SEAT No. :

[Total No. of Pages : 2

TE/Insem/APR - 21
T.E. (E & TC)
EMBEDDED PROCESSORS
(2012 Pattern) (Semester - II)

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 indicate full marks.

　　4)　Use of calculator is allowed.

　　5)　Assume suitable data, if necessary.

Q1) a) Draw and explain programming model of ARM 7. **[5]**

　　 b) Explain bits and it's function in CPSR? What is need of SPSR. **[5]**

OR

Q2) a) Explain the privileged and non - privileged modes of processor. **[6]**

　　 b) Explain following ARM instructions (any two) **[4]**

　　　　i)　ANDS r_0, r_1, r_2

　　　　ii)　RSB R_0, R_1, # 4

　　　　iii)　STMDA R_0!, $\{R_1 - R_3\}$

　　　　iv)　MLA R_0, R_1, R_2, R_3

Q3) a) Explain the relationship between Fosc, CCLK, Fcco w.r.t. PLLO. Show the frequency calculations to achieve CCLK = 60 MHz. **[6]**

　　 b) Explain in brief system control block in LPC2148 **[4]**

OR

P.T.O.

Q4) a) With an interfacing diagram, explain LCD (16 × 2) interfacing with LPC2148. Write algorithm for the same. **[6]**

b) State the features of LPC2148. **[4]**

Q5) a) Draw and explain interfacing of GPS module with LPC2148. **[5]**

b) What are SFRs associated with ADC in LPC2148. Write algorithm to use on - chip ADC in LPC2148. **[5]**

OR

Q6) a) Compare I2C and SPI protocol. **[5]**

b) What is vectored interrupt controller (VIC) in LDC2148? Explain significance of it. **[5]**

♦♦♦♦