Review Questions

1. This can be said to be an extension of an array, and unlike an array, it has several data types as members and can be stored and used in one field. And Structures can be useful when you want to store various information related to a one subject.
2. This sentence is wrong. Because declaring a structure simply serves to inform the compiler in advance of how the structure will be stored in memory or details of the member in advance. Memory allocation for structure is done when structure variables are declared.
3. The major difference between a structure and an array is that an array can store only information of same data type.
4. The message queue used for unidirectional communication with other processes has a structure as a communication unit. And The shared memory used for two-way communication with other processes also has a structure as a communication unit.
5. By using typedef, we can create a new data type name that we want to. It does not create new data, simply defines a new type.
6. There are two ways to initialize a structure. The first is to initialize the value when the structure is declared, and the second is to initialize it while declaring the structure variable. For example)

```
struct employee
{
        int em_number;
        char name[20];
        float fee;
}emp1={8804, LEEDONGJOON, 300.0};
```

or

```
struct employee emp1={8804, LEEDONGJOON, 300.0};
```

7. You created a structure to store information about the employee. However, there is not only one employee at work. Structure arrays are necessary because multiple employees' information needs to be stored.
8. Similar to structures, a union is a collection of variables of different data types. Union can save memory and it is useful for having multiple members where values not be assigned to all the members at any one time.
9. Unions are similar to structure. But unlike structure, it shares the space of the largest data type among members. Individual members of structures have spaces for each member. The space of the structure is equal to the sum of the spaces of each member.
10. The structure name is needed when declaring a structure, and the structure variable is needed to access the member values of the structure.

11. Access to union members is the same as access to members of structures. Writing the union variable name, write the name of the member after the dot operation.
12. A nested structure is a structure that contains another structure as its member.
13. It is useful for having multiple members where values not be assigned to all the members at any one time.

Multiple-choice Questions

1.(a)
2.(c)
3.(b)
4.(b)
5.(b)
6.(b)
7.(d)

True or False

1. F
2. F
3. T
4. F
5. T
6. F
7. T
8. T
9. F
10. T
11. T
12. T
13. F
14. F

Fill in the Blanks

1. user-defined
2. The structure declaration
3. structure name
4. typedef
5. 0
6. '\0'
7. dot operator

8. nested structure
9. self-referential
10. structure variable declaration
11. Union
12. alternative of *
13. Union