

If $a=4.568$ and $b=6.762$, using four digit arithmetic find $\frac{3a}{2b}$

Option	Description
<input type="radio"/> A	0.1013E3
<input type="radio"/> B	0.1013E2
<input type="radio"/> C	0.1013E1
<input type="radio"/> D	Insufficient data

In a polynomial $f(x) = a_0x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0$ with all real coefficients, the lower limit of root is _____.

Option	Description
<input type="radio"/> A	greater than or equal to lowest value of the coefficients
<input type="radio"/> B	Summation of all coefficeints
<input type="radio"/> C	less than or equal to highest value of the coefficient
<input type="radio"/> D	cannot be determined

With respect to user defined functions, what is true about the statements on line numbers 4, 5 and 9 respectively ?

```
1. void main()  
2. {  
3. int j=5,y;  
4. float abc(int);  
5. y=abc(j);  
6. printf("%d", y);  
7. }  
8.  
9. float abc(int x)  
10. { return(x*x); }
```

Option	Description
<input type="radio"/> A	function definition, calling, declaration
<input type="radio"/> B	function declaration, calling, definition
<input type="radio"/> C	function definition, declaration, calling

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is 2. Using Birge-Vieta method, the root after iteration 1 is_____.

Option	Description
<input type="radio"/> A	-0.27561
<input type="radio"/> B	-2.7561
<input type="radio"/> C	1.2439
<input type="radio"/> D	2.7561

```
1. void main()
2. {
3.   int j=5,y;
4.   float abc(int);
5.   y=abc(j);
6.   printf("%d", y);
7. }
8.
9. float abc(int x)
10. { return(x*x); }
```

Option

Description

☐ A

function definition, calling, declaration

☐ B

function declaration, calling, definition

☐ C

function definition, declaration, calling

☐ D

function declaration, definition, calling

```
1. void main()
2. {
3.   int j=5,y;
4.   float abc(int);
5.   y=abc(j);
6.   printf("%d", y);
7. }
8.
9. float abc(int x)
10. { return(x*x); }
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Option

Description

☐ A

function definition, calling, declaration

☒ B

function declaration, calling, definition

☐ C

function definition, declaration, calling

☐ D

function declaration, definition, calling

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is 2. Using Birge-Vieta method, the root after iteration 1 is_____.

Option	Description
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Determine which of the following is not allowed in C.

Option	Description
<input type="radio"/> A	<code>\t</code>
<input type="radio"/> B	<code>\n</code>
<input type="radio"/> C	<code>\b</code>
<input type="radio"/> D	<code>\p</code>

The default return data type in a function definition is

Option	Description
<input type="radio"/> A	void
<input type="radio"/> B	int
<input type="radio"/> C	float
<input type="radio"/> D	char

Which of the following 'for' loop sets up an infinite loop ?

Option	Description
<input type="radio"/> A	One which has no initialization expression.
<input type="radio"/> B	One which has no looping condition.
<input type="radio"/> C	One which has more than one looping conditions.
<input type="radio"/> D	All of above.

The format specifier '%i' is another format specifier used for _____ data type.

Option

Description



A

char



B

int



C

long int



D

none of these

What is a variable declaration ?

Option	Description
<input type="radio"/> A	The assignments of properties to a variable.
<input type="radio"/> B	The assignment of memory space to a variable.
<input type="radio"/> C	The assignment of memory space and properties to a variable.
<input type="radio"/> D	The assignment of symbol and properties to a variable.

Which of the following is the correct order of evaluation for the following expression?

$z = x + y * z / 4 \% 2 - 1;$

Option	Description
<input type="radio"/> A	$/ * \% - + =$
<input type="radio"/> B	$= * / \% + -$
<input type="radio"/> C	$* / \% + - =$
<input type="radio"/> D	$\% * / - + =$

$0.4546E5+0.5433E5=$ _____

Option	Description
<input type="radio"/> A	0.9979
<input type="radio"/> B	0.9979E5
<input type="radio"/> C	0.9979E10
<input type="radio"/> D	0.9979E25

Which is not a source of error in numerical methods?

Option	Description
<input type="radio"/> A	Absolute error
<input type="radio"/> B	Round-off error
<input checked="" type="radio"/> C	Truncation error
<input type="radio"/> D	Inherent error

The percentage error is _____, if 625.483 is approximated to three significant figures.

Option	Description
<input type="radio"/> A	0.077%
<input type="radio"/> B	0.77%
<input type="radio"/> C	0.483%
<input type="radio"/> D	48.3%

$0.6434E99 + 0.4845E99 =$ _____



Option	Description
<input type="radio"/> A	0.1128E198
<input type="radio"/> B	0.1128E100
<input type="radio"/> C	Overflow condition occurs
<input type="radio"/> D	0.1128

An equation with odd degree has _____ root/s



Option	Description
<input type="radio"/> A	all real
<input type="radio"/> B	all positive
<input type="radio"/> C	all complex
<input type="radio"/> D	at least one real

An equation with odd degree has _____ root/s

Option	Description
<input type="radio"/> A	all real
<input checked="" type="radio"/> B	all positive
<input type="radio"/> C	all complex
<input type="radio"/> D	at least one real

If $f(x) = x^4 - 3x^3 + 4x^2 + 3x - 2 = 0$, in Sturm's sequence $f_1(x)$ is

Option	Description
<input type="radio"/> A	$4x^3 - 9x^2 + 8x + 3$
<input type="radio"/> B	$x^4 - 3x^3 + 4x^2 + 3x - 2$
<input type="radio"/> C	$x^3 - 3x^2 + 4x + 3$
<input type="radio"/> D	None of these

According to intermediate value theorem, the root of $x^2 + \log_e(x) - 12 = 0$ lies between _____.

Option	Description
<input type="radio"/> A	[0.5,1]
<input type="radio"/> B	[1,2]
<input type="radio"/> C	[2,3]
<input type="radio"/> D	[3,4]

The format specifier '%i' is an another format specifier used for _____ data type.

Option	Description
<input type="radio"/> A	char
<input type="radio"/> B	int
<input type="radio"/> C	long int
<input type="radio"/> D	none of these

Which of the following is correct about the given code?

```
void main()
{ int i = 10 ;

while(i <= 50)
{ if (i % 10 == 0)
continue;
else
break;
i += 10;
printf("%d ", i); }
}
```

Question #10**2 marks**

What will be the output of following code?

```
void main()  
{ int i = 30 , j = 25%25;  
  
if (i == j)  
printf(" In if ");  
else  
printf(" In else ");  
printf(" In main ");  
}
```


Question #13

2 marks

The percentage error is _____, if 625.483 is approximated to three significant figures.

Option

Description

☐ A

0.077%

☐ B

0.77%

☐ C

0.483%

☐ D

48.3%

Question #15

1 marks

An equation with odd degree has _____ root/s

Option

Description



A

all real



B

all positive



C

all complex



D

at least one real

In equation $f(x) = x^{2n} - a$ (where n is any integer and a is any real positive value) number of complex roots of $f(x) = 0$ are

Option	Description
<input type="radio"/> A	$n-2$
<input type="radio"/> B	$2n-2$
<input type="radio"/> C	Not more than one
<input type="radio"/> D	$2n-1$

Which of the following are data types

Option	Description
<input type="radio"/> A	unsigned long int
<input type="radio"/> B	double
<input type="radio"/> C	float
<input type="radio"/> D	All the above



Which of the following are data types

- | Option | Description |
|-------------------------|-------------------|
| <input type="radio"/> A | unsigned long int |
| <input type="radio"/> B | double |
| <input type="radio"/> C | float |
| <input type="radio"/> D | All the above |



Which is not a source of error in numerical methods?

Option

Description



A

Absolute error



B

Round-off error



C

Truncation error



D

Inherent error

In equation $f(x) = x^{2n} - a$ (where n is any integer and a is any real positive value) number of complex roots of $f(x) = 0$ are

Option	Description
<input checked="" type="radio"/> A	$n-2$
<input type="radio"/> B	$2n-2$
<input type="radio"/> C	Not more than one
<input type="radio"/> D	$2n-1$

According to intermediate value theorem, the root of $x^2 + \log_e(x) - 12 = 0$ lies between _____.

Option	Description
<input type="radio"/> A	[0.5,1]
<input type="radio"/> B	[1,2]
<input type="radio"/> C	[2,3]
<input checked="" type="radio"/> D	[3,4]

An equation with odd degree has _____ root/s

Option

Description



A

all real



B

all positive



C

all complex



D

at least one real

Which is not a source of error in numerical methods?

Option

Description



A

Absolute error



B

Round-off error



C

Truncation error



D

Inherent error

Which of the following is the correct order of evaluation for the following expression?

$z = x + y * z / 4 \% 2 - 1;$

Option

Description



A

$/ * \% - + =$



B

$= * / \% + -$



C

$* / \% + - =$



D

$\% * / - + =$

The word 'int' is a

Option	Description
<input type="radio"/> A	Keyword
<input type="radio"/> B	Password
<input type="radio"/> C	Header file
<input type="radio"/> D	None of the above

Question #2

1 marks

A `return` statement is used _____ .

Option	Description
<input checked="" type="radio"/> A	to exit from the program
<input type="radio"/> B	to return the value from a function
<input type="radio"/> C	to terminate the iterative loop
<input type="radio"/> D	all of the above

Which of the following function needs inclusion of conio.h in the program header ?

Option	Description
<input type="radio"/> A	printf()
<input type="radio"/> B	scanf()
<input type="radio"/> C	getch()
<input type="radio"/> D	all of above

Question #3

1 marks

The control statement that allows us to make a decision from number of choices is called _____

Option	Description
<input type="radio"/> A	if-else
<input type="radio"/> B	for
<input type="radio"/> C	array
<input type="radio"/> D	do-while

Which of the following function needs inclusion of conio.h in the program header ?

Option	Description
<input type="radio"/> A	printf()
<input type="radio"/> B	scanf()
<input type="radio"/> C	getch()
<input type="radio"/> D	all of above



Which of the following function needs inclusion of conio.h in the program header ?

Option

Description

☐ A

printf()

☐ B

scanf()

☐ C

getch()

☐ D

all of above

The C language supports

Option

Description

☐ A

Library functions

☐ B

User defined functions

☐ C

both A & B

☐ D

none of the above

Determine which of the following is not allowed in C.

Option	Description
<input type="radio"/> A	<code>\t</code>
<input type="radio"/> B	<code>\n</code>
<input type="radio"/> C	<code>\b</code>
<input type="radio"/> D	<code>\p</code>

Question #4

1 marks

Which of the following is not an entry controlled loop ?

Option	Description
<input type="radio"/> A	while loop
<input type="radio"/> B	for loop
<input type="radio"/> C	do-while loop
<input type="radio"/> D	All of the above

Determine which of the following is a not allowed in C.

Option

Description

☐ A

`\t`

☐ B

`\n`

☒ C

`\b`

☐ D

`\p`

Question #4

1 marks

Which of the following is not an entry controlled loop ?

Option	Description
<input type="radio"/> A	while loop
<input type="radio"/> B	for loop
<input checked="" type="radio"/> C	do-while loop
<input type="radio"/> D	All of the above

Question #5

1 marks

The keyword `void` in function declaration indicates _____ .

Option	Description
<input type="radio"/> A	The function will return 'int' type of value.
<input type="radio"/> B	The function will return a default value.
<input checked="" type="radio"/> C	A function will not return any value.
<input type="radio"/> D	The function will return 'void' type of value.

Question #6

1 marks

Format specifier %s is used in _____ data type

Option	Description
<input type="radio"/> A	array
<input checked="" type="radio"/> B	integer
<input type="radio"/> C	string
<input type="radio"/> D	Signed integer

What is a variable declaration ?

Option	Description
<input checked="" type="radio"/> A	The assignments of properties to a variable.
<input type="radio"/> B	The assignment of memory space to a variable.
<input type="radio"/> C	The assignment of memory space and properties to a variable.
<input type="radio"/> D	The assignment of symbol and properties to a variable.

How will you write comment in a `C` Program?



Option

Description

☐ A

/My name is

☐ B

//My name is //

☐ C

/* My name is */

☐ D

/* My name is

How will you write comment in a `C` Program?

- | Option | Description |
|------------------------------------|------------------|
| <input type="radio"/> A | /My name is |
| <input type="radio"/> B | //My name is // |
| <input checked="" type="radio"/> C | /* My name is */ |
| <input type="radio"/> D | /* My name is |

Question #7

1 marks


Following is a correct statement to read the character from input into a variable – ch :

Option	Description
<input type="radio"/> A	<code>scanf("%ch");</code>
<input type="radio"/> B	<code>scanf("%C", ch);</code>
<input checked="" type="radio"/> C	<code>scanf("%c", &ch);</code>
<input type="radio"/> D	<code>scanf("%f", &ch);</code>

How will you write comment in a `C` Program?

Option	Description
<input type="radio"/> A	<code>/My name is</code>
<input type="radio"/> B	<code>//My name is //</code>
<input checked="" type="radio"/> C	<code>/* My name is */</code>
<input type="radio"/> D	<code>/* My name is</code>

Identify the correct statement given to input the value of **double x** ;

Option	Description
<input type="radio"/> A	<code>scanf (" % d" ,&x);</code>
<input type="radio"/> B	<code>scanf (" % f" ,&x);</code>
<input checked="" type="radio"/> C	<code>scanf (" % d" ,*x);</code> 
<input type="radio"/> D	<code>scanf (" % lf" ,&x);</code>

With respect to user defined functions, what is true about the statements on line numbers 4, 5 and 9 respectively ?

```
1. void main()  
2. {  
3. int j=5,y;  
4. float abc(int);  
5. y=abc(j);  
6. printf("%d", y);  
7. }  
8. float abc(int x)  
10. { return(x*x); }
```

Option	Description
<input type="radio"/> A	function definition, calling, declaration
<input type="radio"/> B	function declaration, calling, definition
<input checked="" type="radio"/> C	function definition, declaration, calling
<input type="radio"/> D	function declaration, definition, calling

What is the output of the following program segment?

```
main()
{
int i = ++2;
printf("%d\n", i);
}
```

Option	Description
<input type="radio"/> A	3
<input type="radio"/> B	Display garbage value
<input type="radio"/> C	Compile-time error
<input type="radio"/> D	2


```
int x=10 ,y=20;  
if ( (x+5)>10 || (x<y))  
printf("%d",x);  
else  
printf("%d",y);
```

Option	Description
<input type="radio"/> A	20
<input type="radio"/> B	15
<input type="radio"/> C	10

What is output of a, b, c, d, e

```
void main( )  
{  
  int a=10, b=10;  
  if (a==10);  
  c=a*a;  
  elseif (c!=b)  
  d=100;  
  else  
  e=100;
```

Option	Description
<input checked="" type="radio"/> A	a=10, b=10, c=100, d=gabrage value, e=gabrage value
<input type="radio"/> B	a=10, b=10, c=100, d=100, e=gabrage value

Question #12

1 marks

If a normalized floating point number is rounded after d significant digits, the maximum absolute error will be -

Option	Description
<input type="radio"/> A	$\leq 1.$
<input type="radio"/> B	$> 1.$
<input type="radio"/> C	$\leq 0.5.$
<input type="radio"/> D	None of the above.

Question #13

2 marks

In decimal number system, if four significant digits are used to represent a floating point number, machine epsilon is _____.

Option	Description
<input type="radio"/> A	0.001
<input type="radio"/> B	0.0001
<input type="radio"/> C	0.01
<input type="radio"/> D	0.1

If mantissa is 10 and exponent is 7, the number is

Option	Description
<input type="radio"/> A	1.00E+08
<input type="radio"/> B	1.00E-06
<input type="radio"/> C	7.00E+01
<input type="radio"/> D	7.00E-01

Question #13

2 marks

In decimal number system, if four significant digits are used to represent a floating point number, machine epsilon is _____.

Option	Description
<input checked="" type="radio"/> A	0.001
<input type="radio"/> B	0.0001
<input type="radio"/> C	0.01
<input type="radio"/> D	0.1

Question #14

2 marks

$(0.9998E1)/(0.1000E-99)=$ _____

Option	Description
<input type="radio"/> A	0.9998E101
<input type="radio"/> B	Overflow result
<input type="radio"/> C	0.9998E-98
<input type="radio"/> D	Can not be determined

The number 10.551256781 when chopped to four decimal places yields _____.

Option

Description

☐ A

10.5512

☐ B

10.5513

☐ C

10.5511

☐ D

10.55

Question #14

2 marks

$(0.9998E1)/(0.1000E-99)=$ _____

Option

Description

☐ A

0.9998E101

☐ B

Overflow result

☐ C

0.9998E-98

☐ D

Can not be determined

Question #15

1 marks

Performing synthetic division on n^{th} degree polynomial with coefficients a_0, a_1, \dots, a_n by dividing $(x - p)$, the remainder is

Option	Description
<input type="radio"/> A	$a_n - pb_{n-1}$
<input type="radio"/> B	$a_n + pb_{n-1}$
<input type="radio"/> C	$a_{n-1} - pb_n$
<input type="radio"/> D	$a_{n-1} + pb_n$

Question #16

1 marks

In Birge-Vieta method, if the b_n is low at any value, then this value is _____.

Option	Description
<input checked="" type="radio"/> A	away from root
<input type="radio"/> B	near to root
<input type="radio"/> C	at zero
<input type="radio"/> D	at infinity

The number 10.551256781 when chopped to four decimal places yields _____.

Option	Description
<input type="radio"/> A	10.5512
<input type="radio"/> B	10.5513
<input type="radio"/> C	10.5511
<input type="radio"/> D	10.55

If $u = \frac{x^2}{y^2}$ and $x = y = 2$, absolute error in x is 0.005 and y is 0.01, absolute error in u is

Option

Description

☐ A

0.00015

☐ B

0.005

☐ C

0.015

☐ D

0.01

Question #17

1 marks

According to Sturm's theorem, the number of real roots of the equation $f(x)=0$ in the interval $[a, b]$ equals to _____ of number of sign changes in the Sturm's sequence at $x=a$ and $x=b$ provided $f(a)$ and $f(b)$ are non-zero.

Option	Description
<input type="radio"/> A	Addition
<input type="radio"/> B	Difference
<input type="radio"/> C	Multiplication
<input type="radio"/> D	Division

Question #18

2 marks

In Sturm's sequence, if $f(x) = x^2 + 5x + 6 = 0$, $f_2(x)$ is

Option	Description
<input type="radio"/> A	$\frac{1}{4}$
<input checked="" type="radio"/> B	$-\frac{1}{4}$
<input type="radio"/> C	-4
<input type="radio"/> D	None of these

Question #19

2 marks

According to intermediate value theorem, the smallest positive root of $3x - \log_{10} x = 6$ lies between _____.

Option	Description
<input type="radio"/> A	[0,1]
<input type="radio"/> B	[1,2]
<input type="radio"/> C	[2,3]
<input type="radio"/> D	[3,4]

Question #15

1 marks

Performing synthetic division on n^{th} degree polynomial with coefficients a_0, a_1, \dots, a_n by dividing $(x - p)$, the remainder is

Option	Description
<input type="radio"/> A	$a_n - pb_{n-1}$
<input type="radio"/> B	$a_n + pb_{n-1}$
<input type="radio"/> C	$a_{n-1} - pb_n$
<input type="radio"/> D	$a_{n-1} + pb_n$

If $a=4.568$ and $b=6.762$, using four digit arithmetic find $\frac{3a}{2b}$

Option	Description
<input type="radio"/> A	0.1013E3
<input type="radio"/> B	0.1013E2
<input type="radio"/> C	0.1013E1
<input type="radio"/> D	Insufficient data

If a=4.568 and b=6.762, using four digit arithmetic find $\frac{3a}{2b}$

Option	Description
<input type="radio"/> A	0.1013E3
<input type="radio"/> B	0.1013E2
<input type="radio"/> C	0.1013E1
<input type="radio"/> D	Insufficient data

The $f(x)=ax^3-bx^2+cx-d$ are having all real positive coefficients. According to Descarte's rule of signs number of real negative roots is

Option	Description
<input type="radio"/> A	three
<input type="radio"/> B	not more than three
<input type="radio"/> C	zero
<input type="radio"/> D	can not determined

Performing synthetic division on n^{th} degree polynomial with coefficients a_0, a_1, \dots, a_n by dividing $(x - p)$, the remainder is

Option

Description



A

$$a_n - pb_{n-1}$$



B

$$a_n + pb_{n-1}$$



C

$$a_{n-1} - pb_n$$



D

$$a_{n-1} + pb_n$$

In a polynomial $f(x) = a_0x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0$ with all real coefficients, the lower limit of root is _____.

Option	Description
<input type="radio"/> A	greater than or equal to lowest value of the coefficients
<input type="radio"/> B	Summation of all coefficeints
<input type="radio"/> C	less than or equal to highest value of the coefficient
<input type="radio"/> D	cannot be determined

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is 2. Using Birge-Vieta method, the root after iteration 1 is_____.

Option	Description
<input type="radio"/> A	-0.27561
<input type="radio"/> B	-2.7561
<input type="radio"/> C	1.2439
<input type="radio"/> D	2.7561

Determine which of the following is a not allowed in C.

Option

Description

☐ A

`\t`

☐ B

`\n`

☐ C

`\b`

☐ D

`\p`

Determine which of the following is not allowed in C.

Option

Description

☐ A

`\t`

☐ B

`\n`

☐ C

`\b`

☒ D

`\p`

Question #16

1 marks

In Birge-Vieta method, c_{n-1} is given by _____ in which p is initial approximation

Option**Description**☐ A

$$\frac{dR}{dp}$$

☐ B

$$\frac{db_n}{dp}$$

☐ C

$$b_{n-1} + pc_{n-2}$$

☐ D

All of these

Question #2

1 marks

What happens when the loop condition no longer satisfies ?

Option

Description

- | | |
|------------------------------------|--|
| <input checked="" type="radio"/> A | The program execution stops. |
| <input type="radio"/> B | The control comes out of the program. |
| <input type="radio"/> C | The statement immediately after the loop will be executed. |
| <input type="radio"/> D | The initialization expression will be evaluated again. |

Question #3

1 marks

To combine two conditions which of the following operators are used?

Option

Description

☒ A

Conditional operators.

☐ B

Relational operators.

☐ C

Arithmetic operators.

☐ D

Logical operators.



The Sturm's sequence is given as

$$f(x) = x^2 - 3x - 4 = 0$$

$$f_1(x) = 2x - 3$$

$$f_2(x) = \frac{25}{2}$$

The number real roots lies in interval at $x=5$ and $x=0$ are_____

Option	Description
<input checked="" type="radio"/> A	3
<input type="radio"/> B	0
<input type="radio"/> C	2
<input type="radio"/> D	1

Question #16

1 marks

In Birge-Vieta method, c_{n-1} is given by _____ in which p is initial approximation

Option**Description**☐ A

$$\frac{dR}{dp}$$

☐ B

$$\frac{db_n}{dp}$$

☐ C

$$b_{n-1} + pc_{n-2}$$

☐ D

All of these

Question #2

1 marks

What happens when the loop condition no longer satisfies ?

Option

Description

- | | |
|------------------------------------|--|
| <input checked="" type="radio"/> A | The program execution stops. |
| <input type="radio"/> B | The control comes out of the program. |
| <input type="radio"/> C | The statement immediately after the loop will be executed. |
| <input type="radio"/> D | The initialization expression will be evaluated again. |

Question #3

1 marks

To combine two conditions which of the following operators are used?

Option

Description

☒ A

Conditional operators.

☐ B

Relational operators.

☐ C

Arithmetic operators.

☐ D

Logical operators.



Question #3

1 marks

To combine two conditions which of the following operators are used?

Option	Description
<input checked="" type="radio"/> A	Conditional operators.
<input type="radio"/> B	Relational operators.
<input type="radio"/> C	Arithmetic operators.
<input type="radio"/> D	Logical operators.

Question #8

1 marks

How will you write comment in a `C` Program?

Option

Description

☐ A

/My name is

☐ B

//My name is //

☒ C

/* My name is */

☐ D

/* My name is

Question #11

1 marks

The value of a number is recorded as 10 having error is 0.01, absolute error in $(10-10)$ is



Option

Description

☒ A

0.01

☐ B

0

☐ C

0.02

☐ D

0.04

Question #2

1 marks

The format specifier '%i' is an another format specifier used for ____ data type.

Option

Description

☐ A

char

☒ B

int

☐ C

long int

☐ D

none of these

Question #3

1 marks

An unsigned integer variable contains values

- | Option | Description |
|-------------------------|-------------------------------|
| <input type="radio"/> A | only zeros |
| <input type="radio"/> B | Less than zero |
| <input type="radio"/> C | Greater than or equal to zero |
| <input type="radio"/> D | (B) & (C) both |

Question #5

1 marks

Which of the following is true for variable names in C?

- | Option | Description |
|-------------------------|--|
| <input type="radio"/> A | They can contain alphanumeric characters as well as special characters |
| <input type="radio"/> B | It is not an error to declare a variable to be one of the keywords (like goto, static) |
| <input type="radio"/> C | Variable names cannot start with a digit |
| <input type="radio"/> D | Variable can be with length of 31 characters |



Question #7

1 marks

What will be the value of b after executing following statement, if initially a=10 and b=2 ?

$b += a/2;$

Option

Description

☐ A

7

☐ B

5

☐ C

2

☐ D

Expression is invalid

Question #9 2 marks

What will be the output when the following segment is executed ?

```
int a=0,b=2;  
if(a==0)b=0;  
else b *=10;
```

Option

Description

☐ A

20

☐ B

0

☐ C

2

Question #11

1 marks

$0.5433E5 + 0.5433E5 = \underline{\hspace{2cm}}$



Option

Description

☐ A

0.1087E10

☐ B

0.1087E6

☐ C

0.1087E5

☐ D

0.1087E0

Question #15

2 marks

If $u = 2x^2 + 2y^2$ and $x=y=1$, the absolute error in u is _____ if error in x is 0.001 and in y is 0.005.



Option

Description

☐ A

0.012

☐ B

0.024

☐ C

1.2

☐ D

2.4

Question #6

1 marks

The word 'int' is a

Option	Description
<input type="radio"/> A	Keyword
<input type="radio"/> B	Password
<input type="radio"/> C	Header file
<input type="radio"/> D	None of the above

Question #14

2 marks

If $a=4.568$ and $b=6.762$, using four digit arithmetic find $2a - 3b$

Option

Description

☐ A

0.1115E2

☐ B

-0.1115E-2

☐ C

0.1115E-2

☐ D

-0.1115E2

Question #7

1 marks

Which of the following is a correct statement in C ?

Option

Description

☐ A

#define pi = 3.142

☐ B

define pi = 3.142;

☐ C

#define pi 3.142;

☐ D

#define pi 3.142

Question #8

1 marks

Which of the following is not a valid assignment statement?

Option

Description

☐ A

`x=10;`

☐ B

`x+=10`

☐ C

`x/=10`

☐ D

`x=*100;`

Question #11

1 marks

If a number is given as 0.0002456, total number of significant digits are

Option

Description

☐ A

7

☐ B

4

☐ C

3

☐ D

1

Question #15

1 marks

In a polynomial $f(x) = a_0x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0$ with all real coefficients, if the order n is odd, then the equation has _____

Option**Description**

A

atleast one real root



B

all complex roots



C

all real roots



D

cannot be determined

If two numbers are x_1 with absolute error $ea1$ and x_2 with absolute error $ea2$, the absolute error in $\frac{x_1}{x_2}$ is _____ .

Option	Description
<input type="radio"/> A	$\frac{(x_1 + a1)}{(x_2 + a2)} + \frac{x_1}{x_2}$
<input type="radio"/> B	$\frac{(x_1 + a1)}{(x_2 + a2)}$
<input type="radio"/> C	$\frac{(x_1 + a1)}{(x_2 + a2)} - \frac{x_1}{x_2}$
<input type="radio"/> D	None of these

$(0.1111E51) \times (0.4444E50) = \underline{\hspace{2cm}}$

Option	Description
<input type="radio"/> A	0.4937E100
<input type="radio"/> B	Overflow occurs
<input checked="" type="radio"/> C	0.4937E27
<input type="radio"/> D	0.4937E5

In a polynomial $f(x) = a_0x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0$, the n^{th} order derivative with respect to x at $x = p$ is given by

Option	Description
<input type="radio"/> A	$\frac{a_0}{n}$
<input type="radio"/> B	$n! a_0$
<input type="radio"/> C	$n! a_n$
<input type="radio"/> D	$\frac{a_n}{n}$

Performing synthetic division on n^{th} degree polynomial with coefficients a_0, a_1, \dots, a_n , b_k can be obtained as

Option	Description
<input type="radio"/> A	$a_n - pb_{n-1}$
<input checked="" type="radio"/> B	$a_k + pb_{k-1}$
<input type="radio"/> C	$a_n + pb_{n-1}$
<input type="radio"/> D	$a_{k-1} + pb_k$

According to Descartes' rule of sign number of negative real root in equation $f(x) = x^9 + 10x^8 - 3x^3 + 8x + 5 = 0$ are



Option	Description
<input type="radio"/> A	Not more than 3
<input type="radio"/> B	Not more than 4
<input type="radio"/> C	0
<input type="radio"/> D	2

Question #19

2 marks

According to intermediate value theorem, the smallest positive root of $f(x) = x^4 - 3x + 1 = 0$ lies between _____.

Option	Description
<input type="radio"/> A	[1,2]
<input type="radio"/> B	[0,1]
<input type="radio"/> C	[2,3]
<input type="radio"/> D	[3,4]

The Sturm's sequence is given as

$$f(x) = x^2 + 5x + 6 = 0$$

$$f_1(x) = 2x + 5$$

$$f_2(x) = \frac{1}{4}$$

The number of real roots in interval at $x = -4$ and $x = 0$ are _____

Option	Description
<input type="radio"/> A	1
<input type="radio"/> B	2
<input type="radio"/> C	3
<input type="radio"/> D	4

Question #1

1 marks

1 Compiling

2 Linking

3 Creating

4 Executing

The correct order of steps followed in respect of a 'C' program is

Option

Description

☐ A

1 2 3 4

☐ B

2 4 3 1

☐ C

1 3 2 4

Question #19

2 marks

According to intermediate value theorem, the root of _____ lies between $[-1.5, -2.5]$

Option

Description

☐ A

$$x^2 - 5x + 6 = 0$$

☐ B

$$x^2 + 5x + 6 = 0$$

☒ C

$$x^2 - x + 6 = 0$$

☐ D

None of these

Question #4

1 marks

Which of the following can be used to represent a test condition ?

- I. A relational expression.
- II. A logical expression.
- III. A numeric variable.
- IV. A numeric constant.

Option

Description

☐ A

Only I, II and III.

☐ B

Only II, III and IV.

☐ C

Only I and II.

Question #4

1 marks

Which of the following can be used to represent a test condition ?

- I. A relational expression.
- II. A logical expression.
- III. A numeric variable.
- IV. A numeric constant.

Option

Description

☐ A

Only I, II and III.

☐ B

Only II, III and IV.

☐ C

Only I and II.

Question #19

2 marks

According to intermediate value theorem, the root of _____ lies between $[-1.5, -2.5]$

Option

Description

☐ A

$$x^2 - 5x + 6 = 0$$

☒ B

$$x^2 + 5x + 6 = 0$$

☐ C

$$x^2 - x + 6 = 0$$

☐ D

None of these

Question #16

1 marks

In Birge-Vieta method, c_{n-1} is given by _____ in which p is initial approximation

Option**Description**☐ A

$$\frac{dR}{dp}$$

☐ B

$$\frac{db_n}{dp}$$

☐ C

$$b_{n-1} + pc_{n-2}$$

☐ D

All of these

Question #5

1 marks

Which of the following is true for variable names in C?

- | Option | Description |
|-------------------------|---|
| <input type="radio"/> A | They can contain alphanumeric characters as well as special characters |
| <input type="radio"/> B | It is not an error to declare a variable to be one of the keywords(like goto, static) |
| <input type="radio"/> C | Variable names cannot start with a digit |
| <input type="radio"/> D | Variable can be with length of 31 characters |

Question #15

1 marks

Performing synthetic division on n^{th} degree polynomial with coefficients a_0, a_1, \dots, a_n , b_k can be obtained as

Option**Description**☐ A

$$a_n - pb_{n-1}$$

☐ B

$$a_k + pb_{k-1}$$

☒ C

$$a_n + pb_{n-1}$$

☐ D

$$a_{k-1} + pb_k$$

```
main()
{
    long i = 30000;
    printf(" %d ", i);
}
the output is
```

Option	Description
<input type="radio"/> A	3000
<input checked="" type="radio"/> B	30000
<input type="radio"/> C	0
<input type="radio"/> D	-1

Which of the following can be used to represent a test condition ?

- I. A relational expression.
- II. A logical expression.
- III. A numeric variable.
- IV. A numeric constant.

Option	Description
<input type="radio"/> A	Only I, II and III.
<input type="radio"/> B	Only II, III and IV.
<input type="radio"/> C	Only I and II.
<input type="radio"/> D	All I, II, III and IV.

Question #8

1 marks

Which of the following is not a valid assignment statement?

Option

Description

☐ A

`x=10;`

☐ B

`x+=10`

☐ C

`x/=10`

☒ D

`x=*100;`

Question #8

1 marks

Which of the following is not a valid assignment statement?

Option

Description

☐ A

`x=10;`

☐ B

`x+=10`

☐ C

`x/=10`

☒ D

`x=*100;`



Question #7

1 marks

What will be the value of b after executing following statement, if initially a=10 and b=2 ?

b += a/=2;

Option

Description

☐ A

7

☐ B

5

☐ C

2

☐ D

Expression is invalid

Question #6

1 marks

The word 'int' is a

Option

Description

☐ A

Keyword

☐ B

Password

☐ C

Header file

☒ D

None of the above

Question #5

1 marks

Which is an invalid variable name ?

Option

Description

☐ A

electrical

☒ B

5electrical

☐ C

electrical5

☐ D

electrical_5

Question #8

1 marks

Which of the following declarations are correct?

I. short s;

II short int j;

Option	Description
<input type="radio"/> A	Only I is correct.
<input type="radio"/> B	Only II is correct.
<input checked="" type="radio"/> C	Both I and II are correct.
<input type="radio"/> D	Both I and II are incorrect.

Question #2

1 marks

Which control string is used to represent **long double** data type?

Option

Description

☐ A

%ld

☐ B

%d

☐ C

%Lf

☒ D

%lu


```
int p, q=5;
p=prod(x,y);
printf("p= %d , q= %d \n",p,q);
}
prod(int a,int b)
{
return(a*b);
}
```

Option	Description
<input type="radio"/> A	p = 200 , q = 5
<input type="radio"/> B	compile-time error

Question #11

1 marks

$0.5433E5 + 0.5433E5 = \underline{\hspace{2cm}}$

Option

Description

☐ A

0.1087E10

☐ B

0.1087E6

☐ C

0.1087E5

☐ D

0.1087E0

Question #3

1 marks

Match the pairs

GROUP-I: Operation

(i) $i^* = k$ (ii) $i = k$ (iii) $i = k$

GROUP-II Type of Operator

(a) assignment operator (b) arithmetic operator (c) logical operator

Option	Description
<input type="radio"/> A	(i)-(a), (ii)-(b), (iii)-(c)
<input checked="" type="radio"/> B	(i)-(c), (ii)-(b), (iii)-(a)
<input type="radio"/> C	(i)-(a), (ii)-(c), (iii)-(b)

Question #15

2 marks

If $u = 2x^2 + 2y^2$ and $x=y=1$, the absolute error in u is _____ if error in x is 0.001 and in y is 0.005.

Option

Description

☐ A

0.012

☐ B

0.024

☐ C

1.2

☐ D

2.4

Question #7

1 marks

Which of the following is a correct statement in C ?

Option

Description

☐ A

#define pi = 3.142

☒ B

define pi = 3.142;

☐ C

#define pi 3.142;

☐ D

#define pi 3.142

Question #8

1 marks

Which of the following is not a valid assignment statement?

Option

Description

☒ A

`x=10;`

☐ B

`x+=10`

☐ C

`x/=10`

☒ D

`x=*100;`

Question #15

2 marks

If $u = 2x^2 + 2y^2$ and $x=y=1$, the absolute error in u is _____ if error in x is 0.001 and in y is 0.005.

Option

Description

☐ A

0.012

☐ B

0.024

☐ C

1.2

☐ D

2.4

What is the output of the following program segment?

```
main()
{
int i = 1;
do
{
printf("%d.....", i);
}
while(i--);
}
```

Option	Description
<input checked="" type="radio"/> A	0..1...
<input type="radio"/> B	1.....0.....
<input type="radio"/> C	0

Question #2

1 marks

The format specifier '%i' is an another format specifier used for ____ data type.

Option

Description

☐ A

char

☒ B

int

☐ C

long int

☐ D

none of these

Question #15

1 marks

Performing synthetic division on n^{th} degree polynomial with coefficients a_0, a_1, \dots, a_n , b_k can be obtained as

Option**Description**☐ A

$$a_n - pb_{n-1}$$

☐ B

$$a_k + pb_{k-1}$$

☒ C

$$a_n + pb_{n-1}$$

☐ D

$$a_{k-1} + pb_k$$

Determine the output of the following program

```
main ()
{
int x=10;
int y= 20;
int p, q=5;
p=prod(x,y);
printf("p= %d , q= %d \n",p,q);
}

prod(int a,int b)
{
return(a*b);
}
```

Question #17

1 marks

For a fifth order polynomial equation $f(x)=0$, Sturm's theorem is applied in the interval $[-\infty, \infty]$ and it is found that number of sign changes in Sturm's sequences at $x=-\infty$ are 3 and at $x=\infty$ is 0. The number of complex roots of the equation are _____.

Option

Description

☐ A

1

☐ B

2

☒ C

3

☐ D

5

Question #1

1 marks

Which of the following does not end with a semicolon (;) ?

Option

Description

☐ A

Function prototype

☒ B

Function call

☐ C

Return statement

☐ D

First line of function definition



Question #2

1 marks

What happens when the loop condition no longer satisfies ?

Option

Description

☐ A

The program execution stops.

☐ B

The control comes out of the program.

☐ C

The statement immediately after the loop will be executed.

☐ D

The initialization expression will be evaluated again.



Question #2

1 marks

C can be used on

Option

Description

☐ A

only MS-DOS operating Systems

☐ B

only Linux Operating System



☒ C

only Windows operating System

☐ D

on all the above

Question #4

1 marks

The function scanf () returns

- | Option | Description |
|-------------------------|--|
| <input type="radio"/> A | The actual values read for each argument |
| <input type="radio"/> B | The number of successfully read input values |
| <input type="radio"/> C | No value (void) |
| <input type="radio"/> D | ASCII values of characters read |



Question #5

1 marks

C can be used on

Option

Description

☐ A

only MS-DOS operating Systems

☐ B

only Linux Operating System

☐ C

only Windows operating System

☐ D

on all the above

Question #4

1 marks

Unsigned integer occupies

Option

Description

☐ A

Two bytes

☐ B

Four bytes

☐ C

One byte

☐ D

Eight bytes

Question #7

1 marks

The Statement `char ch = 'Z'` would store in `ch`

Option

Description

☐ A

the character Z

☐ B

ASCII value of Z

☐ C

Z along with the single inverted commas

☐ D

both A and B

Question #9 2 marks

Output of the program given below is

```
int i=0;  
main()  
{  
  int j;  
  printf("i=%d and j=%d" , i, j);  
}
```

Option	Description
<input type="radio"/> A	i=0 and j=gabrage value
<input type="radio"/> B	i=gabrage value and j=0
<input type="radio"/> C	i=0 and j=0

Question #7

1 marks

If $A=10$, $B=5$, the operation $A\%=B$ results in

Option

Description

☐ A

1

☐ B

2

☐ C

0

☐ D

None of these

Question #10

2 marks

```
void main()
{
int a[2][3]={1,2,4,5,8,9}
printf("%d",a[2][3]);
}
What is the output ?
```

Option	Description
<input type="radio"/> A	1 2 4 5 8 9
<input type="radio"/> B	9
<input type="radio"/> C	1

Question #9 2 marks

What will be the output of the following code when executed ?

```
int x=10 ,y=20;  
if ( (x+5)>10 || (x<y))  
printf("%d",x);  
else  
printf("%d",y);
```

Option

Description

☐ A

20

☐ B

15

Question #15

2 marks

In a number 8.6, if both digits are correct, the relative error is _____.

Option

Description

☐ A

0.0058

☐ B

0.05

☐ C

0.86

☐ D

0.086

Question #14

2 marks

$0.5433\text{E}7 \times 0.4546\text{E}5 = \underline{\hspace{2cm}}$

Option

Description

☐ A

0.2470E2

☐ B

0.2470E12

☐ C

0.2470E-2

☐ D

0.2470E-12

Question #9 2 marks

What will be the output of the following code when executed ?

```
int x=10 ,y=20;  
if ( (x+5)>10 || (x<y))  
printf("%d",x);  
else  
printf("%d",y);
```

Option

Description

☐ A

20

☐ B

15

What will be the output of program if n=0

```
x=1;
```

```
y=1;
```

```
if (n>0)
```

```
  x=x+1;
```

```
  y=y-1;
```

```
printf ("%d and %d ",x,y);
```

Option	Description
<input type="radio"/> A	1 and 1
<input type="radio"/> B	1 and 0

Question #15

1 marks

Birge-Vieta method uses formula of _____

Option

Description

☐ A

Newton Raphson method

☐ B

Bisection Method

☐ C

Intermediate value theorem

☐ D

Regula-falsi method

Question #11

1 marks

The value of a number is recorded as 10 having error is 0.01, absolute error in $(10-10)$ is

Option	Description
<input type="radio"/> A	0.01
<input type="radio"/> B	0
<input type="radio"/> C	0.02
<input type="radio"/> D	0.04

Question #16

1 marks

In Birge-Vieta method, c_{n-1} is given by _____ in which p is initial approximation

Option**Description**☐ A

$$\frac{dR}{dp}$$

☐ B

$$\frac{db_n}{dp}$$

☐ C

$$b_{n-1} + pc_{n-2}$$

☒ D

All of these

Question #17

1 marks

According to Descarte's rule of sign,in equation $f(x)=x^{2n-1}-a$ (where n is any integer and a is any real positive value) number of positive roots of $f(x)=0$ are

Option	Description
<input type="radio"/> A	n
<input type="radio"/> B	$2n$
<input type="radio"/> C	Not more than one
<input type="radio"/> D	$2n-1$

Question #11

1 marks

The value of a number is recorded as 10 having error is 0.01, absolute error in $(10-10)$ is

Option

Description

☐ A

0.01

☐ B

0

☐ C

0.02

☐ D

0.04

Question #19 2 marks

For $f(x) = x^3 - x^2 - x + 1 = 0$, initial approximation is 0.5. Using Birge-Vieta method, the root after iteration 1 is _____.

Option	Description
<input type="radio"/> A	0.7
<input type="radio"/> B	0.789
<input type="radio"/> C	0.8
<input type="radio"/> D	0.85



Question #12

1 marks

The number 10.551256781 when chopped to four decimal places yields _____.

Option

Description

☐ A

10.5512

☐ B

10.5513

☐ C

10.5511

☐ D

10.55

Question #15

2 marks

The resistance measured by a multimeter is 3.565 ohm, but actual value of resistance is 3.6 ohm, the absolute error is _____ and relative error is_____.

Option

Description

☐ A

0.0035, 0.0009722

☐ B

0.35, 0.09722

☐ C

0.035, 0.009722

☐ D

0.009722, 0.035

Question #14

2 marks

If $a=4.568$ and $b=6.762$, using four digit arithmetic find $2ab$

Option

Description

☐ A

0.6178E3

☐ B

0.6178E2

☐ C

0.6178E1

☐ D

Insufficient data

Question #18

2 marks

According to Descartes' rule of sign number of complex roots in equation $f(x) = x^{2n-1} - 1 = 0$ are

Option

Description

☐ A

Less than or equal to $2n$

☐ B

Less than or equal to 1

☐ C

0

☐ D

Less than or equal to $2n-1$

Question #16

1 marks

If $f(x)$ is exactly divisible of $(x-a)$, then $x-a$ is called as _____ of $f(x)=0$

Option

Description

☐ A



factor

☐ B

root

☐ C

integer

☐ D

order

Question #18

2 marks

According to Descartes' rule of sign number of complex roots in equation $f(x) = x^{2n-1} - 1 = 0$ are

Option

Description

☐ A

Less than or equal to $2n$

☐ B

Less than or equal to 1

☐ C

0

☐ D

Less than or equal to $2n-1$

Question #1

1 marks

Which of the following statement is incorrect ?

Option

Description

☐ A

A function can be defined inside another function.

☐ B

A function can not be defined inside another function.

☐ C

A function can be called any number of times.

☐ D

A function can call itself.



Question #16

1 marks

If $f(x)$ is exactly divisible of $(x-a)$, then $x-a$ is called as _____ of $f(x)=0$

Option

Description

☐ A

factor

☐ B

root

☐ C

integer

☐ D

order

Question #18 2 marks

The Sturm's sequence is given as

$$f(x) = x^2 - 3x - 4 = 0$$

$$f_1(x) = 2x - 3$$

$$f_2(x) = \frac{25}{2}$$

The number real roots lies in interval at $x=5$ and $x=0$ are _____

Options	Description
<input type="radio"/> A	3
<input type="radio"/> B	0
<input type="radio"/> C	2
<input type="radio"/> D	1

Question #19

2 marks

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is 2. Using Birge-Vieta method, the root after iteration 1 is _____.

Option	Description
<input type="radio"/> A	-0.27561
<input type="radio"/> B	-2.7561
<input type="radio"/> C	1.2439
<input type="radio"/> D	2.7561

Question #19

2 marks

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is 2. Using Birge-Vieta method, the root after iteration 1 is _____.

Option

Description

☐ A

-0.27561

☐ B

-2.7561

☐ C

1.2439

☐ D

2.7561

Question #2

1 marks

What happens when the loop condition no longer satisfies ?

Option

Description

☐ A

The program execution stops.

☐ B

The control comes out of the program.

☒ C

The statement immediately after the loop will be executed.

☐ D

The initialization expression will be evaluated again.

Question #5

1 marks

C can be used on

Option

Description

☐ A

only MS-DOS operating Systems

☐ B

only Linux Operating System

☒ C

only Windows operating System

☐ D

on all the above

Question #5

1 marks

C can be used on

Option

Description

☐ A

only MS-DOS operating Systems

☐ B

only Linux Operating System

☐ C

only Windows operating System

☐ D

on all the above



Question #7

1 marks

If $A=10$, $B=5$, the operation $A\%=B$ results in

Option

Description

☐ A

1

☐ B

2

☐ C

0

☐ D

None of these

Question #11

1 marks

The value of a number is recorded as 10 having error is 0.01, absolute error in $(10-10)$ is

Option

Description

☐ A

0.01

☐ B

0

☐ C

0.02

☐ D

0.04

Question #11

1 marks

The value of a number is recorded as 10 having error is 0.01, absolute error in $(10-10)$ is

Option	Description
<input type="radio"/> A	0.01
<input type="radio"/> B	0
<input type="radio"/> C	0.02
<input type="radio"/> D	0.04

Question #16

1 marks

If $f(x)$ is exactly divisible of $(x-a)$, then $x-a$ is called as _____ of $f(x)=0$

Option

Description

☐ A

factor

☐ B

root

☐ C

integer

☐ D

order

Question #16

1 marks

If $f(x)$ is exactly divisible of $(x-a)$, then $x-a$ is called as _____ of $f(x)=0$

Option

Description

☐ A

factor

☐ B

root

☐ C

integer

☐ D

order

Question #19

2 marks

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is 2. Using Birge-Vieta method, the root after iteration 1 is _____.

Option**Description**☐ A

-0.27561

☐ B

-2.7561

☐ C

1.2439

☐ D

2.7561

Question #19

2 marks

For $f(x) = x^3 - x^2 - x + 1 = 0$, initial approximation is 0.5. Using Birge-Vieta method, the root after iteration 1 is _____.

Option

Description

☒ A

0.7

☐ B

0.789

☐ C

0.8

☐ D

0.85

Question #5

1 marks

The Break Statement is used to exit from

Option

Description

☐ A



An if statement

☐ B

A loop

☐ C

A program

☐ D

The main() function

Question #19

2 marks

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is 2. Using Birge-Vieta method, the root after iteration 1 is _____.

Option	Description
<input type="radio"/> A	-0.27561
<input type="radio"/> B	-2.7561
<input type="radio"/> C	1.2439
<input type="radio"/> D	2.7561

Question #8

1 marks

Which of the following is not a valid assignment statement?

Option

Description

☐ A

`x=10;`

☐ B

`x+=10`

☐ C

`x/=10`

☐ D

`x=*100;`

Question #19

2 marks

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is 2. Using Birge-Vieta method, the root after iteration 1 is _____.

Option**Description**☐ A

-0.27561

☐ B

-2.7561

☐ C

1.2439

☐ D

2.7561

Question #12

1 marks

Which is the correct sequence of solving problem with numerical methods?

Option	Description
<input type="radio"/> A	Problem → Modelling → Algorithm → Programming → Computation → Result
<input type="radio"/> B	Problem → Algorithm → Modelling → Programming → Computation → Result
<input type="radio"/> C	Problem → Modelling → Algorithm → Computation → Programming → Result
<input type="radio"/> D	Problem → Modelling → Programming → Algorithm → Computation → Result

A `return` statement is used _____ .

Option

Description

☐ A

to exit from the program

☐ B

to return the value from a function

☐ C

to terminate the iterative loop

☒ D

all of the above



The minimum number of times the for loop is executed is

Option	Description
<input type="radio"/> A	0
<input type="radio"/> B	1
<input type="radio"/> C	2
<input type="radio"/> D	Cannot be predicted

The minimum value that an integer constant can have is

Option	Description
<input type="radio"/> A	-32767
<input type="radio"/> B	-32768
<input type="radio"/> C	-32765
<input type="radio"/> D	32767

What will be output of following program:

```
main( )  
{  
  int k;  
  k=0;  
  while(k<=10)  
  {  
    printf("\n%d", k);  
    k++;  
  }  
}
```

Option

Description

☐ A

It will print numbers from 0 to 9

What will be the output of program if n=0

```
x=1;
```

```
y=1;
```

```
if (n>0)
```

```
  x=x+1;
```

```
  y=y-1;
```

```
printf ("%d and %d",x,y);
```

Option	Description
<input type="radio"/> A	1 and 1
<input type="radio"/> B	1 and 0
<input type="radio"/> C	0 and 2
<input checked="" type="radio"/> D	2 and 0

What will be the output when the following segment is executed ?

```
int b[4] = {5,4,3,2};  
int x=0,y=0;  
for(x=0;x<=3;x++)  
y=y*b[x];  
printf("%d",y);
```

Option

Description

☐ A

0

☐ B

120

☐ C

20

☐ D

5

If true value is $x=2.71828182$ and approximate value is $\bar{x}=2.7182$, the absolute error is



Option

Description

☐ A

0.0008182

☐ B

0.008182

☐ C

0.8182

☐ D

0.00008182


Which statement is incorrect?

Option	Description
<input type="radio"/> A	Numerical methods are powerful problem solving tools.
<input type="radio"/> B	All numerical methods gives exact solution of the problem.
<input type="radio"/> C	Numerical methods can be implemented on computers.
<input type="radio"/> D	Numerical methods can be used in those problem where exact solution is not possible.

The percentage error is _____, if 625.483 is approximated to three significant figures.

Option	Description
<input type="radio"/> A	0.077%
<input type="radio"/> B	0.77%
<input type="radio"/> C	0.483%
<input type="radio"/> D	48.3%



$(0.9998E1)/(0.1000E3)=$ _____ 

Option

Description

☐ A

0.9998E-2

☐ B

0.9998E1

☐ C

0.9998E2

☐ D

0.9998E-1

$$(0.9998E1)/(0.1000E3)=\underline{\hspace{2cm}}$$

Option

Description

☐ A

0.9998E-2

☐ B

0.9998E1

☐ C

0.9998E2

☐ D

0.9998E-1



Match the pair in Group I and Group II

Group-I

- a) Descartes's rule of sign
- b) Intermediate value theorem
- c) Birge-Vieta method

Group-II

- i) To determine interval in which root lies
- ii) To determine roots
- iii) To find number of real positive and negative roots

Option	Description
<input type="radio"/> A	a) \rightarrow iii); b) \rightarrow ii) ; c) \rightarrow i)
<input type="radio"/> B	a) \rightarrow i); b) \rightarrow i) ; c) \rightarrow iii)
<input type="radio"/> C	a) \rightarrow iii); b) \rightarrow i) ; c) \rightarrow ii)
<input type="radio"/> D	a) \rightarrow ii); b) \rightarrow iii) ; c) \rightarrow ii)

A root of an equation when substituted in the given equation produces _____



Option

Description

☐ A

1

☐ B

-1

☐ C

0

☐ D

infinity

According to Descartes' rule of sign number of negative real root in equation $f(x) = x^{2n} - 1 = 0$ are

Option

Description

☐ A

Less than or equal to $2n$

☐ B

Less than or equal to 1

☐ C

Less than or equal to n

☐ D

Less than or equal to 2

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is $x_0 = 2$. Using synthetic division $b_3 = \underline{\hspace{1cm}}$ and $c_2 = \underline{\hspace{1cm}}$

Option

Description

☐ A

31, 41

☐ B

-31, 41

☐ C

31, -41

☐ D

-31, -41

The range of character data type is

Option	Description
<input type="radio"/> A	-128 to 127
<input checked="" type="radio"/> B	0 to 255
<input type="radio"/> C	0 to 32767
<input type="radio"/> D	(A) & (B)

For $f(x) = x^3 + 29x - 97 = 0$, initial approximation is 2 . Using synthetic division $b_3 = \underline{\hspace{1cm}}$ and $c_2 = \underline{\hspace{1cm}}$

Option

Description

☐ A

31, 41

☐ B

-31, 41

☐ C

31, -41

☐ D

-31, -41

What will be the output of program if n=0

```
x=1;  
y=1;  
if (n>0)  
x=x+1;  
y=y-1;  
printf ("%d and %d ",x,y);
```

Option

Description

☒ A

1 and 1

☐ B

1 and 0

☐ C

0 and 2

☐ D

2 and 0

Question #1

1 marks

How many times main () function can be defined in a C program ?

Option

Description

☒ A

1

☐ B

2

☐ C

3

☐ D

Any number of times

Question #1

1 marks

The range of character data type is

Option

Description



A

-128 to 127



B

0 to 255



C

0 to 32767



D

(A) & (B)

Question #1

1 marks

The range of character data type is

Option

Description



A

-128 to 127



B

0 to 255



C

0 to 32767



D

(A) & (B)

Which of the following is true for variable names in C?

- | Option | Description |
|------------------------------------|--|
| <input type="radio"/> A | They can contain alphanumeric characters as well as special characters |
| <input type="radio"/> B | It is not an error to declare a variable to be one of the keywords (like goto, static) |
| <input checked="" type="radio"/> C | Variable names cannot start with a digit |
| <input type="radio"/> D | Variable can be with length of 31 characters |

Which of the following is evaluated first in case of do-while loop ?

Option	Description
<input type="radio"/> A	The looping condition.
<input type="radio"/> B	The looping expression.
<input type="radio"/> C	First statement in the body of the loop.
<input type="radio"/> D	Increment / decrement operation.

Which of the following can be used to represent a test condition ?

- I. A relational expression.
- II. A logical expression.
- III. A numeric variable.
- IV. A numeric constant.

Option	Description
<input type="radio"/> A	Only I, II and III.
<input type="radio"/> B	Only II, III and IV.
<input type="radio"/> C	Only I and II.

Which of the following can be used to represent a test condition ?

- I. A relational expression.
- II. A logical expression.
- III. A numeric variable.
- IV. A numeric constant.

Option

Description

☐ A

Only I, II and III.

☐ B

Only II, III and IV.

☐ C

Only I and II.

Question #1

1 marks

How many times main () function can be defined in a C program ?

Option

Description

☐ A

1

☐ B

2

☐ C

3

☒ D

Any number of times

Question #3

1 marks

What format is used to print a character with the printf statement ?

Option

Description

☐ A

%s

☐ B

%c

☐ C

%char

☐ D

%cl

Match the pairs

GROUP-I: Operation

(i) $i^* = k$ (ii) $i = k$ (iii) $i = k$

GROUP-II Type of Operator

(a) assignment operator (b) arithmetic operator (c) logical operator

Option	Description
<input type="radio"/> A	(i)-(a), (ii)-(b), (iii)-(c)
<input type="radio"/> B	(i)-(c), (ii)-(b), (iii)-(a)
<input type="radio"/> C	(i)-(a), (ii)-(c), (iii)-(b)
<input type="radio"/> D	(i)-(b), (ii)-(c), (iii)-(a)

To combine two conditions, which of the following operators are used ?

Option	Description
<input type="radio"/> A	Conditional operators
<input type="radio"/> B	Relational operators
<input type="radio"/> C	Arithmetic operators
<input type="radio"/> D	Logical operators

Question #6

1 marks

Determine which of the following is not allowed in C.

Option

Description

☐ A

\t

☐ B

\n

☐ C

\b

☐ D

\p

```
main( )  
{  
  int k;  
  k=0;  
  while(k<10)  
  {  
    printf("\n%d", k);  
    k++;  
  }  
}
```

Option

Description

☐ A

It will print numbers from 0 to 9

☐ B

It will print numbers from 0 to 10

```
while(k<10)
{
printf("\n%d", k);
k++;
}
}
```

Option

Description



A

It will print numbers from 0 to 9



B

It will print numbers from 0 to 10



C

It will print numbers from 0 to 11



D

Error

Question #6

1 marks

What will be the value of y in following expression ?

$y = (5 < 4) == 1;$

Option

Description

☐ A

-1

☐ B

0

☐ C

1

☐ D

2

What will be output of following program:

```
main( )  
{  
  int k;  
  k=0;  
  while(k<10)  
  {  
    printf("\n%d", k);  
    k++;  
  }  
}
```

Option

Description

What will be the output of the following code when executed ?

```
int x=10 ,y=20;  
if ( (x+5)>10 || (x<y))  
printf("%d",x);  
else  
printf("%d",y);
```

Option

Description

☐ A

20

☐ B

15

☐ C

10

Choose correct option which represents following values under x variable
{10.2 , 11.0 , 12.5}

Option	Description
<input type="radio"/> A	int x[3]
<input type="radio"/> B	float x[2]
<input type="radio"/> C	float x[3]
<input type="radio"/> D	None of the above

What is the value of y in the following code?

```
#include <stdio.h>
```

```
main()
```

```
{
```

```
int x = 10, y=3, z;
```

```
z=x/y;
```

```
}
```

Option	Description
<input type="radio"/> A	Code does not compile
<input type="radio"/> B	0
<input type="radio"/> C	3

The value of a number is recorded as 10 having error is 0.01, absolute error in (10×10) is

Option	Description
<input type="radio"/> A	0.01
<input type="radio"/> B	0
<input type="radio"/> C	0.02
<input type="radio"/> D	0.2

Question #1

1 marks

How many times main () function can be defined in a C program ?

Option

Description

☐ A

1

☐ B

2

☐ C

3

☒ D

Any number of times

How many times main () function can be defined in a C program ?

Option	Description
<input type="radio"/> A	1
<input type="radio"/> B	2
<input type="radio"/> C	3
<input checked="" type="radio"/> D	Any number of times

The output of following code is

```
main ()  
{  
    int i;  
    i=1;  
    i=i+2*i++ ;  
    printf("%d",i);  
}
```

Option	Description
<input type="radio"/> A	5
<input type="radio"/> B	4

The minimum number of times the while loop is executed is

Option	Description
<input type="radio"/> A	0
<input type="radio"/> B	1
<input type="radio"/> C	2
<input type="radio"/> D	Cannot be predicted

Number of digits that are present in the number is called as _____.

Option	Description
<input type="radio"/> A	Machine epsilon.
<input type="radio"/> B	Significant digits after decimal point.
<input type="radio"/> C	Total significant digits.
<input type="radio"/> D	None of these.

0.4546E5 x 0.5433E5=_____

Option

Description

☐ A

0.2470E10

☐ B

0.2470E5

☐ C

0.2470E25

☐ D

0.2470E0

The value of a number is recorded as 10 having error is 0.01, absolute error in (10×10) is

Option	Description
<input type="radio"/> A	0.01
<input type="radio"/> B	0
<input checked="" type="radio"/> C	0.02
<input type="radio"/> D	0.2

If $x=2.536$ is truncated to two decimal places absolute error is _____ and if it is rounded off to two decimal places absolute error is _____.

Option	Description
<input type="radio"/> A	0.006,-0.004
<input type="radio"/> B	0.006, 0.004
<input type="radio"/> C	-0.006, -0.004
<input type="radio"/> D	0.004,0.006

The equation $\sin(-x)-1=0$ is called _____ equation

Option	Description
<input type="radio"/> A	polynomial
<input type="radio"/> B	transcendental
<input type="radio"/> C	algebraic
<input type="radio"/> D	none of these

The equation $\sin(-x)-1=0$ is called _____ equation

Option	Description
<input type="radio"/> A	polynomial
<input type="radio"/> B	transcendental
<input checked="" type="radio"/> C	algebraic
<input type="radio"/> D	none of these

The equation $\sin(-x) - 1 = 0$ is called _____ equation

Option	Description
<input type="radio"/> A	polynomial
<input type="radio"/> B	transcendental
<input type="radio"/> C	algebraic
<input type="radio"/> D	none of these

Descarte's rule of sign is used only for _____.

Option	Description
<input type="radio"/> A	non-algebraic equations
<input type="radio"/> B	transcendental equations
<input type="radio"/> C	polynomial equations
<input type="radio"/> D	All of these

In a polynomial $f(x) = a_0x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0$ with all real coefficients, if the order n is odd, then the equation has _____

- | Option | Description |
|------------------------------------|-----------------------|
| <input type="radio"/> A | atleast one real root |
| <input type="radio"/> B | all complex roots |
| <input checked="" type="radio"/> C | all real roots |
| <input type="radio"/> D | cannot be determined |

According to Descartes' rule of sign number of complex roots in equation $f(x) = x^{2n-1} - 1 = 0$ are

Option	Description
<input type="radio"/> A	Less than or equal to $2n$
<input type="radio"/> B	Less than or equal to 1
<input type="radio"/> C	0
<input type="radio"/> D	Less than or equal to $2n-1$

For $f(x) = x^3 + 29x - 97 = 0$, 3rd order derivative at $x=2$ is ____ (use synthetic division)

Option	Description
<input type="radio"/> A	-6
<input type="radio"/> B	-1
<input type="radio"/> C	6
<input type="radio"/> D	1

How many times main () function can be defined in a C program ?

Option	Description
<input type="radio"/> A	1
<input type="radio"/> B	2
<input type="radio"/> C	3
<input checked="" type="radio"/> D	Any number of times

How many times main () function can be defined in a C program ?

Option	Description
<input type="radio"/> A	1
<input type="radio"/> B	2
<input type="radio"/> C	3
<input checked="" type="radio"/> D	Any number of times

If $x=2.536$ is truncated to two decimal places absolute error is _____ and if it is rounded off to two decimal places absolute error is _____.

Option	Description
<input type="radio"/> A	0.006,-0.004
<input type="radio"/> B	0.006, 0.004
<input checked="" type="radio"/> C	-0.006, -0.004
<input type="radio"/> D	0.004,0.006

The Sturm's sequence is given as

$$f(x) = x^2 - 3x - 4 = 0$$

$$f_1(x) = 2x - 3$$

$$f_2(x) = \frac{25}{2}$$

The number real roots lies in interval at $x=5$ and $x=0$ are_____

Option

Description

☐ A

3

☐ B

0

☐ C

2

In a polynomial $f(x) = a_0x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0$ with all real coefficients, if the order n is odd, then the equation has _____

- | Option | Description |
|------------------------------------|-----------------------|
| <input type="radio"/> A | atleast one real root |
| <input type="radio"/> B | all complex roots |
| <input checked="" type="radio"/> C | all real roots |
| <input type="radio"/> D | cannot be determined |

Which of the following is not a relational operator?

Option	Description
<input type="radio"/> A	!
<input type="radio"/> B	!=
<input type="radio"/> C	>=
<input type="radio"/> D	<

The main() is a

Option	Description
<input type="radio"/> A	user defined function
<input type="radio"/> B	library function
<input type="radio"/> C	keyword
<input type="radio"/> D	none of the above

Unsigned integer occupies

Option

Description

☐ A

Two bytes

☐ B

Four bytes

☐ C

One byte

☐ D

Eight bytes

For $f(x) = x^3 - x - 11 = 0$, initial approximation is 2. Using Birge-Vieta method, the root after iteration 1 is _____.

Option	Description
<input type="radio"/> A	2.4545
<input type="radio"/> B	-2.4545
<input type="radio"/> C	1.5454
<input type="radio"/> D	-1.5454

Match the pairs if $A=20$ and $B=30$

GROUP I: Operation

(i) $A+=B$ (ii) $B=A$ (iii) $A = =B$

Group II: Result

(a) 0 (b) 50 (c) 20

Option	Description
<input type="radio"/> A	(i)-(b), (ii)-(c), (iii)-(a)
<input type="radio"/> B	(i)-(b), (ii)-(a), (iii)-(c)

Match the pairs if $A=20$ and $B=30$

GROUP I: Operation

(i) $A+=B$ (ii) $B=A$ (iii) $A = =B$

Group II: Result

(a) 0 (b) 50 (c) 20

Option	Description
<input type="radio"/> A	(i)-(b), (ii)-(c), (iii)-(a)
<input type="radio"/> B	(i)-(b), (ii)-(a), (iii)-(c)
<input type="radio"/> C	(i)-(a), (ii)-(c), (iii)-(b)

Match the pairs if $A=20$ and $B=30$

GROUP I: Operation

(i) $A+=B$ (ii) $B=A$ (iii) $A = =B$

Group II: Result

(a) 0 (b) 50 (c) 20

Option	Description
<input type="radio"/> A	(i)-(b), (ii)-(c), (iii)-(a)
<input type="radio"/> B	(i)-(b), (ii)-(a), (iii)-(c)
<input type="radio"/> C	(i)-(a), (ii)-(c), (iii)-(b)

Which is correct with respect to size of the data types?

Option	Description
<input type="radio"/> A	char > int > float
<input type="radio"/> B	int > char > float
<input type="radio"/> C	char < int < double
<input type="radio"/> D	double > char > int

1 Compiling

2 Linking

3 Creating

4 Executing

The correct order of steps followed in respect of a 'C' program is

Option	Description
<input type="radio"/> A	1 2 3 4
<input type="radio"/> B	2 4 3 1

The logical `OR` operator is denoted by a ____ symbol in C Program.

Option	Description
<input type="radio"/> A	&&
<input type="radio"/> B	
<input type="radio"/> C	
<input checked="" type="radio"/> D	&

1 Compiling

2 Linking

3 Creating

4 Executing

The correct order of steps followed in respect of a 'C' program is

Option	Description
<input type="radio"/> A	1 2 3 4
<input type="radio"/> B	2 4 3 1
<input type="radio"/> C	1 3 2 4

Which of the following is not a valid variable name declaration?

Option	Description
<input type="radio"/> A	int abc3;
<input type="radio"/> B	int a3_bc;
<input type="radio"/> C	int 3abc;
<input type="radio"/> D	int a3bc

If $A=0$ and $B=30$, the operation $X=(A\&B)$, produce

Option	Description
<input type="radio"/> A	1
<input type="radio"/> B	0
<input type="radio"/> C	31
<input type="radio"/> D	30

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What will be the output when the following segment is executed :

```
int b[4] ={5,4,3,2};  
int x=0,y=1;  
for(x=0;x<=3;x++)  
y=y*b[x];  
printf("%d",y);
```

Option

Description

☐ A

0

☐ B

120

☐ C

20

Choose correct option which represents following values under x variable
{10.2 , 11.0 , 12.5}

Option	Description
<input type="radio"/> A	int x[3]
<input type="radio"/> B	float x[2]
<input type="radio"/> C	float x[3]
<input type="radio"/> D	None of the above

What is the output of this C code?

```
#include <stdio.h>
```

```
int main( )
```

```
{
```

```
int x = 2, y = 4;
```

```
int z = x*y+y/x-x+y^2;
```

```
printf("%d\n", z);
```

```
return 0;
```

```
}
```

Relative error is given by

Option	Description
<input type="radio"/> A	$\frac{ true\ value - approximate\ value }{ true\ value }$
<input type="radio"/> B	$\frac{(true\ value - approximate\ value)}{(true\ value)}$
<input checked="" type="radio"/> C	$\frac{ true\ value - approximate\ value }{ true\ value } \times 100$
<input type="radio"/> D	None of these

If $x=2.536$ is truncated to two decimal places absolute error is _____ and if it is rounded off to two decimal places absolute error is _____.

Option	Description
<input type="radio"/> A	0.006,-0.004
<input type="radio"/> B	0.006, 0.004
<input type="radio"/> C	-0.006, -0.004
<input type="radio"/> D	0.004,0.006

If $a=4.568$ and $b=6.762$, using four digit arithmetic find $2a - 3b$

Option	Description
<input type="radio"/> A	0.1115E2
<input type="radio"/> B	-0.1115E-2
<input type="radio"/> C	0.1115E-2
<input type="radio"/> D	-0.1115E2

According to Descarte's rule of sign,in equation $f(x)=x^{2n-1}-a$ (where n is any integer and a is any real positive value) number of negative roots of $f(x)=0$ are

Option	Description
<input type="radio"/> A	n
<input type="radio"/> B	2n
<input type="radio"/> C	Not more than one
<input type="radio"/> D	zero

According to Descarte's rule of sign,in equation $f(x)=x^{2n-1}-a$ (where n is any integer and a is any real positive value) number of negative roots of $f(x)=0$ are

Option	Description
<input checked="" type="radio"/> A	n
<input type="radio"/> B	2n
<input type="radio"/> C	Not more than one
<input type="radio"/> D	zero

According to Descarte's rule of sign,in equation $f(x)=x^{2n-1}-a$ (where n is any integer and a is any real positive value) number of negative roots of $f(x)=0$ are

Option	Description
<input checked="" type="radio"/> A	n
<input type="radio"/> B	2n
<input type="radio"/> C	Not more than one
<input type="radio"/> D	zero

Match the pair in Group-I and Group-II

Group-I

- a) Descartes's rule of sign
- b) Intermediate value theorem
- c) Birge-Vieta method

Group-II

- i) To determine interval in which root lies
- ii) To determine roots
- iii) To find number of real positive and negative roots

Option	Description
<input type="radio"/> A	a) \rightarrow iii); b) \rightarrow ii) ; c) \rightarrow i)
<input type="radio"/> B	a) \rightarrow i); b) \rightarrow i) ; c) \rightarrow iii)
<input type="radio"/> C	a) \rightarrow iii); b) \rightarrow i) ; c) \rightarrow ii)

Group-I

- a) Descartes's rule of sign
- b) Intermediate value theorem
- c) Birge-Vieta method

Group-II

- i) To determine interval in which root lies
- ii) To determine roots
- iii) To find number of real positive and negative roots

Option	Description
<input type="radio"/> A	a) \rightarrow iii); b) \rightarrow ii) ; c) \rightarrow i)
<input type="radio"/> B	a) \rightarrow i); b) \rightarrow i) ; c) \rightarrow iii)
<input type="radio"/> C	a) \rightarrow iii); b) \rightarrow i) ; c) \rightarrow ii)
<input type="radio"/> D	a) \rightarrow ii); b) \rightarrow iii) ; c) \rightarrow ii)

Question #17 1 marks

If $f(x)$ is exactly divisible of $(x-a)$, then $x-a$ is called as _____ of $f(x)=0$

Option

Description

☐ A

factor

☐ B

root

☐ C

integer

☐ D

order

Question #16 2 marks

According to Descartes' rule of sign number of positive real root in equation $f(x)=12x^7-x^5+4x^3-15=0$ are

Option

Description



A

Less than or equal to one



B

Less than or equal to two



C

Less than or equal to three



D

Less than or equal to seven

Which of the following is valid value for signed char?

Option

Description

☐ A

255

☐ B

130

☐ C

-125

☐ D

200

Unsigned integer occupies

Option

Description

☐ A

Two bytes

☒ B

Four bytes

☐ C

One byte

☐ D

Eight bytes

Question #19 2 marks

For $f(x) = x^3 + 29x - 97 = 0$, 3rd order derivative at $x = 2$ is ____ (use synthetic division)

Option	Description
<input type="radio"/> A	-6
<input type="radio"/> B	-1
<input type="radio"/> C	6
<input type="radio"/> D	1

Match the pairs if A=20 and B=30

GROUP I: Operation

(i)A+=B (ii)B=A (iii)A -=B

Group II: Result

(a) 0 (b) 50 (c) 20

Option	Description
<input type="radio"/> A	(i)-(b), (ii)-(c), (iii)-(a)
<input type="radio"/> B	(i)-(b), (ii)-(a), (iii)-(c)
<input type="radio"/> C	(i)-(a), (ii)-(c), (iii)-(b)
<input type="radio"/> D	(i)-(c), (ii)-(b), (iii)-(a)