A)

1. #bytes per record (x) = 4 (integer) \*1 (due to the sid of type int) + 1 (character) \*30 (maximum of 30 characters for sname) + 1\*66 (address) = 100 bytes
2. #records per page (r) = floor(2000/x)=floor(2000/100) = 20 records due to the assumption that only 2000 bytes are used to store records and as many records as possible are stored per page.
3. #total no. of pages for storing all the rows for this relation = ceil(10,000/20) = 500
4. The disk I/O cost is 1 (header page) + 500 (all the records) disk I/Os.

B)

Disk I/O has the same cost as A due to the fact that only full table scan is used (and requires disk access)

C)

1. Disk I/O cost = disk I/O cost of full table scan + disk I/O cost of writing rows into somesailors.
2. #rows to write to disk = 10000\*0.1 = 1000 rows
   1. #bytes for each row = 4\*1+ 1\*30 = 34 bytes
   2. #rows per page = floor(2000/34) = 58 rows
   3. #data pages to write 1000 rows = ceil(1000/58) = 18.
3. The disk I/O cost of the last operator writing to disk = 1 (header page) + 18 = 19
4. The total disk I/O cost for the above query plan = the cost of full table scan + the cost of writing into somesailors = 501 + 19 = 520 pages.