MANIPAL UNIVERSITY
SCHOOL OF INFORMATION SCIENCES

SECOND SEMESTER MASTER OF ENGINEERING – **ME** (EMBEDDED SYSTEMS)
DEGREE EXAMINATION (MAKE-UP) – JULY 2016

SUBJECT: **ESD 604 – DEVICE DRIVERS**

Thursday, July 14, 2016

Time: 10.00 – 13.00 Hrs.   Max. Marks: 100

1. Write a module to print the multiples of five. How do we compile it? The code should be written in init_module.

    (7+3 = 10 marks)

2. Differentiate between kernel modules and applications.

    (10 marks)

3. Give details about current as applied to a process in linux.

    (10 marks)

4. Comment on dev_t and kdev_t structures used with respect to major and minor numbers.

    (10 marks)

5. What is a semaphore? Why do we use it?

    (7+3 = 10 marks)

6. Comment on the device file-system. How can we create a directory in the device file system?

    (7+3 = 10 marks)

7. How do we introduce long delays in linux kernel?

    (10 marks)

8. How can we write pausing data to I/O ports?

    (10 marks)

9. Why do we need to disable interrupts in interrupt handlers?

    (10 marks)

10. Comment on use of lock variables to avoid race conditions in an interrupt handler.

    (10 marks)

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