Bachelor of Computer Application (B.C.A.) Semester—IV (C.B.S.) Examination

DIGITAL ELECTRONICS-II

Paper—VI

Time : Three Hours]   [Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw neat labelled diagrams wherever necessary.

EITHER

1. (a) Draw a 4 bit parallel adder circuit and explain its working.   5

(b) Design a 8 : 1 multiplexer using 4 : 1 multiplexer.   5

OR

(c) Draw a 4 bit binary subtractor and explain its working.   5

(d) What is a decoder ? Design a 3 to 8 line decoder circuit using K-map.   5

EITHER

2. (a) Construct a clocked RSFF using only Nano gates and explain its working.   5

(b) Explain the construction and working of mod-6 asynchronous counter.   5

OR

(c) What is race around condition ? Explain the methods of avoiding race around condition.   5

(d) Explain the construction and working of 3-bit synchronous counter.   5

EITHER

3. (a) Draw the block diagram of 8086. Explain.   5

(b) Write an ALP to add series of 10 numbers.   5

OR

(c) What are different addressing modes of 8086 ? Explain.   5

(d) What are the different flags of 8086 ? Explain.   5

EITHER

4. (a) What do you mean by assembler directives ? Explain with suitable example.   5

(b) What are the different transfer control instructions ? Explain.   5

OR

(c) Write ALP to multiply two numbers.   5

(d) Explain string manipulation instructions with example.   5

5. (a) Draw a full adder circuit and explain its working.   2½

(b) Draw JKMSFF using only NAND gates and explain its working.   2½

(c) What are the different interrupts of 8086 ?   2½

(d) Write ALP to add two numbers stored in memory.   2½