

Roll No

EI-703

B.E. VII Semester

Examination, December 2015

Advanced Microprocessor and Microcontroller

Time : Three Hours

Maximum Marks : 70

- Note:** i) Answer five questions. In each question part A, B, C and D is compulsory.
- ii) All parts of each question are to be attempted at one place.
- iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.
- iv) Except numericals, Derivation, Design and Drawing etc.

1. a) Explain the function of pre-decoding instruction byte queue in 8086.
- b) List out salient features of 80286.
- c) What is the function of assembler directive? Give a brief note on assembler directives of 8086.
- d) Draw and explain the internal structure diagram of 8086. How it is functionally divided internally? Also draw the FLAG Register of 8086.

OR

Draw the diagram showing the interconnections of 8086 with the 8087 and explain the communication between these two processors in detail.

- a) What is PSW? Explain its utility.
- b) Discuss single bit instruction of 8051.
- c) Discuss signal description of 8051.

i) $\overline{\text{ALE/PROG}}$

ii) $\overline{\text{EA/VPP}}$

iii) $\overline{\text{PSEN}}$

- d) How will you interface 8-bit ADC with 8051 microcontroller? Explain with the help of block diagram and necessary interfacing signals.

OR

Draw and explain the interfacing circuit of stepper motor to 8051.

- a) Short note on Watch dog timer.
- b) Discuss the applications of RISC and CISC processors.
- c) What are the basic features of MCS 8096 microcontroller?
- d) Draw and explain functional block diagram of 8096 microcontroller.

OR

Classify the instruction set of 8096 microcontroller.

- 4. a) List out the key features of ARM processor.
- b) What is the function of processor in embedded system?
- c) Discuss the register structure of ARM processor.
- d) Explain in detail the architecture of ARM processor.

OR

Classify the instruction set of ARM processor in detail.

- 5. a) What is RS232 standard?
- b) What are various schemes of data transfer?
- c) Short note on GPIB.
- d) Explain the necessity of RS232 to TTL interface. Draw the circuit diagram and indicate the signals.

OR

Write short note on (Any Two)

i) CAN

ii) USB

iii) I2C
