

Code: EC6T2

III B.Tech - II Semester – Regular Examinations – April 2016

**MICROPROCESSORS AND MICROCONTROLLERS
(ELECTRONICS & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Answer any FIVE questions. All questions carry equal marks

1. a) Explain the internal hardware architecture of 8085 microprocessor with neat diagram. 10 M
b) Explain the different types of Jump instructions in 8085. 4 M
2. a) How does one configure 8086 in maximum and minimum mode ? Explain. 8 M
b) Discuss the interrupts types of 8086 microprocessor. 6 M
3. a) Write an 8086 ALP to multiply two 16-bit binary numbers to give a 32-bit result. 8 M
b) Write an 8086 program to convert BCD data to binary data. 6 M
4. With a neat Block diagram explain the 8255 Programmable Peripheral Interface and its operating modes. 14 M

5. Draw and discuss the formats and bit definitions of the following SFRs in 8051 microcontroller. 14 M
i) TCON ii) SCON iii) TMOD iv) IP
6. a) Explain the following instructions of 8051 with suitable examples. 8 M
i) DA A ii) RLC A iii) ANL iv) NOP
- b) Write an 8051 ALP to create a square wave of 66% duty cycle on bit 3 of port 1. 6 M
7. a) What are hardware and software interrupts of 8051 microcontroller? Mention its vector addresses. 6 M
- b) With suitable hardware and software features, explain an interface of 7 segment display in multiplexed connection. 8 M
8. a) Bring out the architectural differences between 80386 and Pentium processor. 7 M
- b) List out various privilege levels of 80286 and explain their functionality. 7 M