SEAT No. :

P2611

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T.E. (Computer Engineering)
EMBEDDED OPERATING SYSTEMS
(2012 Pattern) (Semester - II) (End Sem.) (310250)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) *Answer: Q.No.1 or Q.No.2, Q.No.3 or Q.No.4, Q.No.5 or Q.No.6, Q.No.7 or Q.No.8, Q.No.9 or Q.No.10.*
2) *Neat Diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume Suitable data, if necessary.*

Q1) a) How the selection of a scheduling algorithm made? **[6]**

     b) When IPC needed? Name two methods? **[4]**

OR

Q2) a) What is BBB? Explain its important characteristics. **[4]**

     b) What are the different operating modes of ARM? Explain. **[6]**

Q3) a) Explain the reasons for the growth of Embedded Linux. **[4]**

     b) List different executables or binaries of Embedded Linux? **[4]**

     c) What is NAND flash memory? **[2]**

OR

Q4) a) With the help of neat diagram, explain embedded Linux development setup. Comment on communication protocols used in the setup. **[7]**

     b) What is Busy Box? **[3]**

Q5) a) What do you mean by cross development using embedded Linux? **[6]**

     b) Explain the architectural features of flash memory. How it is useful in embedded systems? **[5]**

     c) What are the different types of device drivers? Explain Ismod and modprobe. **[6]**

OR

P.T.O.

Q6) a) What are the features of bootloader used for embedded systems? Also mention the challenges faced by bootloader. **[6]**

b) What is the use of flash memory found on the embedded/target board? What are the limitations of flash memory? **[5]**

c) How to build device drivers in Embedded Linux? **[6]**

Q7) a) What are tracing and profiling tools? Name and explain 3 such tools. **[7]**

b) What is GDB debugger? Explain its role in Linux kernel debugging. **[6]**

c) How to debug the kernel using 'printk'? **[4]**

OR

Q8) a) Name and explain two popular methods of source -level Linux kernel debugging. **[8]**

b) What is remote debugging? How it is done? **[6]**

c) What is DDD? **[3]**

Q9) a) What are the issues involved in Linux kernel preemption? **[6]**

b) Explain different assumptions and requirements involved while porting Linux on target board. **[6]**

c) Explain bootloader in Android. **[4]**

OR

*Q10)*a) Explain the following with respect to embedded android: **[6]**

   i)   Init

   ii) Launcher

   iii) Activity manager

b) Which Linux version supports real-time features? What are the real-time features of this Linux kernel? **[6]**

c) What do you mean by porting Linux? **[4]**

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