

# Question Paper

Exam Date & Time: 23-Jun-2022 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences (MSIS), Manipal  
Second Semester Master of Engineering - ME (Embedded Systems) Degree Examination - June 2022

### Device Drivers [ESD 5201]

Marks: 100

Duration: 180 mins.

Thursday, June 23, 2022

Answer all the questions.

- 1) Describe the structure of a Linux kernel (TLO 1.1) (10)
- 2) Differentiate between kernel modules and applications (TLO 1.2) (10)
- 3) Illustrate how we print the base name of the program of the current process and its PID (TLO 1.3) (10)
- 4) Explain how we dynamically allocate major number. Give an example. (TLO 3.1) (10)
- 5) Explain semaphore and its need (TLO 2.2) (10)
- 6) Write about wait queues. Where do we use it? Give examples to illustrate the usage of wait queues. (TLO 2.3) (10)
- 7) Illustrate how you introduce delays in the kernel. Give suitable examples (TLO 2.4) (10)
- 8) Write about task/work queues. Where are they useful? (TLO 2.3) (10)
- 9) Explain how to create a timer in the kernel? Give an example. (TLO 2.4) (10)
- 10) Discuss how to share an interrupt. Give an example code for a shared interrupt. (TLO 3.2) (10)

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