

Total No. of Questions : 10]

SEAT No. :

**P3535**

**[5560]-187**

[Total No. of Pages : 2

**T.E. (Computer Engg.)**

**EMBEDDED OPERATING SYSTEMS**

**(2012 Pattern) (Semester - II) (310250)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.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)** What the features of ARM processor? List the Registers of ARM. **[6]**

**b)** Explain the features of Real time operating system. **[4]**

OR

**Q2) a)** Name and explain the different operating modes of ARM. **[6]**

**b)** Define hard real time, soft real time, Latency, Deadline. **[4]**

**Q3) a)** Justify Linux is more popular in embedded system. **[4]**

**b)** Write a Note on : **[6]**

- i) Tool Chain
- ii) UBoot.

OR

**Q4) a)** Name and explain kernel image components. **[6]**

**b)** What is cross development environment for Linux? **[4]**

**Q5) a)** How to format and partition a USB stick? Explain the commands used. **[5]**

**b)** Explain the term 'journaling'. Name and explain two file systems which use journaling. **[6]**

**c)** Explain the following Linux utilities used: **[6]**

- i) mount
- ii) mke2fs
- iii) fdisk

OR

**P.T.O.**

- Q6)** a) What is Das U-Boot? What are U-Boot command sets? [7]  
b) What are the different file systems used for embedded Linux? [7]  
c) What are pseudo file systems? Name any one. [3]

- Q7)** a) Why tracing and profiling tools are required? Name and explain 3 such tools. [7]  
b) How to debug a core dump using GDB? [6]  
c) What is SSH? When do you use it? [4]

OR

- Q8)** a) Explain interfacing of BBB with Stepper motor. [7]  
b) How to debug Linux kernel code? [6]  
c) What are the various development tools used in embedded development? [4]

- Q9)** a) Explain System Server, Activity Manager in Android. [5]  
b) How to port Linux on target board? [5]  
c) How do you customize Linux for specific board? [6]

OR

- Q10)** a) Which Linux version supports real-time features? What are the real-time features of this Linux kernel? [6]  
b) How different latency periods affect the real-time process execution? [6]  
c) Explain Init process. [4]

