KURUKSHETRA UNIVERSITY KURUKSHETRA
Course: B.Sc. (Hons) IT
Semester-IV

Paper Code: BSIT-404
Nomenclature: -Microprocessor Architecture and Programming-II
Max. Marks: 40+10*
Time: 3hrs.

UNIT-I
Interfacing Devices-I: Interfacing an 8-bit DAC with 8085, Interfacing 8-bit ADC with 8085.General purpose programmable peripheral devices: block diagram of 8255, Modes of operation of 8255-Mode0, BSR mode, Mode1, mode2.

UNIT-II
Interfacing Devices-II: 8254(8253) Programmable interval timer, block diagram of 8254, Modes of operation of 8254- Mode0 to Mode5, 8257 DMA controller.

UNIT-III
Microprocessor 8086-I: 8086 internal architecture, Introduction to programming the 8086, Program development steps. Addressing Modes of 8086, Instruction Set of 8086. Data Copy/Transfer Instruction (MOV, PUSH, POP, IN, OUT). Arithmetic Instructions (ADD, ADC, INC, DEC, SUB, SBB, CMP, DAA, DAS, MUL, IMUL, DIV, IDIV). Logical Instructions (AND, OR, NOT, XOR).

UNIT-IV
Microprocessor 8086-II: Constructing the machine codes for 8086 instructions, Simple sequence program, Jumps, flags and conditional jumps, if-then, if -then –else and multiple if-then-else program, while-do programs, Repeat –Until programs.

Reference Books:
1. Microprocessors and Interfacing (Programming and Hardware) by Douglas V. Hall.
2. Microprocessor Architecture, programming and application with the 8085 by R S Gaonkar.
3. Advanced Microprocessors & Peripherals Architecture, Programming & Interfacing By Ray & Bhurchandani (Tata McGraw Hill)

Note:
1. Syllabus in each Theory Paper is divided in 4 units.
   I. A Student is required to attempt 5 questions in all.
   II. Question No 1 is compulsory, consisting of short answer type questions based on all the 4 units.
   III. Two questions will be set from each unit. A student is required to attempt one question from each unit.
   IV. All questions carry equal marks.
2. Use of simple calculator is permissible.
3. Instructions should be imparted using SI system of units. Familiarity with CGS system of units should also be ensured.
4. Distribution of Marks: 40+10.
      * Each theory question paper will be of 40 marks of 3 hours duration and 10 marks in eachtheory paper are to be awarded through internal assessment in each semester.
5. Work load – 3 periods per week per theory paper