

May - 2016

Total No. of Questions :10]
P2895

[4958]-1088

SEAT No. :
[Total No. of Pages :3]

T.E. (Computer Engineering)
EMBEDDED OPERATING SYSTEMS
(2012 Course) (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 side indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) How user space application communicates with the hardware? [4]

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

OR

Q2) 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]

Q3) a) Explain the steps involved in initialization flow of control on embedded Linux. [6]

b) Why 'BusyBox' is used in embedded systems? Explain. [4]

OR

Q4) a) What are the steps involved in 'subsystem initialization'? [4]

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

i) LSB

ii) OSDL

iii) Init thread

P.T.O.

Q5) a) Explain the role of boot loader in embedded systems. [4]

b) Explain Linux device driver architecture using minimal device driver. [8]

c) What module utilities are used to add, delete & to get information about the modules? [5]

OR

Q6) a) How MTD services are enabled in embedded system? [6]

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

c) Give the general steps involved in PCI discovery process and probe function. [6]

Q7) a) Explain the use of GDB in debugging a core dump. [7]

b) With a neat diagram explain the graphics display of data in embedded systems. [10]

OR

Q8) a) How to debug the kernel using 'printk'? [5]

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

i) DDD

ii) EGL

iii) OpenGL

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

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Q9) a) Explain in detail, development process of Android applications. [8]

b) Explain four preemption modes of Linux kernel. [8]

OR

Q10) a) Write short notes on (any two): [8]

i) Dalvik VM

ii) Zygote

iii) Activity Manager

b) What policies are used by Linux to schedule a real time process? [8]

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