**8.1 Explain the difference between internal and external fragmentation**

Internal fragmentation = Memory allocates to a process may be slightly larger than a request memory. The difference between two is internal fragmentation

External fragmentation = When processes are loaded and then removed from memory, hole or free memory space occurs into small pieces. The total space in memory is enough for a request but the available spaces are not contiguous. This problem can be fixed by using compaction

**8.5 Compare the memory organization schemes of contiguous memory allocation pure segmentation, and pure paging with respect to the following issues:**

**a. External fragmentation**

Paging avoids external fragmentation by using compaction, but segmentation does not.

**b. Internal fragmentation**

Internal fragmentation can appear in paging because frames are allocated as units. If the memory requirements of a process do not happen to coincide with page boundaries, the last frame allocated may not be completely full.

**c. Ability to share code across processes**

Code sharing occurs at segment level in segmentation

**8.12 Assuming a 1-KB page size, what are the page number and offset for the following address references (provided as decimal numbers):**

**a. 3085**

**b. 42095**

**c. 215201**

**d. 650000**

**e. 2000001**