File Organization Contents and Question Samples

1- What is File Structure and what are the main roles of file structure?
2- Data processing involves……. , ...…….. and ……
3- Compare between main memory and secondary memory.
4- Describe the memory hierarchy.
5- What are the main characteristics of a good file structure design?
6- You should know the rules of naming files.
7- Define file extension with examples.
8- Define file format with examples.
9- What .hlp, .com, .avi and ods file formats refer to?
10- Define file header.
11- What is file management, and what are the advices or tips that make the file management easier and efficient?
12- What are the types of secondary storage devices with examples?
13- What are the types of storage technologies, with examples of each?
14- Describe the structure of hard disk in details, with charts and figures for illustration. (you should write full details)
15- You should study well how to calculate disk capacity as given in lecture 2, slides (30,31and 32)
16- Define cluster and extent.
17- When to choose large cluster size and small cluster size?
18- What is the cost of disk Access?
19- Write short notes about Optical Storage Technology.
20- What is buffering, describe with a chart system I/O buffer?
21- What are the different buffer strategies in details?
22- Define field, record and key, then compare between the two types of keys?
23- Explain in detail the different methods for organizing fields (example, advantages and disadvantages)
24- Write the 5 methods of organizing records with examples?
25- Describe in detail the methods for record access.

26- What are the main strategies of record deletion with explanation?

27- What are the main strategies of placement of new record with explanation?

28- Show an example of fragmentation and defragmentation.

29- What is the motivation for data compression?

30- Define entropy and write the formula?

31- List data compression methods.

32- Use Run-length encoding algorithm to encode the following data stream: 33 44 56 33 33 33 44 55 66 55 55 55 55 55 55 55 55 56 56 56 77.

33- Assume you have the following frequency table of characters

A	B	T	G	F	L	K
17	12	22	15	13	19	10

Calculate the Huffman code for each character: {A, B, T, G, F, L and K}

34- Using Lempel Ziv Encoding, encode a file containing the following characters and draw the corresponding digital tree. **"a a a b b c b c d d d e a b"**

35- Write short notes on Lossy Compression Methods.

36- What is hashing, with examples?

37- How to reduce collision while defining hash function?

38- You will be given hash function and you should use to assign memory cell to each record as in slides 30, 36, 41, 46,..