

Total No. of Questions : 8]

SEAT No. :

P4831

[Total No. of Pages : 2

[5060] - 736

M.E. (E & TC) (VLSI & Embedded Systems)

EMBEDDED SYSTEM DESIGN

(2013 Pattern) (Semester - I)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates :-

- 1) *Answer any five questions.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *All questions carry equal marks.*
- 5) *Assume Suitable data if necessary.*

Q1) a) Discuss the constraints that should be considered when formulating a design Specification for an embedded system. [5]

b) Discuss in detail V type life cycle model with its advantages, disadvantages and applications. [5]

Q2) a) Define design metrics. Explain the design challenges for optimization of design metrics. [4]

b) Compare the functional model and architectural model of an embedded system. [3]

c) Explain partitioning and decomposing a system in system design phase. [3]

Q3) a) With the help of block diagram explain ARM9TDMI 5 stage pipeline organisation. [4]

b) Explain the ARM architectural support for system development. [3]

c) Explain in detail memory hierarchy & memory subsystem architecture. [3]

Q4) a) Explain the ARM floating point architecture in detail. [4]

b) Write a note on “Development Tools”, for an embedded system. [3]

c) Write a note on I2C & SPI protocol. [3]

P.T.O.

- Q5)** a) Explain in brief the Kernel Configuration (Kconfig) file. [5]
b) What is a device driver? With the help of suitable example explain the structure of Device driver program [5]
- Q6)** a) Differentiate between BIOS and boot loader. [4]
b) Explain the storage considerations in an embedded Linux. [3]
c) Explain "Flash File System", in an embedded Linux system. [3]
- Q7)** a) Explain in detail architecture of Android Operating System. [4]
b) Explain in detail structure of android applications. [4]
c) Write short note on, "Content Providers". [2]
- Q8)** a) What is "Android manifest"? Explain in brief the structure of Android manifest file. [5]
b) Write short note on : [5]
i) API with reference to Android OS.
ii) Telephony and SMS

