

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 $VPBDIV = 0 \times 00$. [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]

P.T.O.

OR

Q4) a) Draw an interfacing diagram of EEPROM using I²C 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]

