

FMT2019 - Cisco Test

Test Summary

- No. of Sections: 2
- No. of Questions: 50
- Total Duration: 60 min

Section 1 - Aptitude

Section Summary

- No. of Questions: 20
- Duration: 20 min

Additional Instructions:

- Each question carries **1 marks** if answered correctly
- There is **No negative mark** for wrong answer

Q1. For the following question, four options are given. Choose the correct option.

If FASHION is coded as NFOAISH, how will TROTES be coded in that language?

STERITI

STERTO

STRETO

STREET

Q2. For the following question, four options are given. Choose the correct option.

FRIEND is coded as HUMJTK, how is CANDLE written in that code?

EDRIRL

DCQHQV

ESJFME

FYOB OC

- Q3. The age of Ram and Shyam differ by 16 years. Six years ago, Mohan's age was thrice as that of Ram's, find their present ages.

14 years,30 years

12 years,28 years

16 years,34 years

18 years,38 years

- Q4. 5 years ago his mother's age was thrice that of Amit.Amit's present age is 20. What will be the ratio of their ages 10 years from now.

30:70

1:3

5:2

1:2

- Q5. A man can row with the stream at the rate of 20 kmph and against the stream at 5 kmph. The man's rate in still water is

7.5 kmph

12.5 kmph

17.5 kmph

15.5 kmph

- Q6. Of the three numbers, the first is twice the second and is half the third. If the average of the three numbers is 56 then the three numbers in order are

48, 96, 24

24, 12, 48

48, 24, 96

48, 12, 24

- Q7. A person can row at the rate of 3 kmph in still water. If the river is running at 1.2 kmph, then it takes him 2 hours to row to a place and back. How far is the place?

5 km

2.5 km

6 km

8 km

- Q8. There is a leak in the bottom of a cistern. When the cistern had no leak, it was filled in 2.5 hours. It now takes half an hour longer. If the cistern is full of water, then how long would it take to empty itself if water starts leaking out at double the usual rate once the cistern is half empty?

11 hrs 25 min

10 hrs 15 min

3.75 hrs

11 hrs 15 min

- Q9. A and B can fill a cistern in 7.5 minutes and 5 minutes respectively and C can carry away 14 litres per minute. If all the pipes are open when the cistern is full, it is emptied in 1 hour. Then the capacity of the cistern is

50 litres

45 litres

40 ml

0.04 kl

- Q10. X can do a job in 10 days, Y in 15 days and Z in 18 days. Y and Z begin the work but have to leave after 3 days. How many days will X take to finish the job?

57/9 days

57/11 days

53/12 days

6.5 days

Q11. X men can finish a job in 40 days. If 5 extra men join them, the job takes 10 days less. What is the value of X?

15

20

10

18

Q12. From a group of 3 men and 2 women, two persons are selected at random, Find the probability that atleast one woman is selected.

1/5

7/10

2/5

5/6

Q13. The average age of a family of 7 members is 23 years. If the average age of the youngest member be 7 years, then find the average of the family when the youngest member was 1 year old.

16 years

15 years

22 years

17 years

- Q14. In a class 40% of the students offered Physics 20% offered Chemistry and 5% offered both. If a student is selected at random, find the probability that he has offered Physics or Chemistry only.

45%

55%

36%

None of these

- Q15. A basket contains 10 apples and 20 oranges out of which 3 apples and 5 oranges are defective. If we choose two fruits at random, what is the probability that either both are oranges or both are non defective?

136/345

17/87

316/435

158/435

- Q16. 15 years hence, Rohit will be just four times as old as he was 15 years ago. How old is Rohit at present.

20

25

30

35

- Q17. Which of the following represents the average of 5 consecutive even numbers a, b, c, d and e?

$$\frac{a + b + c + d + e}{3}$$

$$\frac{b + c + d}{2}$$

$$\frac{b + d}{2}$$

$$\frac{a + c + e}{2}$$

- Q18. Efficiencies of two men are in the ratio 2 : 3. If the first takes 30 days to do a piece of work, the time required when both of them work together on a job twice as big as the first, will be

30 days

18 days

24 days

72 days

- Q19. A contractor agrees to build a wall 132 feet long in 36 days and employs 16 men. If after 20 days he finds that only 60 feet of the wall is finished, then how many more men all now working $\frac{6}{5}$ as many hours, will be required to finish the work on time?

4

6

8

10

- Q20. If 3 men and 5 boys can do as much work in 17 days as 5 men and 3 boys can do in 15 days, then the ratio of rate of working of a man and a boy is

2 : 5

3 : 5

5 : 3

5 : 2

Section 2 - Technical

Section Summary

- No. of Questions: 30
- Duration: 40 min

Additional Instructions:

- Each question carries **1 marks** if answered correctly
- There is **No negative mark** for wrong answer

Q1. Calling a function f with a an array variable a[3] where a is an array, is equivalent to

f(a[3])

f(*(a + 3))

f(3[a])

All of the mentioned

Q2. Number of bytes in memory taken by the below structure is

```
#include <stdio.h>
struct test
{
    int k;
    char c;
};
```

Multiple of integer size

integer size+character size

Depends on the platform

Multiple of word size

Q3. Associativity of an operator are:

Right to Left

Left to Right

Random fashion

Both (a) and (b)

Q4. What is the scope of an external variable?

Whole source file in which it is defined

From the point of declaration to the end of the file in which it is defined

Any source file in a program

From the point of declaration to the end of the file being compiled

Q5. Which of following is not accepted in C?

`static a = 10; //static as`

`static int func (int); //parameter as static`

`static static int a; //a static variable prefixed with static`

All of the mentioned

Q6. Consider an array representation of a binary tree, if the root of the tree is at position 0, then the node at position n is the parent of nodes

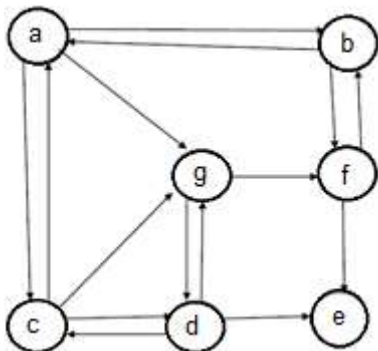
$2n-1$ and $2n$

$2n$ and $2n+1$

$n+1$ and $n+2$

$2n+1$ and $2n+2$

Q7. Consider the following graph



In order to make this graph strongly connected minimum how many edges are to be added?

1

3

5

Already strongly connected graph

Q8. What is the output of the following C-program?

```
main( )  
{  
  int a, b, *ptr1, *ptr2;  
  a=5, b=6;  
  ptr1 = &a;  
  ptr2 = &b;  
  *ptr2 = 7;  
  ptr2 = ptr1;  
  printf ("%d,%d,%d,%d", a, b,*ptr1,*ptr2);  
}
```

5,7,5,5

5,7,7,7

5,6,5,7

5,7,5,6

Q9. Consider a stack-oriented processor including the stack operations PUSH and POP. Arithmetic operations involve the top two stack elements. Beginning with an empty stack, what stack element are remained after the following instructions are executed?

```
PUSH 5  
PUSH 10  
PUSH 6  
ADD
```

PUSH
ADD
MUL

144

120

100

84

Q10. Which one of the following is a major advantage of B-trees over binary search trees for indexing database relations?

Data transfer form disks is in blocks

Database relations are sorted on the primary key

B-trees require less memory than binary search trees

Database relations have a large number of records

Q11. What is the correct syntax to send a 3-dimensional array as a parameter? (Assuming declaration `int a[5][4][3];`)

`func(a);`

`func(&a);`

func(*a);

func(**a);

Q12. int a[10][20]; which is true for a

a is true two-dimensional array

200 int-sized locations have been set aside

The conventional rectangular subscript calculation $20 * \text{row} + \text{col}$ is used to find the element a[row, col]

All of the mentioned

Q13. What is the output of this C code?

```
#include <stdio.h>
void f(int);
void (*foo)(float) = f;
int main()
{
    foo(10);
}
void f(int i)
{
    printf("%d\n", i);
}
```

Compile time error

10

10.000000

Undefined behaviour

Q14. Which of the following the is the correct declaration for ungetc?

`int ungetc(int c, FILE fp);`

`int ungetc(int *c, FILE fp);`

`int ungetc(int c, FILE *fp);`

`int ungetc(int *c, FILE *fp);`

Q15. One of the uses for function pointers in C is

Nothing

There are no function pointers in c

To invoke a function

To call a function defined at run-time.

Q16. Which of the following is not possible?

A structure variable pointing to itself

A structure variable pointing to another structure variable of same type

2 different type of structure variable pointing at each other

None of these

Q17. putchar(c) function/macro always outputs character c to the

screen

standard output

depends on the compiler

Depends on the standard

Q18. Which is true aboutgetc.getc returns?

The next character from the stream referred to by file pointer

EOF for end of file or error

Both a & b

Nothing.

Q19. When a C program is started, O.S environment is responsible for opening file and providing pointer for that file?

Standard input

Standard output

Standard error

All of the mentioned

Q20. What is the meant by 'a' in the following operation?
fp = fopen("Random.txt", "a");

Attach

Append

Apprehend

Add

Q21. What is the output of this C code?

```
#include <stdio.h>
union temp
{
    char a;
    char b;
    int c;
};
int main()
{
    printf("%d", sizeof(t));
    return 0;
}
```

1

2

4

6

Q22. Comment on the following C code?
`#include <stdio.h>
(sizeof double = 8, float = 4, void = 1)
#define PI 3.14
int main()
{
printf("%d", sizeof(PI));
}`

Output is 8

Output is 4

Output is 1

Error, we can't use sizeof on macro-definitions

Q23. The scope of an automatic variable is:

Within the block it appears

Within the blocks of the block it appears

Until the end of program

Both (a) and (b)

Q24. Comment on the output of this C code?

```
#include <stdio.h>
void main()
{
    int k = 4;
    int *const p = &k;
    int r = 3;
    p = &r;
    printf("%d", p);
}
```

Address of k

Address of r

Compile time error

Address of k + address of r

Q25. Which among the following are the fundamental arithmetic operators, ie, performing the desired operation can be done using that operator only?

+, -

+, -, %

+, -, *, /

+, -, *, /, %

Q26. What is the output of this C code?

```
#include <stdio.h>
struct student
{
```

```
char *c;
struct student *point;
};
void main()
{
    struct student s;
    struct student m;
    s.c = m.c = "hi";
    m.point = &s;
    (m.point)->c = "hey";
    printf("%s\t%s\t", s.c, m.c);
}
```

hey hi

hi hey

Run time error

hey hey

Q27. What is the output of this C code?

```
#include <stdio.h>
struct p
{
    int x;
    char y;
};
typedef struct p* q*;
int main()
{
    struct p p1[] = {1, 92, 3, 94, 5, 96};
    q ptr1 = p1;
    printf("%d\n", ptr1->x);
}
```

Compile time error

1

Undefined behaviour

Segmentation fault

Q28. What is the output of this C code?

```
#include <stdio.h>
struct student
{
};
void main()
{
    struct student s[2];
    printf("%d", sizeof(s));
}
```

2

4

8

0

Q29. Which of the following reduces the size of a structure?

union

bit-fields

malloc

None of the mentioned

Q30. Which type of variables can have same name in different function:

global variables

static variables

Function arguments

Both (b) and (c)