Total No. of Questions : 6] **SEAT No. :**

P56 **[Total No. of Pages : 2**

TE/INSEM/APR-61
T.E. (E & Tc)
304191 : 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, Q.5. or Q.6.***
2) ***Neat diagrams must be drawn whenever necessary.***
3) ***Assume suitable data, if necessary.***

Q1) a) State and Explain different operating modes of ARM. **[6]**

b) What is significance of CPSR registers of ARM? Explain function of each bit. **[4]**

OR

Q2) a) Explain following instructions of ARM7 (any 3) **[6]**

i) Mov r1, r3, LSL #2

ii) BICS r0, r1, r2

iii) MLA r0, r1, r2, r3

iv) LDR r3, [r1]

b) Compare ARM7, ARM9, ARM11. **[4]**

Q3) a) Draw interfacing diagram and write an embedded C program to interface Eight LEDs connected to P1.16 to P1.23 of LPC2148 **[5]**

b) Write features of LPC2148. **[5]**

OR

P.T.O.

Q4) a) What is the need of Pin Connect Block in LPC2148? Explain the role of PINSELx registers. **[5]**

b) Draw and explain memory map of LPC 2148. **[5]**

Q5) a) What is the necessity of Vectored Interrupt Controller? Explain the working of VIC in LPC 2148. **[5]**

b) Enlist the features of on-chip ADC in LPC2148. Explain the function of ADCR.ADDR and ADSTAT register. **[5]**

OR

Q6) a) Draw and explain interfacing diagram of 12C EEPROM 24Cxxx with LPC2148. **[5]**

b) Draw interfacing diagram of GPS using UART with LPC 2148. Also write algorithm for the same. **[5]**