

Total No. of Questions : 10]

P2611

[5153]-587

SEAT No. :

[Total No. of Pages : 2

**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]

