. Redirection redirects:
- (A) Screen from a device to a stream
  - (B) A device from the screen to a file
  - (C) A stream from a file to the screen
  - (D) A file from a device to a stream
24. memorizing the new items used in C++ is:
- (A) Critically important
  - (B) Completely irrelevant
  - (C) The key to wealth and success
  - (D) Something you can return to later
25. The scope resolution operator usually:
- (A) Providing a useful conceptual frame work
  - (B) Specifies a particular class
  - (C) Tells what base class is derived form
  - (D) Limits the visibility of variables to a certain function

26. An enumerated data type brings together a group of:
- (A) Constant values, integers with user defined names
  - (B) Related data type
  - (C) Items of different data type
  - (D) All of these
27. A variable defined within a block is visible:
- (A) From the point of definition onward in the block
  - (B) From the point of definition onward in the function
  - (C) From the point of definition onward in the program
  - (D) Throughout the function
28. The library function `exit ()` causes an exit from:
- (A) The program in which it occurs
  - (B) The function in which it occurs
  - (C) The block in which it occurs
  - (D) The loop in which it occurs
29. The dot operator connects which of the following two entities?
- (A) Class object and member of that class
  - (B) Class and member of that class
  - (C) Class object and a class
  - (D) Class member and class object
30. A static function:
- (A) Should be called when an object is destroyed
  - (B) Can be called using the class name and function
  - (C) Is closely connected with an individual object of a class
  - (D) Is used when a dummy object must be created

31. The function `bad()` is declared in the header file:
- (A) `<iostream.h>`
  - (B) `<stdio.h>`
  - (C) `<math.h>`
  - (D) `<stdlib.h>`
32. In C++, a function contained within a class is called:
- (A) A method
  - (B) A class function
  - (C) Member function
  - (D) None of these
33. A function argument is a:
- (A) Value sent to function by the calling program
  - (B) Value returned by the function to the calling program
  - (C) Variable in the function that receives a value from the calling program
  - (D) Way that functions resist accepting the calling program values
34. The `break` statement causes an exit:
- (A) From the innermost loop or switch
  - (B) Only from the innermost switch
  - (C) Only from the innermost loop
  - (D) From all loops and switches
35. Elements double array `[7]` is which element of the array?
- (A) Sixth
  - (B) Seventh
  - (C) Eighth
  - (D) Impossible

36. In C++, a structure brings together a group of:
- (A) Items of the same data type
  - (B) Integers with user-defined names
  - (C) Related data items, variables
  - (D) All of these
37. In C++, which of the following can legitimately be passed to a function?
- (A) A constant
  - (B) A variable
  - (C) A structure
  - (D) All of these
38. In a linked list:
- (A) Each link contains data or a pointer to data
  - (B) Links are stored in an array
  - (C) A array of pointers point to the link
  - (D) Each link contains a pointer to the next link
39. The public files in a class library usually contain:
- (A) Variable definition
  - (B) Class declarations
  - (C) Constant definitions
  - (D) Member function definitions
40. The member function can always access the data in:
- (A) Any object of the class of which it is a member
  - (B) The public part of its class
  - (C) The class of which it is member
  - (D) The object of which is a member

41. In stock, the data item placed on the stack first is:
- (A) Given as index zero
  - (B) Not given as index number
  - (C) The first data item to be removed
  - (D) The last data item to be removed
42. Braking a program into several files is desirable because:
- (A) A program can be divided functionally
  - (B) Each programmer can work on a separate file.
  - (C) Some files donâ€™t need to be recompiled each time
  - (D) Files can be marketed in object form
43. Turbo C++ library function can be used:
- (A) Draw lines and circles
  - (B) Write text in variety of fonts and sizes
  - (C) Colour any closed figure
  - (D) All of these
44. Which of the following user-defined header file extension used in c++?
- (A) hg
  - (B) cpp
  - (C) h
  - (D) hf
45. A virtual base class is useful when:
- (A) It makes sense to use a base class is ambiguous
  - (B) Identification of a function in a base class is ambiguous
  - (C) There are multiple paths form one derived class to another
  - (D) Different functions in base and derived classes have the same name

46. The keyword void is used to declare:
- (A) Objects that can be modified outside of program control
  - (B) A synonym for an existing type
  - (C) A member function that is defined in a subclass
  - (D) Absence of a type
47. Virtual functions allow to:
- (A) Use same function call to execute member function of objects from different classes
  - (B) Group objects of different classes so they can all be assessed by the same function code
  - (C) Create functions that have no body
  - (D) Create an array of type pointer to base calls that can hold pointers to derived classes
48. In new operator:
- (A) Each link contains data or a pointer to data
  - (B) Each link contains a pointer to the next link
  - (C) Links are stored in an array
  - (D) An array of pointers point to the links
49. Classes are useful because they:
- (A) Can closely model objects in the real world
  - (B) Bring together all aspects of an entity in one place
  - (C) Permit data to be hidden from other classes
  - (D) Are removed from memory when not in use
50. Copy constructor is invoked when a/an:
- (A) Argument is passed by value
  - (B) Argument is passed by reference
  - (C) Function returns for reference
  - (D) Function returns by value

51. C++ was developed by\_\_\_\_\_.
- (A) Thomas Kushz
  - (B) John Kemney
  - (C) Bjarne Stroutstrup
  - (D) James Goling
52. Which one of the following is a keyword?
- (A) Size
  - (B) Key
  - (C) Jump
  - (D) Switch
53. \_\_\_\_\_ is the smallest individual unit in a program.
- (A) Variable
  - (B) Control
  - (C) Character
  - (D) Token
54. What is a constant that contains a single character enclosed within single quotes?
- (A) Character
  - (B) Numeric
  - (C) Fixed
  - (D) Floating point
55. The modulus operator uses \_\_\_\_\_ character.
- (A) +
  - (B) \*
  - (C) /
  - (D) %

56. Every variable should be separated by\_\_\_\_\_ separator.
- (A) Dot
  - (B) Colon
  - (C) Comma
  - (D) Semicolon
57. Auto, static, extern and register are called as\_\_\_\_\_.
- (A) Static
  - (B) Register
  - (C) Auto
  - (D) Storage specifier
58. How many storage specifies are there in a C++?
- (A) 2
  - (B) 3
  - (C) 4
  - (D) 5
59. Signed, unsigned, long and short are some of the \_\_\_\_\_.
- (A) Void
  - (B) Data
  - (C) Derived data
  - (D) Modifiers
60. Logical AND (&&) and Logical OR (||)are \_\_\_\_\_ operators.
- (A) Logical
  - (B) Equality
  - (C) Class member
  - (D) Comma

61. \_\_\_\_\_ operators have lower precedence to relational and arithmetic operators.
- (A) Conditional
  - (B) Boolean
  - (C) Logical
  - (D) Relational
62. How many C++ data types are broadly classified?
- (A) 2
  - (B) 3
  - (C) 4
  - (D) 5
63. Float and double are related to \_\_\_\_\_ data type.
- (A) Void
  - (B) Floating
  - (C) Fixed
  - (D) Integral
64. Variable names must begin with\_\_\_\_\_.
- (A) #
  - (B) \$
  - (C) Number
  - (D) Letter
65. Integer values are stored in \_\_\_\_\_ bit format in binary form.
- (A) 8
  - (B) 16
  - (C) 32
  - (D) 64

66. Addressing is done using \_\_\_\_\_ number system.
- (A) Decimal
  - (B) Hexadecimal
  - (C) Octal
  - (D) Binary
67. \_\_\_\_\_ Operator requires two operands.
- (A) Logical
  - (B) Binary
  - (C) Unary
  - (D) Ternary
68. Auto variables get undefined values known as \_\_\_\_\_.
- (A) Garbage
  - (B) Auto
  - (C) Register
  - (D) Static
69. \_\_\_\_\_ storage class variables are defined in another program.
- (A) Register
  - (B) Auto
  - (C) Extern
  - (D) Static
70. \_\_\_\_\_ Type is used to declare a generic pointer in C++.
- (A) Int
  - (B) Void
  - (C) Static
  - (D) Float

71. Built in Data type is also called as \_\_\_\_\_ data type.
- (A) Fundamental
  - (B) Secondary
  - (C) Void
  - (D) Integer
72. What is the length of double data type?
- (A) 8
  - (B) 16
  - (C) 32
  - (D) 64
73. Which operator requires three operands?
- (A) Unary
  - (B) Binary
  - (C) Ternary
  - (D) Bitwise
74. What are bitwise operators?
- (A) &
  - (B) !
  - (C) ^
  - (D) All (A, B, and C)
75. The constant that should not have fractional part is \_\_\_\_\_.
- (A) Float
  - (B) Double
  - (C) Integer
  - (D) Exponent

76. What is the other name for variable?
- (A) While
  - (B) Visual
  - (C) Identifier
  - (D) Constant
77. \_\_\_\_\_ constant is a signed real number.
- (A) Char
  - (B) String
  - (C) Integer
  - (D) Floating point
78. How many operators are classified in C++?
- (A) 11
  - (B) 13
  - (C) 14
  - (D) 15
79. \_\_\_\_\_ is the C increment Operator in C++.
- (A) ++
  - (B) +\*
  - (C) \*+
  - (D) - -
80. \_\_\_\_\_ is a sequence of character surrounded by double quotes.
- (A) Constant
  - (B) Numeric
  - (C) Character
  - (D) String literal

81. How many fundamental data types are there in C++?
- (A) 1
  - (B) 2
  - (C) 3
  - (D) 4
82. \_\_\_\_\_ is an operator which returns the memory size requirements in terms of bytes.
- (A) Double
  - (B) Size
  - (C) Size of
  - (D) Long
83. What are shift operator?
- (A) <<
  - (B) >>
  - (C) >
  - (D) Both (A) and (B)
84. \_\_\_\_\_ class is another qualifier that can be added to a variable declaration.
- (A) Register
  - (B) Static
  - (C) Sub
  - (D) Storage
85. \_\_\_\_\_ storage class global variable known to all functions in the current program.
- (A) Register
  - (B) Extern
  - (C) Static
  - (D) Auto

86. The address number starts at \_\_\_\_\_.
- (A) 1
  - (B) 2
  - (C) 3
  - (D) Null
87. \_\_\_\_\_ are the kind of data that variables hold in a programming language.
- (A) Conditional type
  - (B) Constant type
  - (C) Variable type
  - (D) Data types
88. The operands and the operators are grouped in a specific logical way of evaluation is called \_\_\_\_\_.
- (A) Assignment
  - (B) Association
  - (C) Arithmetic
  - (D) Class
89. \_\_\_\_\_ data type to indicate the function does not return a value.
- (A) Static
  - (B) Main
  - (C) Public
  - (D) Void
90. \_\_\_\_\_ type is further divided into int and char.
- (A) Float
  - (B) Int
  - (C) Char
  - (D) Integral

91. The enum, unsigned int, short int and int data type's uses \_\_\_\_\_ bits.
- (A) 8
  - (B) 16
  - (C) 32
  - (D) 64
92. Which of the following are good reasons to use an object oriented language?
- (A) An object oriented program can be taught to correct its own errors
  - (B) Program statements are simpler than in procedural language
  - (C) We can define our own data types
  - (D) None of these
93. In a class specified, data or functions and designated private are accessible:
- (A) Only to public members of class
  - (B) Only if you know the password
  - (C) To any function in the program
  - (D) To member functions of that class
94. When a language has the capability to produce new data types, it is called:
- (A) Extensible
  - (B) Encapsulated
  - (C) Reprehensible
  - (D) None of these
95. Keyword typed is used to declare:
- (A) A synonym for an existing type
  - (B) Absence of a type
  - (C) Objects that can be modified outside of a program control
  - (D) A member function that is defined in a subclass

96. In C++ programming language, to write data that contains variables of type float to an object of type ofstream, which of the following should be used?
- (A) Put ( )
  - (B) Seekg ( )
  - (C) Write ( )
  - (D) Insertion operator
97. \_\_\_\_\_ variable of the same data type can be declared in a single declaration statement.
- (A) Two
  - (B) Three
  - (C) Only one
  - (D) More than one
98. The special characters like tab, backspace, line feed, null, back slash are called \_\_\_\_\_ character constant:
- (A) Floating
  - (B) String
  - (C) Graphic
  - (D) Non-graphic
99. What type of integer starts with 0X?
- (A) Decimal
  - (B) Binary
  - (C) Hexadecimal
  - (D) Octal
100. The body of function contains \_\_\_\_\_.
- (A) Return statement declaration part
  - (B) A variable
  - (C) Processing part
  - (D) All the above

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## **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 first most option will be considered valid.**
  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 Answer Booklet (O.M.R ANSWER 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.