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.

(2) Draw neat labelled diagram wherever necessary.

EITHER

1. (a) What is a full adder ? Explain the circuit of full adder with truth table. 5

(b) What is a multiplexer ? Explain the working of 4 : 1 multiplexer. 5

OR

(c) Explain the construction and working of 4-bit binary adder. 5

(d) What is a parity ? Explain the working of parity detector circuit. 5

EITHER

2. (a) Explain the construction and working of clocked RSFF. 5

(b) What is a shift register ? Explain serial in serial out (SISO) shift register. 5

OR

(c) What is race around condition ? How is it avoided in JKMSFF ? Explain. 5

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

EITHER

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

(b) Explain pin-diagram of 8086. 5

OR

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

(d) What are the salient features of 8086 ? Explain in brief. 5

EITHER

4. (a) What is the utility of assembler directive ? Explain. 5

(b) Explain the string manipulation instructions of 8086 with suitable example. 5

OR

(c) Explain the flag instructions of 8086. 5

(d) Write AVP to multiply series of numbers. 5

5. Attempt **ALL** :

(a) Explain the working of a half subtractor circuit. 2½

(b) Draw a circuit diagram of 3-bit up/down counter. 2½

(c) Explain ALU block of 8086. 2½

(d) Write AVP to exchange the contents of two memory locations. 2½