TKN/KS/16/5980

Bachelor of Computer Application (B.C.A.) Part—II
(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 a well labelled diagram wherever necessary.

EITHER

1. (a) Draw the logic diagram of 4-bit binary Adder/ Subtractor and explain its working. 5

(b) What is Demultiplexer ? Draw the logic diagram of 1 : 4 DMUX and explain its working. 5

OR

(c) What is Encoder ? Draw the logic circuit and explain its working. 5

(d) What is parity ? Draw the logic diagram of 8-bit parity detector and explain its working. 5

EITHER

2. (a) Construct a D-Flip-Flop using NOR gates only and explain its operation. 5

(b) Explain the difference between Synchronous and Asynchronous counter. Draw the circuit diagram of 4-bit Synchronous counter. 5

OR

(c) Draw the logic diagram of JKMS Flip-Flop and explain its working. 5

(d) What is register ? Explain the SISO type of shift registers. 5

EITHER

3. (a) Explain the function of following pins in 8086 :

(i) BHE/S7

(ii) TEST

(iii) NIM

(iv) DT/R

(v) HOLD and HOLDA. 5

(b) Write an ALP to add series of 16 numbers. 5

OR

(c) Explain the different addressing modes of 8086. 5

(d) Draw the block diagram of IC 8086 and explain the function of ALU. 5

EITHER

4. (a) Explain any five Arithmetic instruction of IC 8086. 5

(b) Explain the Flag register of 8086. 5

OR

(c) Explain the branch group instruction. 5

(d) Write a program to multiply the two number using conditional instruction. 5

5. (a) Draw the logic diagram of Half adder and explain its working. 2½

(b) Draw the logic diagram of UP/DOWN counter and explain its working. 2½

(c) Explain physical and logical address of IC 8086. 2½

(d) Explain the assembler directives. 2½