1) What is the correct way to pass a structure to a function in C?

a) Pass by value

**b) Pass by reference**

c) Pass by pointer

d) Pass by name

2) Which of the following statements is true about passing a structure to a function by value?

a) The original structure is modified within the function.

**b) The function receives a copy of the entire structure.**

c) Only the structure's members are passed to the function.

d) The function cannot access the structure.

3) What is the output of the following code snippet?

#include <stdio.h>

struct person {

char name[20];

int age;

};

void display(struct person p) {

printf("%s is %d years old.", p.name, p.age);

}

int main() {

struct person p = {"John Doe", 30};

display(p);

return 0;

}

**a) John Doe is 30 years old.**

b) Random value is displayed.

c) Compiler Error

d) None of the above

4) Which of the following statements is true about passing a structure to a function by reference?

a) The function receives a copy of the structure.

**b) The function can modify the original structure.**

c) The function can only access the structure members.

d) The original structure remains unchanged.

5) What is the output of the following code snippet?

#include <stdio.h>

struct point {

int x;

int y;

};

void modify(struct point \*ptr) {

ptr->x = 10;

ptr->y = 20;

}

int main() {

struct point p = {5, 5};

modify(&p);

printf("%d %d", p.x, p.y);

return 0;

}

a) 5 5

**b) 10 20**

c) 20 10

d) Compiler Error

6) Which of the following statements is true about structure assignments in C?

a) Structures cannot be assigned to each other.

**b) Structure assignments copy the values of individual members.**

c) Structure assignments require explicit memory allocation.

d) Structure assignments can only be performed within the same function.

7) What is the output of the following code snippet?

#include <stdio.h>

struct person {

char name[20];

int age;

};

int main() {

struct person p1 = {"John Doe", 30};

struct person p2 = p1;

printf("%s is %d years old.", p2.name, p2.age);

return 0;

}

**a) John Doe is 30 years old.**

b) Random value is displayed.

c) Compiler Error

d) None of the above

8) Which of the following statements is true about arrays of structures in C?

a) Arrays of structures can only be one-dimensional.

b) Arrays of structures cannot be passed to functions.

c) Arrays of structures require explicit memory allocation.

**d) Arrays of structures store multiple instances of the same structure type**.

9) What is the output of the following code snippet?

#include <stdio.h>

struct student {

char name[20];

int rollNumber;

};

int main() {

struct student s[3] = {{"John", 1}, {"Jane", 2}, {"Alice", 3}};

printf("%s has roll number %d.", s[2].name, s[2].rollNumber);

return 0;

}

a) John has roll number 1.

b) Jane has roll number 2.

**c) Alice has roll number 3.**

d) Compiler Error

10) What is the output of the following code snippet?

#include <stdio.h>

struct point {

int x;

int y;

};

int main() {

struct point p[] = {{1, 2}, {3, 4}, {5, 6}};

printf("%d %d", p[1].x, p[2].y);

return 0;

}

a) 1 2

**b) 3 4**

c) 5 6

d) Compiler Error

11) What is the output of the following code snippet?

#include <stdio.h>

struct employee {

char name[20];

int age;

};

void display(struct employee \*emp) {

printf("%s is %d years old.", emp->name, emp->age);

}

int main() {

struct employee e = {"John Doe", 30};

display(&e);

return 0;

}

**a) John Doe is 30 years old.**

b) Random value is displayed.

c) Compiler Error

d) None of the above

12) Which of the following statements is true about structure pointers in C?

a) Structure pointers cannot be dereferenced.

b) Structure pointers can only be assigned to other structure pointers.

**c) Structure pointers allow accessing and modifying structure members.**

d) Structure pointers cannot be passed to functions.

13) What is the output of the following code snippet?

#include <stdio.h>

struct book {

char title[50];

int year;

};

int main() {

struct book b = {"The Catcher in the Rye", 1951};

struct book \*ptr = &b;

printf("%s was published in %d.", ptr->title, (\*ptr).year);

return 0;

}

**a) The Catcher in the Rye was published in 1951.**

b) Random value is displayed.

c) Compiler Error

d) None of the above

14) Which of the following statements is true about structure pointers and arrow operator in C?

a) Structure pointers are not used with the arrow operator.

**b) The arrow operator is used to access structure members through structure pointers.**

c) The arrow operator is used to allocate memory for structures.

d) Structure pointers cannot be assigned directly to structure members.

15) What is the output of the following code snippet?

#include <stdio.h>

struct rectangle {

int length;

int width;

};

int main() {

struct rectangle r = {5, 10};

struct rectangle \*ptr = &r;

printf("%d", ptr->length \* (\*ptr).width);

return 0;

}

a) 5

b) 10

**c) 50**

d) Compiler Error

16) What is the output of the following code snippet?

#include <stdio.h>

struct person {

char name[20];

int age;

};

void modify(struct person \*ptr) {

strcpy(ptr->name, "Alice");

ptr->age = 25;

}

int main() {

struct person p = {"John Doe", 30};

modify(&p);

printf("%s is %d years old.", p.name, p.age);

return 0;

}

**a) Alice is 25 years old.**

b) John Doe is 30 years old.

c) Compiler Error

d) None of the above

17) Which of the following statements is true about the "->" operator in C?

a) It is used to access structure members through structure variables.

b) It is used to allocate memory for structures.

**c) It is used to access structure members through structure pointers.**

d) It is used to initialize structure members.

18) What is the output of the following code snippet?

#include <stdio.h>

struct employee {

char name[20];

int age;

};

int main() {

struct employee e = {"John Doe", 30};

struct employee \*ptr = &e;

printf("%s is %d years old.", (\*ptr).name, ptr->age);

return 0;

}

**a) John Doe is 30 years old.**

b) Random value is displayed.

c) Compiler Error

d) None of the above

19) What is the output of the following code snippet?

#include <stdio.h>

struct student {

char name[20];

int rollNumber;

};

void display(struct student s) {

printf("%s has roll number %d.", s.name, s.rollNumber);

}

int main() {

struct student s1 = {"John", 1};

struct student s2 = {"Jane", 2};

display(s2);

return 0;

}

a) John has roll number 1.

**b) Jane has roll number 2.**

c) Compiler Error

d) None of the above

20) Which of the following statements is true about arrays of structures in C?

a) All structure elements in the array must be of the same type.

**b) Arrays of structures can only store a fixed number of elements.**

c) Arrays of structures cannot be initialized during declaration.

d) Arrays of structures can only be accessed using index notation.

21) What is the output of C program with structures pointers.?

int main()

{

struct forest

{

int trees;

int animals;

}F1,\*F2;

F1.trees=1000;

F1.animals=20;

F2=&F1;

printf("%d ",F2.animals);

return 0;

}

a) 0

b) 20

**c) Compiler error**

d) None of the above

22) What is the output of C program ?

int main()

{

struct bus

{

int seats;

}F1, \*F2;

F1.seats=20;

F2=&F1;

F2->seats=15;

printf("%d ",F1.seats);

return 0;

}

**a) 15**

b) 20

c) 0

d) Compiler error

23)What is the output of C program with structure array pointers.?

int main()

{

struct car

{

int km;

}\*p1[2];

struct car c1={1234};

p1[0]=&c1;

printf("%d ",p1[0]->km);

return 0;

}

a) 0

b) 1

**c) 1234**

d) Compiler error

24)What is the output of C program with Structure pointer in TurboC.?

int main()

{

struct books{

int pages;

char str[4];

}\*ptr;

printf("%d",sizeof(ptr));

return 0;

}

a) 2

**b) 6**

c) 7

d) 8

25)In a nested structure definition, with country.state.district statement, member state is actually present in the structure.? (COUNTRY, STATE, DISTRICT structures)

a) district

b) state

**c) country**

d) None of the above

26) What is the output of C program with structures.?

void show(int,int);

int main()

{

struct paint{

int type;

int color;

}p;

p.type=1;

p.color=5;

show(p.type,p.color);

return 0;

}

void show(int a,int b)

{

printf("%d %d",a,b);

}

a) 1 1

**b) 1 5**

c) 5 1

d) Compiler error

27) What is the output of C program with structures.?

int main()

{

struct paint{

int type;

int color;

}p1, p2;

p1.type=1;

p1.color=5;

if(sizeof(p1)==sizeof(p2))

{

printf("SAME");

}

else

{

printf("DIFFERENT");

}

return 0;

}

**a) SAME**

b) DIFFERENT

c) Compiler error

d) None of the above

28) Choose a correct statement about structure and array.?

a) An array stores only elements of same type. Accessing elements is easy.

b) A structure is preferred when different type elements are to be combined as a single entity.

c) An array implementation has performance improvements to structure

**d) All the above**

29) Which of the following is a properly defined structure?

a) struct a\_struct int a;

**b) struct a\_struct {int a;};**

c) struct {int a;}

d) struct a\_struct {int a;}

30)What will be the output of the following C code?

#include <stdio.h>

struct p

{

int x;

char y;

};

void foo(struct p\* );

int main()

{

typedef struct p\* q;

struct p p1[] = {1, 92, 3, 94, 5, 96};

foo(p1);

}

void foo(struct p\* p1)

{

q ptr1 = p1;

printf("%d\n", ptr1->x);

}

**a) Compile time error**

b) 1

c) Segmentation fault

d) Undefined behaviour