Total No. of Questions : 8] SEAT No. :

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[4860]-338
M.E. (Computer Engineering) (Semester - I)
EMBEDDED SYSTEM DESIGN
(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) ***Ans. any 3 questions from each section.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Assume suitable data if necessary.***

SECTION - I

Q1) a) Discuss use of signal conditioners and data converters in embedded system. **[8]**

b) Compare microprocessors, microcontrollers and DSP Processor architectures. Which architecture are more suitable to develop embedded systems & How? **[8]**

Q2) a) Discuss the functions and Applications of Real time clock and watch dog timer of ARM7. **[6]**

b) Discuss the interfacing of ADC/DAC with ARM7 & describe the I/O map. **[6]**

c) Illustrate with example the serial and Parallel Communication & interfacing with ARM7. **[6]**

Q3) a) Explain the Architecture & features of MIPS R5000 Processor. **[8]**

b) What are the major challenges in the Design of Embedded systems? **[8]**

Q4) a) Explain the interfacing of Timer/counter or stepper motor and applications in Embedded system. **[9]**

b) Explain/Discuss the serial communication Protocol architecture of RS485 and CAN. **[7]**

P.T.O.

SECTION - II

Q5) a) Explain how interrupts are landled in RTOS. **[8]**

b) Explain the Design and architecture of mobile phone as an embedded system. **[8]**

Q6) a) How the C/C++ program is converted into ROM image? Explain the steps also explain the architecture & features of MIPS R5000 Processor **[8]**

b) Explain the use of stacks and queues data structure in Embedded system software. **[8]**

Q7) a) Discuss important features of Vx works in Detail. **[6]**

b) State the difference between Compilers and Cross Compilers. **[6]**

c) Explain interprocess synchronization and Communication. w.r.t. Embedded O.S. **[6]**

Q8) a) Explain with example the embedded program structure in terms of breaking into Leader files, configuration files, functions & modules. **[8]**

b) What is the use of re-entrant functions in embedded system software. **[8]**