

YMCA UNIVERSITY OF SCIENCE & TECHNOLOGY, FARIDABAD
M.Tech. Electronics & Communication Engineering, 1st Semester
ADVANCED MICROPROCESSOR MICROCONTROLLERS (E16C-601)

Time: 3 Hours

Max. Marks: 75

- Instructions:**
1. It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.
 2. Answer any four questions from Part -B in detail.
 3. Different sub-parts of a question are to be attempted adjacent to each other.

PART -A

- Q1 (a) What are the glitches in DAC. (1.5)
 (b) What is the function of M/IO in 8086. (1.5)
 (c) Enumerate flags of 68000. (1.5)
 (d) What are interrupt levels in 68000. (1.5)
 (e) How register banks are selected in 8051. (1.5)
 (f) Differentiate Asynchronous and Synchronous Communication. (1.5)
 (g) How do we determine resolution of an ADC. (1.5)
 (h) What is conversion time of ADC. (1.5)
 (i) What is the difference between ACALL and LCALL. (1.5)
 (j) Enlist 5 flags in 8086 (1.5)

PART -B

- Q2 (a) Explain asynchronous and synchronous bus control in 68000. (7)
 (b) What are different data transfer techniques in microprocessor. Explain polling. (8)
- Q3 (a) If an absolute address of the type 6A3D9H is given, express it in the form of CS : IP and explain what are the advantages of the memory segmentation. (7)
 (b) What are the modes in which the 8086 can be used .How many lines are there in the multiplexed bus of 8086. Give the pin diagram separately for each mode of operation (8)
- Q4 (a) With examples explain clearly the difference between following instructions of 8086 (8)
 i. MUL and IMUL
 ii. DIV and IDIV
 (b) Explain the ADDR/STATUS, RD, INTA, DEN and WR signals shown on 8086 timing diagrams. (7)
- Q5 (a) Write vector addresses of 8051 interrupts. How are these interrupts enabled. (5)
 (b) What are the addressing modes supported by 8051. Explain each addressing mode with examples? (10)
- Q6 (a) Enumerate addressing modes of 68000 and explain any one with example. (8)
 (b) Design and A/D interface for a microprocessor based system. (7)
- Q7 (a) Write down Design process for development of a Microprocessor based Signal Generator or Microprocessor based Voltmeter. (10)
 (b) What are the various regulatory compliances for electronic product. (5)