**Roll No. .....**

| Question Booklet Number |
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**O. M. R. Serial No.**

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# M. A./M. Sc. (Second Semester)
# (NEP) EXAMINATION, 2025-26
## MATHEMATICS
## (Programming in C) (Elective)

| Paper Code | | | | | | | |
|---|---|---|---|---|---|---|---|
| B | 0 | 3 | 0 | 8 | 0 | 7 | T |

| Questions Booklet Series |
|---|
| B |

*Time : 1:30 Hours* ] [ *Maximum Marks : 75*

**Instructions to the Examinee :**

1. Do not open the booklet unless you are asked to do so.

2. The booklet contains 100 questions. Examinee is required to answer 75 questions in the OMR Answer-Sheet provided and not in the question booklet. All questions carry equal marks.

3. Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replaced.

**परीक्षार्थियों के लिए निर्देश :**

1. प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।

2. प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को 75 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, प्रश्न-पुस्तिका पर नहीं। सभी प्रश्नों के अंक समान हैं।

3. प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR आन्सर-शीट को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गए हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, तो उसे तुरन्त बदल लें।

**(Remaining instructions on the last page)** **(शेष निर्देश अन्तिम पृष्ठ पर)**

*(Only for Rough Work)*

1. Two dimensional array example :

(A) int a[5];

(B) int a[3][4];

(C) int a;

(D) int a() ;

2. Dynamic array created using :

(A) malloc()

(B) printf()

(C) scanf()

(D) sizeof()

3. Array size must be :

(A) Variable

(B) Float

(C) Constant

(D) Character

4. What will be the output of the following C programming code ?

```
int i=0;
while(i<5) ;
{
{
        printf("%d", i) ;
        printf("%d", i) ;
        printf("%d", i) ;
        i++;
}
```

(A) 0 1 2 3 4

(B) Infinite loop

(C) 0

(D) Compilation error

5. What will be the output of the following C programming code ?

```
char s[]="Hello";
printf("%d", sizeof(s));
```

(A) 5

(B) 3

(C) 4

(D) 6

6. Array index starts from :

(A) 1

(B) 0

(C) -1

(D) Depends on compiler.

7. What is the size of int a[5]; (int=4 bytes) ?

(A) 5

(B) 10

(C) 20

(D) 4

8. What is function overloading ?

(A) Process of multiple functions

(B) Multiple functions with the same name

(C) Looping functions

(D) All of the above

9. Correct declaration of 2D array is :

(A) int a[3][4];

(B) int a(3) (4) ;

(C) array a[3][4];

(D) int[3][4] a;

10. In C programming String ends with :

(A) 0

(B) '\0'

(C) NULL

(D) End

11. What will be the output of the following C programming code ?

```
int x=10;
if (x=5)
    printf("Yes");
else
    printf("No");
```

(A) Yes

(B) No

(C) Error

(D) Nothing

12. What will be the output of the following C programming code ?

```
int x=3;
switch(x)
{
case 1: printf("A") ;
case 2: printf("B") ;
default: printf("C");
}
```

(A) C

(B) ABC

(C) Error

(D) Nothing

13. What does strlen ("ABC") return ?

(A) 5

(B) 4

(C) 3

(D) 0

14. strcmp("abc", "abc") returns :

(A) 1

(B) 0

(C) –1

(D) Undefined

15. Which function finds substring ?

(A) strchr

(B) strstr

(C) strcmp

(D) strcpy

16. Array name represents :

(A) Value

(B) Size

(C) Index

(D) Base address

17. What happens if index exceeds ?

(A) Compile error

(B) Runtime error

(C) Undefined behavior

(D) 0

18. Why are user-defined functions used in C ?

(A) To increase program length

(B) To divide program into modules

(C) To reduce variables

(D) To avoid loops

19. Modular programming means :

(A) Single large function

(B) Dividing program into small functions

(C) Avoiding functions

(D) Using only main()

20. Which function is mandatory in every C program ?

(A) start()

(B) main()

(C) begin()

(D) run()

21. If prototype is missing, compiler may :

(A) Produce warning/error

(B) Ignore function

(C) Skip execution

(D) Stop main()

22. Function Prototype specifies :

(A) Function body

(B) Loop type

(C) Variable values

(D) Return type and parameters

23. Return statement is used to :

(A) End program

(B) Cal main

(C) Start loop

(D) Send value back

24. Which of the following is the example of Function with arguments and return value ?

(A) void f()

(B) int f(int,int)

(C) void f(int)

(D) int f(void)

25. Calling a function transfers control to :

(A) Loop

(B) Function body

(C) Prototype

(D) Compiler

26. Which of the following is the default passing mechanism in C ?

(A) Call by reference

(B) Call by pointer

(C) Call by value

(D) Call by loop

27. Which allows modification of actual variable ?

(A) Call by reference

(B) Call by value

(C) Void function

(D) Main function

28. A Function Calling itself is called :

(A) Loop

(B) Recursion

(C) Nesting

(D) Prototype

29. Is function inside function allowed in C ?

(A) Yes

(B) No

(C) Only once

(D) Only in main

30. Static variable inside function retains value.

(A) Yes

(B) No

(C) Sometimes

(D) Never

31. A pointer stores :

(A) Data value

(B) Data type

(C) Address of variable

(D) Operator

32. Address-of operator in C is :

(A) *

(B) &

(C) %

(D) #

33. Dereferencing operator is :

(A) &

(B) %

(C) *

(D) –>

34. Which is correct pointer declaration ?

(A) int p;

(B) int *p;

(C) *int p;

(D) pointer p;

35. Size of pointer depends on :

(A) Data type

(B) Compiler

(C) System architecture

(D) Variable value

36. If int *p=NULL; then *p causes :

(A) 0

(B) Garbage safe

(C) 1

(D) Segmentation fault

37. %p is used to print :

(A) Value

(B) Address

(C) Float

(D) Char

38. Pointer arithmetic increases address by :

(A) 1 byte

(B) 4 always

(C) 8 always

(D) Size of data type

39. Correct declaration for float pointer is :

(A) float p;

(B) float *p;

(C) *float p;

(D) pointer float p;

40. Which is invalid ?

(A) int *p;

(B) char c;

(C) float p;

(D) double *d;

41. int* p, q; means :

(A) Both pointers

(B) Only p pointer

(C) Only q pointer

(D) Error

42. Wild pointer means :

(A) Initialized pointer

(B) NULL pointer

(C) Uninitialized pointer

(D) File pointer

43. void *p; is called :

(A) Null pointer

(B) Generic pointer

(C) Wild pointer

(D) File pointer

44. * (a + 2) equals :

(A) a[2]

(B) a[0]

(C) Address

(D) Error

45. What is the correct syntax to declare a file pointer ?

(A) file *fp;

(B) FILE fp;

(C) FILE *fp;

(D) file fp;

46. Which header file is required for file handling in C ?

(A) conio.h

(B) stdlib.h

(C) stdio.h

(D) string.h

47. What happens if we open a file in "w" mode and the file already exists ?

(A) File is appended

(B) File is deleted

(C) File is overwritten

(D) Error occurs

48. Which function is used to read a character from a file ?

(A) getchar()

(B) fgetc()

(C) getc()

(D) Both (B) and (C)

49. Which function is used to check end of file ?

(A) end()

(B) feof()

(C) eof()

(D) fileend()

50. Which function returns the current position of file pointer ?

(A) fseek()

(B) ftell()

(C) rewind()

(D) tell()

51. C language was developed by :

(A) Dennis Ritchie

(B) James Gosling

(C) Bjarne Stroustrup

(D) Guido van Rossum

52. C is a :

(A) Low level language

(B) High level language

(C) Middle level language

(D) Machine language

53. C language is derived from :

(A) A language

(B) B language

(C) BCPL

(D) Both B and BCPL

54. C programming supports :

(A) Structured programming

(B) Object-oriented programming

(C) Functional programming

(D) Logic programming

55. Which symbol is used to end a statement in C ?

(A) .

(B) ,

(C) ;

(D) :

56. Which header file is required for printf() ?

(A) stdlib.h

(B) conio.h

(C) math.in

(D) stdio.h

57. Multi-line comments are written using :

(A) //

(B) ##

(C) /* */

(D) – –

58. Which is correct variable declaration ?

(A) int a;

(B) integer a;

(C) a int;

(D) num a;

59. Format specifier for integer :

(A) %f

(B) %c

(C) %d

(D) %s

60. Variable names cannot start with :

(A) Letter

(B) Number

(C) Underscore

(D) Alphabet

61. Multiple variables can be declared as :

(A) int a b;

(B) int a, b;

(C) int a :b;

(D) int a & b;

62. Value of uninitialized local variable is :

(A) 0

(B) NULL

(C) 1

(D) Garbafe value

63. Static variable retains value.

(A) Yes

(B) No

(C) Sometimes

(D) Error

64. Symbolic constant is defined using :

(A) const

(B) #define

(C) int

(D) static

65. 10 % 3 equals :

(A) 3

(B) 1

(C) 0

(D) 10

66. Relational operator for equality is :

(A) =

(B) = =

(C) = = =

(D) !=

67. How many keywords are there in C language ?

(A) 32

(B) 33

(C) 64

(D) 18

68. Which operator has highest precedence ?

(A) +

(B) *

(C) =

(D) ++

69. Which is a compound assignment operator ?

(A) +=

(B) = =

(C) &&

(D) ||

70. If a = 5, ++a gives :

(A) 5

(B) 6

(C) 4

(D) Error

71. Operator precedence decides :

(A) Execution speed

(B) Compilation

(C) Order of evalution

(D) Output format

72. Operators are used to :

(A) Store data

(B) Perform operations on operands

(C) Define variables

(D) End program

73. In a && b, if a is false :

(A) b is not evaluated

(B) b is evaluated

(C) Error occurs

(D) Both evaluated

74. Which function prints a single character ?

(A) putchar()

(B) puts()

(C) printf()

(D) gets()

75. If & is missing in scanf() :

(A) Works fine

(B) Compile error

(C) Runtime error

(D) Logical error

76. printf("\n"); means :

(A) Print slash n

(B) New line

(C) Tab

(D) Space

77. if statement executes block when condition is :

(A) 0

(B) False

(C) Negative

(D) Non-zero

78. The else block executes when :

(A) Condition true

(B) Condition false

(C) Always

(D) Never

79. The conditional operator is :

(A) &&

(B) ?:

(C) ||

(D) = =

80. The expression used in switch must be of type :

(A) float

(B) double

(C) int or char

(D) string

81. If break is not used in switch :

(A) Next case executes

(B) Errer occurs

(C) Program stops

(D) Nothing happens

82. Dangling else problem is related to :

(A) switch

(B) loop

(C) nested if

(D) goto

83. Nested if is used for :

(A) Multiple conditions

(B) Looping

(C) Printing

(D) Declaring

84. In else-if ladder, conditions are checked :

(A) Randomly

(B) Sequentially

(C) Reverse

(D) Parallel

85. Break statement is used to :

(A) Exit switch

(B) Continue loop

(C) Stop program

(D) Restart

86. Goto is used for :

(A) Loop

(B) Jump statement

(C) Selection

(D) Condition

87. Switch statement is preferred when :

(A) Checking ranges

(B) Looping

(C) Multiple fixed values

(D) Comparing floats

88. A label in C must be followed by :

(A) ;

(B) :

(C) {}

(D) ()

89. Case labels must be :

(A) Variables

(B) String

(C) Float values

(D) Constants

90. What happens if break is not used in switch ?

(A) Compilation error

(B) Fall-through to next case

(C) Program stops

(D) Nothing

91. Which of the following is bad programming practice ?

(A) switch

(B) if-else

(C) goto

(D) break

92. In expression $x$ ? $y$ : $z$, if $x$ is 0, the result is :

(A) $z$

(B) $y$

(C) $x$

(D) Error

93. Nested ternary operators are :

(A) Allowed

(B) Not Allowed

(C) Compile error

(D) Only in C++

94. The while loop is :

(A) Exit controlled

(B) Entry controlled

(C) Infinite loop

(D) None of the above

95. Which loop executes at least once ?

(A) while

(B) for

(C) do-while

(D) if

96. For loop structure has how many expressions ?

(A) 1

(B) 2

(C) 3

(D) 4

97. Nested loop means :

(A) Loop inside loop

(B) Multiple loops

(C) Infinite loop

(D) None of the above

98. Continue in while loop transfers control to :

(A) End of program

(B) Next iteration

(C) Exit

(D) Switch

99. If condition in for loop missing, it becomes :

(A) Error

(B) Infinite loop

(C) Zero loop

(D) None of the above

100. Array is :

(A) Pointer

(B) Different type variables

(C) Function

(D) Collection of variable of same type

*(Only for Rough Work)*

4. Four alternative answers are mentioned for each question as—A, B, C & D in the booklet. The candidate has to choose the correct answer and mark the same in the OMR Answer-Sheet as per the direction :

**Example :**

**Question :**

Q. 1 (A) ● (C) (D)
Q. 2 (A) (B) ● (D)
Q. 3 (A) ● (C) (D)

Illegible answers with cutting and over-writing or half filled circle will be cancelled.

5. Each question carries equal marks. Marks will be awarded according to the number of correct answers you have.

6. All answers are to be given on OMR Answer Sheet only. Answers given anywhere other than the place specified in the answer sheet will not be considered valid.

7. Before writing anything on the OMR Answer Sheet, all the instructions given in it should be read carefully.

8. After the completion of the examination candidates should leave the examination hall only after providing their OMR Answer Sheet to the invigilator. Candidate can carry their Question Booklet.

9. There will be no negative marking.

10. Rough work, if any, should be done on the blank pages provided for the purpose in the booklet.

11. To bring and use of log-book, calculator, pager and cellular phone in examination hall is prohibited.

12. In case of any difference found in English and Hindi version of the question, the English version of the question will be held authentic.

**Impt. :** On opening the question booklet, first check that all the pages of the question booklet are printed properly. If there is any discrepancy in the question Booklet, then after showing it to the invigilator, get another question Booklet of the same series.

4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर—A, B, C एवं D हैं। परीक्षार्थी को उन चारों विकल्पों में से सही उत्तर छाँटना है। उत्तर को OMR आन्सर-शीट में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

**उदाहरण :**

**प्रश्न :**

प्रश्न 1 (A) ● (C) (D)
प्रश्न 2 (A) (B) ● (D)
प्रश्न 3 (A) ● (C) (D)

अपठनीय उत्तर या ऐसे उत्तर जिन्हें काटा या बदला गया है, या गोले में आधा भरकर दिया गया, उन्हें निरस्त कर दिया जाएगा।

5. प्रत्येक प्रश्न के अंक समान हैं। आपके जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।

6. सभी उत्तर केवल ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर ही दिये जाने हैं। उत्तर-पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।

7. ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाये।

8. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी OMR Answer Sheet उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें। परीक्षार्थी अपने साथ प्रश्न-पुस्तिका ले जा सकते हैं।

9. निगेटिव मार्किंग नहीं है।

10. कोई भी रफ कार्य, प्रश्न-पुस्तिका के अन्त में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।

11. परीक्षा-कक्ष में लॉग-बुक, कैलकुलेटर, पेजर तथा सेल्युलर फोन ले जाना तथा उसका उपयोग करना वर्जित है।

12. प्रश्न के हिन्दी एवं अंग्रेजी रूपान्तरण में भिन्नता होने की दशा में प्रश्न का अंग्रेजी रूपान्तरण ही मान्य होगा।

**महत्वपूर्ण :** प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्न-पुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सिरीज की दूसरी प्रश्न-पुस्तिका प्राप्त कर लें।