

Total No. of Questions :8]

SEAT No. :

**P3056**

**[4660]-1193**

[Total No. of Pages :2

**M.E. (E&TC) (VLSI & Embedded Systems)**  
**EMBEDDED SYSTEM DESIGN**  
**(2013 Credit Pattern) (Semester - I) (504103)**

*Time : 3 Hours]*

*[Max. Marks :50*

*Instructions to the candidates:*

- 1) Attempt any FIVE questions.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to the right indicate good marks.*
- 4) Assume suitable data if necessary.*

- Q1)** a) Explain Embedded system architecture & its aspects in detail. What are the different categories of embedded system? Give example of each category. **[4]**
- b) Write a short note on various development tools used in Embedded system design. **[3]**
- c) Define design metrics. Explain various design metrics used in embedded system. **[3]**
- Q2)** a) Discuss in detail V type life cycle model with its advantages, disadvantages and applications. **[4]**
- b) Explain partitioning and decomposing a system in system design phase. **[3]**
- c) Justify requirements specifications provides an external view of a system and explain requirement specifications of Embedded systems. **[3]**
- Q3)** a) Explain with block diagram & specifications ARM-9-TDMI processor. **[5]**
- b) Explain the architectural support provided in ARM processor for development. **[5]**
- Q4)** a) Explain in details memory hierarchy & memory subsystem architecture. **[4]**
- b) Write a note on I2C & SPI protocol? **[3]**
- c) Explain JTAG boundary scan organization. **[3]**

**P.T.O.**

- Q5)** a) Explain Embedded Linux System architecture. [4]  
b) What is the role of bootloader. Explain process of bootloading. [3]  
c) Explain various storage considerations in embedded Linux. [3]
- Q6)** a) What are different types of device drivers? Explain any one with reference embedded Linux. [5]  
b) What do you mean by kernel initialization? [5]
- Q7)** a) Explain Android architecture structure in details. manifest file. [4]  
b) Explain in detail advance operations with Android like telephony & SMS. [3]  
c) Explain Telephony and SMS for android operating system. [3]
- Q8)** a) Explain various network services support provided by Android OS. [4]  
b) Write short note on APIs with reference to Android OS. [3]  
c) Explain content providers with reference to Android OS. [3]

*EEE*