a) One algorithm that might be described (variations are possible)
- multi-level priority queue structure. eg 8 queue
- high priority queues have low quantum & vice versa
  eg 10ms → 100ms over range of queues.
- pre-emptive between queues
- process uses all quantum → end of queue below
- process blocks for I/O → wait → ready → end of queue above
- lower e.g. 2 queues ordered by wait-time.

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- if wait time > some value promote to end of queue above

b)(i) Metadata contents:
  type : file, directory, symbolic link, device, pipe ....
  times : creation, last access, last write
  access control : who can do what. who: individuals
              groups, programs (eg set uid)
              what: typically read, write, execute, append
              for files, lookup, add-remove entry for directories
  location of object on disk (if on disk)
  directory maintenance &/or existence control:

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              backward pointers, reference counts.

(ii) directory service, typical operations : (variations possible)
      fileID ← create (pathname)
      fileID ← open (pathname, mode)
      bytes ← read (file ID, memory-pointer, byte-count)
      done ← write (" , " , ")
          assuming an implicit pointer for read & write
      done ← close (fileID)
              + create
open/use metadata to retrieve directories & resolve pathname
create & delete require directory update — check access
                                            are
concurrency control MRSW or shared/exclusive locks may be

7 offered : mandatory or advisory.
(access control details may be in b(i) or b(ii) & marks adjusted)

Question is on Part 2 of the course