Q1. Describe the differences between text and binary files in a single paragraph.

**Ans:** Binary file contains the data in the form of 0 and 1(series of binary values) and text files contains the data in the form of stream of characters. In general, binary files are identified as executable files. But binary files are not in readable form as like text file. While both binary and text files contain data stored as a series of bits (binary values of 1s and 0s), the bits in text files represent characters, while the bits in binary files represent custom data. While text files contain only textual data, binary files may contain both textual and custom binary data.

Q2. What are some scenarios where using text files will be the better option? When would you like to use binary files instead of text files?

**Ans:** A text file is used to store standard and structured textual data or information that is human readable. It is defined in several different formats, including the most popular ASCII for cross-platform usage, and ANSI for Windows-based operating platforms. When file does need to be read by people or need to be ported to a different type of system, text files should be preferred over binary files.

Q3. What are some of the issues with using binary operations to read and write a Python integer directly to disc?

**Ans:** In Python, you can simply use the bin () function to convert from a decimal value to its corresponding binary value. And similarly, the int () function to convert a binary to its decimal value. The int () function takes as second argument the base of the number to be converted, which is 2 in case of binary numbers.

Q4. Describe a benefit of using the with keyword instead of explicitly opening a file.

**Ans:** Using with means that the file will be closed as soon as you leave the block. This is beneficial because closing a file is something that can easily be forgotten and ties up resources that you no longer need. With the “With” statement, you get better syntax and exceptions handling. “The with statement simplifies exception handling by encapsulating common preparation and clean-up tasks.” In addition, it will automatically close the file. The with statement provides a way for ensuring that a clean-up is always used.

Q5. Does Python have the trailing newline while reading a line of text? Does Python append a newline when you write a line of text?

**Ans:** Python redline () method reads only one complete line from the file given. It appends a newline ("\n") at the end of the line. If you open the file in binary mode, redline () will return you binary object.

Q6. What file operations enable for random-access operation?

**Ans:** Every file is opened in three different modes: Read, Write, and append. A Read pointer is maintained by the OS, pointing to the position up to which, the data has been read. Re-positioning is simply moving the file pointers forward or backward depending upon the user's requirement. It is also called as seeking.

Q7. When do you think you will use the struct package the most?

**Ans:** This module performs conversions between Python values and C structs represented as Python bytes objects. Format strings are the mechanism used to specify the expected layout when packing and unpacking data. Modules struct is available in Python 3. x and not on 2.

Q8. When is pickling the best option?

**Ans:** Python pickle module is used for serializing and de-serializing a Python object structure. Any object in Python can be pickled so that it can be saved on disk. What pickle does is that it “serializes” the object first before writing it to file. Pickling is a way to convert a python object (list, dict, etc.).

Q9. When will it be best to use the shelve package?

**Ans:** The shelve module can be used as a simple persistent storage option for Python objects when a relational database is overkill. The shelf is accessed by keys, just as with a dictionary. The values are pickled and written to a database created and managed by anydbm.

Q10. What is a special restriction when using the shelve package, as opposed to using other data dictionaries?

**Ans:** The shelf dictionary has certain restrictions. Only string data type can be used as key in this special dictionary object, whereas any picklable Python object can be used as value.