

[5] Select the correct answer:

- a) In FreeRTOS, if there is one task with priority 3 and two tasks with priority 1 then:
- (i) all tasks will run using round robin with first task given longer time slices.
 - (ii) first task will run until it is blocked then the other two tasks will run in round robin.
 - (iii) the two tasks will preempt the first task.
- b) A FreeRTOS task that sends data to a full queue will:
- (i) overwrite last data item in queue.
 - (ii) be blocked until a timeout period ends.
 - (iii) inherit priority of the task receiving from queue.
- c) In FreeRTOS, the difference between a binary semaphore and a counting semaphore is:
- (i) Binary semaphore implements priority inheritance.
 - (ii) Value of Binary semaphore cannot exceed 1.
 - (iii) Both of the above.
- d) The memory assigned to a deleted FreeRTOS task:
- (i) Cannot be used by any other task.
 - (ii) Can be freed and used by other tasks if proper version of memory allocation function is used.
 - (iii) Can be used only by other tasks running the same function as the deleted task.
- e) The advantage of stopping context switching by an ISR in FreeRTOS is that:
- (i) unblocked high priority tasks can run immediately.
 - (ii) ISR is given a higher priority.
 - (iii) interrupts can be enabled.

Which of the following statements is true? Correct the false statements

- f) Interrupts will preempt any FreeRTOS task.
- g) Application developer cannot change the number of FreeRTOS task priority levels.
- h) In FreeRTOS any number of tasks can send or receive data to/from a queue.
- i) Taking a FreeRTOS mutex is equivalent to putting its value to 0.