Total No. of Questions : 6]

SEAT No. : ____

P533

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T.E./Insem/APR-122
T.E. (E & TC) (Semester - II)
ADVANCED PROCESSORS
(2015 Pattern)

Time :1 Hour] ***[Max. Marks : 30***

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4 and Q.5 or Q.6.***
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, Compare the ARM7, ARM9 and ARM11 processors. **[5]**

b) Describe CPSR and SPSR of ARM 7 in detail. **[5]**

OR

Q2) a) Draw and explain the Data flow model of ARM7. **[5]**

b) State and explain different operating modes of ARM7. **[5]**

Q3) a) Draw and explain the block schematic of Timer used in LPC2148. **[5]**

b) Explain with neat diagram relation between CCLK and PCLK with the help of VPB/APB divider. Find the configuration of VPB divider to achieve PCLK = 30MHz for FOSC = 12MHz. **[5]**

OR

Q4) a) State features of LPC2148. **[5]**

b) Write an ARM based ALP to add series of 8,32 bit numbers and store result in register and memory. **[5]**

Q5) a) Draw an interfacing diagram for GLCD connected 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. **[5]**

b) Draw and explain the block diagram of UART1. **[5]**

OR

Q6) a) Draw and explain the interrupt structure of LPC2148. **[5]**

b) Draw an interfacing diagram of 4×4 matrix keypad with LPC2148 and write an embedded C program to detect the key. **[5]**