

Total No. of Questions : 6]  
**P499**

SEAT No. :   
[Total No. of Pages : 2

**TE/Insem/APR - 26**  
**T.E. (Electronics Engineering)**  
**EMBEDDED PROCESSORS**  
**(2012 Pattern) (Semester - II)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates :*

- 1) *Answer Q1 or Q2, Q3 or Q4 and Q5 or Q6.*
- 2) *Figures to the right indicate full marks.*
- 3) *Assume suitable data, if necessary.*

- Q1)** a) Draw & Explain Programming model of ARM7. [6]  
b) Compare ARM7, ARM9 and ARM11. [4]

OR

- Q2)** a) Explain the following instructions of ARM7. [6]  
i) LDR R0, [R1]  
ii) MLA R1, R2, R3, R4  
iii) MVN R0, R1  
b) What is function of barrel shifter in ARM dataflow model? [4]

- Q3)** a) Draw and explain architecture of LPC 2148 ARM. [6]  
b) Interface LED's to port P1 of LPC 2148. Write embedded C program to blink LED's. [4]

OR

- Q4)** a) Explain GPIO register of LPC 2148. [6]  
b) Write short note on VPB of LPC 2148. [4]

**PTO.**

**Q5)** a) Draw and explain interfacing of EEPROM by using I<sup>2</sup>C with LPC 2148. Also draw flow chart. [6]

b) Draw interfacing of DAC with LPC2148. Write an embedded C program to generate square wave. [4]

OR

**Q6)** a) Draw and interfacing of GSM with LPC2148. Explain any four AT commands. [6]

b) Compare I2C and SPI Protocol. [4]

