NCF-003-11152004 Seat No. _____

M. Sc. (ELE) (Sem. II) (CBCS) Examination

April / May - 2017

Advanced Digital Electronics : Paper - VIII

Faculty Code : 003
Subject Code : 11152004

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer the following questions in brief : (any **seven**) **14**

(1) Explain working of multiplexer as parallel to serial converter.

(2) Mention the steps to implement combinational logic circuit.

(3) Draw the circuit diagram and explain working of half adder in brief.

(4) Compare fixed logic to programmable logic.

(5) Explain in brief synchronous and asynchronous inputs to FlipFlops.

(6) Explain modulus of counter.

(7) Explain working of RS Flip-Flop as key de-bouncer.

(8) Compare asynchronous counter with synchronous counter.

(9) Enlist all registers available with 8085.

(10) Classify instructions of 8085 in various categories.

2 Attempt any two of the following questions : (Each 7 Marks) **14**

(1) With help of necessary diagram and derivations explain working of look ahead carry propagator.

(2) Give a detailed account on Complex Programmable Logic Devices (CPLD) architecture.

(3) Enlist various types of shift registers. Explain working of any two types of shift registers with help of necessary diagrams.

3 Answer the following questions :

(1) Describe Programmable Logic Array (PLA) architecture. **5**

(2) Design a mod-5 synchronous counter and explain its working with help of neat diagram. **5**

(3) Write a program to find the largest number of the 20 numbers stored at 2000H onwards. Store the same in Register B. **4**

OR

3 Answer the following questions :

(1) With neat diagrams explain working of half and full subtractor. **5**

(2) With neat diagram explain the working of a 4-bit ring counter. **5**

(3) Write a detailed note on X Flip-Flop. **4**

4 Answer the following questions :

(1) What is multiplexer? With help of necessary circuit diagram explain working of a 4 to 1 multiplexer. **5**

(2) Write a note on astable multivibrator. **5**

(3) Explain working of 3-bit binary asynchronous counter with help of neat diagram. **4**

5 Answer any two of the following questions. (Each 7 Marks) **14**

(1) What is a magnitude comparator? With neat circuit explain its working.

(2) Enlist and explain various timing parameters of Flip-Flop.

(3) With help of neat diagrams explain working of 3-bit binary asynchronous up-down counter.

(4) Draw and explain the functional block diagram of 8085.
