PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc., Summer 2017-18 Examination

Semester: 04   **Date: 08/05/2018**
Subject Code: 11204251   **Time: 02:00PM to 04:30PM**
Subject Name: Microprocessor-II and Microwaves   **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1. A) Essay type (Each of 04 marks)   **(08)**
    (a) Explain Addressing modes in 8085 Microprocessor.
    (b) Explain following instruction with example 1) LDA 2) DAA

Q.1. B) Answer the following questions (Any two)
    (a) Short note (Each of 02 marks)   **(04)**
       1. Explain LXI instruction.
       2. Write types of Magnetrons.
    (b) Write program to add block of five 8-bit data.   **(04)**
    (c) Explain demultiplaxing of data and address bus of 8085.   **(04)**

Q.2. A) Answer the following questions.
    (a) Fill in the blanks.   **(04)**
       1. Stack area is usually defined in _____ only.
       2. Stack is used to store information _____ (temporary/permenant)
       3. Write the use of CALL instruction
       4. Write the use of RET instructioin.
    (b) Explain FLAG register of microprocessor 8085in detail.   **(04)**

Q.2. B) Answer the following questions (Any two)
    (a) Fill in the blanks (Each of 01 marks)   **(03)**
       1.   If A=23H what content of accumulator after RAL_____.
       2.   _____signal is used for de-multiplexing of AD0-AD7 multiplexer of 8085.
       3.   If A=D2H what content of accumulator after CMA_____.

    (b) Write the steps of Binary to BCD Conversion.   **(03)**
    (c) A binary number is stored in memory location 3040H convert it to BCD number and store   **(03)**
       BCD1 (least significant BCD digit) into memory location 3041H and BCD2 and BCD 3 in
       memory locations 3042H and 3043H respectively.

Q.3. A) Essay type (Each of 04 marks)   **(08)**
    (a) Find the 7-segment codes for given numbers(8085)
    (b) Explain cavity klystrons

Q.3. B) Answer the following questions (Any two)
    (a) Short note (Each of 02 marks)   **(04)**
       1. Explain PUSH- POP instruction.

       2. Write Applications of Travelling Wave Tube
    (b) Explain Klystrons   **(04)**
    (c) Write the properties of directional couplers.   **(04)**

Q.4. A) Answer the following questions.
    (a) Short note (Each of 02 marks)   **(04)**
       1. Draw the flowchart depicting the process for making time delay using a single register in the
       8085 Microprocessor.
       2. How to calculate delay to make delay program in 8085 microprocessor?
    (b) Subtract the 16-bit number in memory locations 4002H and 4003H from the 16-bit number in   **(04)**
       memory locations 4000H and 4001H. The most significant eight bits of the two numbers are
       in memory locations 4001H and 4003H. Store the result in memory locations 4004H and
       4005H with the most significant byte in memory location 4005H.

Q.4. B) Answer the following questions (Any two)

(a) Multiple choice questions.　　　　(Each of 01 marks)　　　　　　　　　　**(03)**

　1. Microwave tubes are power sources themselves at higher frequencies and can be used independently without any other devices. a) True b) False

　2. Microwave tubes are grouped into two categories depending on the type of:
　　　a) Electron beam field interaction　　　　b) Amplification method
　　　c) Power gain achieved　　　　　　　　d) Construction methods

　3. The klystron tube used in a klystron amplifier is a _____ type beam amplifier.
　　　a) Linear beam　　　　b) Crossed field
　　　c) Parallel field　　　　d) None of the mentioned

(b) Explain E plane tee　　　　　　　　　　　　　　　　　　　　　　　　**(03)**

(c) Write a set of instructions to alter the contents of flag register in8085　　**(03)**