Total No. of Questions : 8]

SEAT No. : ____

P4272

[Total No. of Pages : 2

[5353] - 559
T.E. (E & TC)
ADVANCED PROCESSORS
(2015 Pattern) (Semester - II)

Time :2½ hours] ***[Max. Marks :70***

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 and Q7 or Q8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Use of calculator is allowed.***
5) ***Assume suitable data if necessary.***

Q1) a) What is TDMI? Draw and explain data flow model of ARM7 in detail. **[6]**

b) Write an ARM based ALP to find the count of Negative numbers from series of 10, 32 bit numbers and store count in r1. **[7]**

c) Draw an interfacing diagram for GLCD with data pins from port 0 and control pins from port 1 of LPC2148 and write an embedded C program to display "square wave" starting at x = y = 16. **[7]**

OR

Q2) a) Draw and explain the complete ARM register set with concept of changing mode on exception. **[6]**

b) State features of LPC2148. Explain the function of PIN connect block, how ports are selected for I/O functions using same. **[7]**

c) Write an embedded C program to generate the delay of 100 msec using Timer of LPC 2148 with CCLK = 20 MHz and VPBDIV = 0 × 00. **[7]**

Q3) a) Draw an Interfacing diagram of GSM module with LPC2148 and write an initialization program to send a message. **[8]**

b) State features of ADC in LPC2148, draw an interfacing diagram to display the sensed temp on LCD with initialization program. **[8]**

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OR

Q4) a) Draw an interfacing diagram of EEPROM using I 2C with LPC2148 and write an initialization code. **[8]**

b) Draw the interfacing diagram of SD card with LPC2148, explain the step to switch from SD bus mode to SPI bus mode. **[8]**

Q5) a) Draw and explain the computer hardware architecture for Digital Signal Processing with concept of Parallelism having more focus on Pipelining. **[8]**

b) Explain the concept of pairing general purpose register files of TMS320C67X processor with example. **[8]**

OR

Q6) a) State features of TMS320C67X processor? Draw and explain architecture of TMS320C67X processor. **[8]**

b) Explain the concept of Extended Parallelism with detailed explanation on SIMD. **[8]**

Q7) a) Explain function of different functional units of TMS320C67X processor with two instructions of each. **[8]**

b) Enlist the On – Chip peripherals of TMS320C67X processor and explain any two in details. **[10]**

OR

Q8) a) Draw and explain the internal memory architecture of TMS320C67X processor. **[8]**

b) Explain the concept of Pipeline Operation in TMS320C67 processor for improving performance with different phases. **[10]**