SEAT No. :

P1730

[5460] - 559
T.E. (E & Tc)
ADVANCED PROCESSOR
(2015 Pattern)

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)   Explain with schematic the ARM based embedded device in detail   **[6]**

    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 = 12 MHz.   **[7]**

    c)   Draw an interfacing diagram of LED with LPC 2148 port1 and write a C program to display hex counter   **[7]**

OR

Q2) a)   Draw the structure of CPSR and explain the functions of each bit   **[6]**

    b)   Draw and explain the system memory MAP of LPC 2148   **[7]**

    c)   Draw an interfacing diagram for GLCD with data pins from port 0 and control pins from port1 of LPC 2148 and write an embedded C program to display "square wave" starting at x = y = 10.   **[7]**

Q3) a)   Draw the interfacing diagram of SD card with LPC 2148. Explain the step to switch From SD bus mode to SPI bus mode   **[8]**

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

P.T.O.

Q4) a) What is role of Vref in ADC and DAC ? Write a C program for generation of Triangular wave using on-chip DAC in LPC2148. **[8]**

b) Draw the interfacing diagram of EEPROM using 12C bus with LPC 2148. Explain the steps to read/write from/to 12C EEPROM. **[8]**

Q5) a) Explain the use of Hardware FFT processor with block schematic **[8]**

b) Explain the concept of Pairing General purpose register files of TMS320C67X processor with example **[8]**

Q6) a) Explain in detail Selection Criteria of DSP.Compare the versions of fixed point digital signal processors **[8]**

b) Draw and explain Data paths ofTMS320C67X processor. **[8]**

Q7) a) Explain the operation of basic Fetch packet format in details **[8]**

b) Enlist on chip peripheral ofTMS320C67X processor? Explain with block diagram of Timers. **[10]**

Q8) a) Explain the functions of following instructions in detail **[8]**

   i) MVKLH .S1 or .S2;

   ii) LDBU .D1 or .D2;

   iii) SADD .L1 or .L2;

   iv) MPYU .M1 or .M2

b) Draw and explain the internal memory architecture of TMS320C67X processor **[10]**

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