**When is compaction of secondary storage beneficial from the File Manager’s perspective? Give several examples. List some problems that could be a result of compaction, and explain how they might be avoided.**

Step 1:

Compaction refers to the shrinking or combining of hardware in order to make better use of physical memory space.

Compaction of secondary storage:

Compaction of secondary storage is advantageous from the standpoint of the file manager because of the following:

• The file manager is in charge of secondary storage upkeep.

• When compared to memory compaction, secondary storage compaction can take seconds, while disc compaction can take hours.

• In general, compaction is prompted by user complaints about having to wait a long time to retrieve data from files.

The files are scattered over the disc, generating a long chain of connections that must be viewed in order.

Step 2:

Disk compaction can take several hours compared to memory compaction, which can take seconds. As a result, it should be done infrequently. Compaction is usually prompted by user complaints about excessive wait times while getting data from files scattered over the disc, generating a long chain whose links must be retrieved in order.

Data files and databases that grow with time are good examples of files that must be compacted on a regular basis.

If the system crashes while compaction is in progress, the files in transit may be lost. This could be avoided by performing a full backup of the disc to be compressed before beginning the process. This, however, would increase the overhead.