

Total No. of Questions : 8]

SEAT No. :

P1730

[Total No. of Pages : 2

[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.

OR

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]

OR

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 of TMS320C67X processor. [8]

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

b) Enlist on chip peripheral of TMS320C67X processor? Explain with block diagram of Timers. [10]

OR

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]

