EXTC -V -RON 28/11/16

MA

Q.P. Code : 587900

(3 Hours) **[Total Marks : 80**

N. B.: (1) Question No. 1 is compulsory.
(2) Solve any three from remaining five questions.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary and mention the same in the answersheet.

Q1
a Differentiate between microprocessor and microcontroller. 5
b Explain 8051 assembler directives. 5
c Short Note: CPSR. 5
d List and explain design metrics of an Embedded System. 5

Q2
a Explain PORT 1 structure of 8051. 10
b Design a microcontroller system using 8051 microcontroller, 8kB EPROM & 8kB RAM. 10

Q3
a WAP for 8051 microcontroller to generate a square waveform of frequency 1kHz and 50% duty cycle at pin P1.1. Assume 8051 is operating at frequency 12MHz. 10
b Interface 8051 with DAC 0808, WAP to generate a triangular waveform. 10

Q4
a Draw and explain data flow model of ARM7. 10
b Explain register organization of ARM7. 10

Q5
a Explain ARM following instructions: 10
CMP r0, r1, LSR#7 ADD r2,r1,r0 LDR r10,[r1]
AND r1,r1,#3 OR r2,r2,#3
b Explain digital camera as an example of embedded system. 10

Q6 Short Notes:
a Interrupt structure of 8051. 10
b Timer modes 8051. 10
