Roll No. .....

Y – 3632

B.C.A. (Second Semester) EXAMINATION, May/June-2021

Paper – 202

COMPUTER ORGANIZATION

Time : Three Hours

Maximum Marks : 80 *Minimum Pass Marks : 32*

Note—Attempt *all* questions.

Unit-I

1. (a) State and prove Demorgan's theorem. Using Demorgan's theorem, show that— 8
   (a) A + AB = A
   (b) (A + B) (A + C) = A + BC
   (b) Draw all logic gates. Give their truth table and symbols. Mention their uses. 8

Unit-II

2. Giving neat diagram and uses, write short notes on any **four** of the following— 16
   (a) Encoder.
   (b) Demultiplexer.
   (c) Multiplexer
   (d) K-map
   (e) Seven segment decoder
   (f) Grey code and its use.

Unit-III

3. (a) Giving symbol and truth table, explain the working of a full adder. List its uses. Discuss how it differs from Half adder. 8
   (b) Giving suitable examples, explain the following— 8
   (a) Subtractor circuits.
   (b) Over flow.
   List their practical uses.

Unit-IV

4. Giving neat diagram and examples, write short notes on any **four** of the following— 16

   (a) Asynchronous counter.

   (b) Synchronous counter.

   (c) Clock edge triggered flip-flop.

   (d) Buffer Registers.

   (e) Ring counter.

   (f) R-S flip-flop.

Unit-V

5. Write explanatory short notes, with suitable example and/or diagram, on any **four** of the following— 16

   (a) Comparison between magnetic core and semiconductor memory.

   (b) DRAMS and SRAMS.

   (c) D to A and A to D Converter.

   (d) Magnetic disk.

   (e) Memory cells.

   (f) Memory Addressing.

   (g) PROMS and EPROMS.