STRUCTURES AND UNIONS QUIZ SOLUTIONS

What will be the output of the following code?

Multiple choice

```
#include <stdio.h>
    struct student
    {
        char *name;
    };
    struct student fun(void)
    {
        struct student s;
        s.name = "alan";
        return s;
    }
    void main()
    {
        struct student m = fun();
        printf("%s", m.name);
    }
```

- ○ Compilation error ✗
- ○ Segmentation Fault ✗
- ○ Alan ✓ ✗
- ○ Junk Value ✗

Which of the following are incorrect syntax for pointer to structure? (Assuming struct temp{int b;}*my_struct;)

Checkboxes

- ☐ *my_struct.b = 10; ✓ ✗
- ☐ (*my_struct).b = 10; ✗
- ☐ my_struct->b = 10; ✗

Which of the following structure declaration will throw an error?

Multiple choice

- struct temp{}s; main(){}
- struct temp{}; struct temp s; main(){}
- struct temp s; struct temp{}; main(){}
- None of the mentioned ✓

What will be the output of the code?

Multiple choice

```
#include <stdio.h>
    struct student
    {
        int no;
        char name[20];
    }
    void main()
    {
        struct student s;
        s.no = 8;
        printf("hello");
    }
```

- hello
- Compile time error ✓
- Nothing
- Run time error

Which of the following operation is illegal in structures?

Multiple choice

- Dynamic allocation of memory for structure
- Pointer to a variable of the same structure
- Typecasting of structure ✓
- All of the mentioned

Which of the following is not true about a structure?

Multiple choice

- We can also declare an array of Structure.
- We cannot pass a structure as a function argument ✓
- Structure are used to construct a complex data type in a meaningful way
- A Structure can be nested inside under Structure.

Presence of code like “s.t.b = 10” indicate

Multiple choice

- Syntax Error
- structure ✓
- double data type
- An ordinary variable name

What will be the output of the following code?

Multiple choice

```c
#include <stdio.h>
    struct p
    {
        int x;
        char y;
        struct p *ptr;
    };
    int main()
    {
        struct p p = {1, 2, &p};
        printf("%d\n", p.ptr->x);
        return 0;
    }
```

- 1 ✓
- Undefined behaviour
- Compile time error
- 2

Which of the following comment about Union is false?

Multiple choice

- Union is a structure whose members share same memory area
- The compiler will keep track of what type of information is currently stored ✓
- Only one of the members of union can be assigned a value at particular time
- Size allocated for Union is the size of its member needing the maximum storage

Size of a union is determined by size of the

Multiple choice

- First member in the union
- Last member in the union
- Biggest member in the union ✓
- Sum of the sizes of all members

Predict the output of below program. Assume that the size of an integer is 4 bytes and size of character is 1 byte.

Multiple choice

```
union test{
    int x;
    char arr[8];
    int y;
};
 int main()
{
printf("%d", sizeof(union test));
    return 0;
}
```

- Option 1
- 6
- 8 ✓
- Compiler error

Predict the output of above program. Assume that the size of an integer is 4 bytes and size of character is 1 byte. Also assume that there is no alignment needed.

Multiple choice

```
union test
{
    int x;
    char arr[4];
    int y;
};

int main()
{
    union test t;
    t.x = 0;
    t.arr[1] = 'G';
    printf("%s", t.arr);
    return 0;
}
```

- ○ Nothing is printed ✓ ✗
- ○ G ✗
- ○ Garbage character followed by 'G' ✗
- ○ Garbage character followed by 'G', followed by more garbage characters ✗
- ○ Compiler Error ✗

What would be the size of the following union declaration?

Multiple choice

```
union uTemp
{
double a;
int b[10];
char c;
}u;
```

- 4 ✗
- 8 ✗
- 40 ✓ ✗
- 80 ✗

For the following function call which option is not possible? func(&s.a); //where s is a variable of type struct and a is the member of the struct.

Multiple choice

- Compiler can access entire structure from the function ✓ ✗
- Individual members address can be displayed in structure ✗
- Individual member can be passed by reference in a function ✗
- None of the above ✗

What is the output of the C program?

Multiple choice

```
int main()
{
    struct tree
    {
        int h;
        int w;
    };
    struct tree tree1={10};
    printf("%d ",tree1.w);
    printf("%d",tree1.h);
    return 0;
}
```

- 0 0 ✗
- 10 0 ✗
- 0 10 ✓ ✗
- 10 10 ✗