

NOV 2015

Total No. of Questions : 10]

SEAT No. :

P1344

[Total No. of Pages : 3

[4858] - 1088

T.E. (Computer Engineering) (Semester - II)

Embedded Operating Systems

(2012 Pattern) (End Sem.)

Time : 2 1/2 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 side indicate full marks.
- 4) Assume suitable data if necessary.

Q1) a) With the help of a diagram explain the classification of real-time scheduling methods. [6]

b) Explain role of barrel shifter in the ARM. [4]

OR

Q2) a) Write an ARM assembly program to find value of expression $3X + 6Y + 9Z$, where $X = 4$, $Y = 5$, $Z = 3$. [6]

b) Explain how embedded operating systems are different than desktop operating systems? [4]

Q3) a) Write short notes on (any two): [6]

i) LSB.

ii) OSDL.

iii) Kernel command line processing.

b) Differentiate between 'NOR' Flash & 'NAND' Flash. [4]

OR

P.T.O.

Q4) a) Why Embedded Linux is popular as OS for embedded system development? [4]

b) Write short note on (any two): [6]

i) BusyBox.

ii) Subsystem Initialization.

iii) init thread.

Q5) a) What are the challenges for bootloader in embedded system? [6]

b) Explain about U-boot configurable commands. [5]

c) Enlist device driver module utilities and explain the use of same. [6]

OR

Q6) a) Show the structure of PCI configuration header. [6]

b) Explain the JFFS2 file system. [5]

c) Write short notes on (any two): [6]

i) MTD.

ii) TFTP server.

iii) DHCP server.

Q7) a) Explain the tracing and profiling tools used in Embedded Application development. [6]

b) Explain the working of stepper motor? State any two applications of stepper motor in embedded systems. [6]

c) Draw & explain KGDB setup for kernel debugging. [5]

OR

- Q8)** a) Give different ways of debugging embedded applications. [4]
- b) With a neat diagram explain the graphics display of data in embedded systems. [7]
- c) Write short notes on (any two): [6]
- i) GStreamer Media framework.
 - ii) OpenGL ES.
 - iii) ssh.
- Q9)** a) Explain architecture of Android with neat diagram. [8]
- b) Write short notes on (any two): [8]
- i) Porting Linux application.
 - ii) Zygote.
 - iii) System server.

OR

- Q10)** a) Give the latency components in Linux with neat diagram. [8]
- b) Explain Android booting process with neat diagram. [8]

