

Total No. of Questions : 8]

SEAT No. :

**P4304**

**[4860]-1253**

[Total No. of Pages : 2

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

**EMBEDDED SYSTEM DESIGN**

**(2013 Credit Pattern) (Semester-I)**

*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 hand side indicate full marks.*
- 4) Assume suitable data if necessary.*

**Q1)** a) What is a design Metric? Discuss various metrics considered in Embedded System Design. **[5]**

b) Identify and briefly discuss the steps that comprise the waterfall life cycle model. **[5]**

**Q2)** a) Discuss System requirements versus system specifications. **[5]**

b) What is the major reason for partitioning a system? During which stage of design system partition occurs? **[5]**

**Q3)** a) Explain in brief, ARM9TDMI5 stage pipeline organization. **[5]**

b) Explain in brief ARM architectural support for an operating system. **[5]**

**Q4)** a) Define the term context switching with reference to **[4]**

i) When to switch.

ii) Register state.

b) Write short note on, "Development tools for embedded systems". **[3]**

c) Explain the memory interface with ARM by using suitable diagram. **[3]**

**P.T.O.**

- Q5)** a) What are the storage considerations in an embedded Linux. [3]  
b) Differentiate between BIOS and Boot Loader. [3]  
c) Explain in brief the kernel configuration (Kconfig) in Linux. [4]
- Q6)** a) Write short note on Linux Kernel initialization. [5]  
b) What are the device drivers? Why device drivers are essential? [5]
- Q7)** a) Explain in detail Android manifest file and its structure. [4]  
b) What is use of Intents in android operating system. [3]  
c) What are the main features of an android operating system? [3]
- Q8)** a) Explain in brief the architecture of android operating system. [5]  
b) Write the short note on: [5]  
i) Telephony and SMS in an android operating system.  
ii) Contents Providers and Services.

