Exam. Code : 107202
Subject Code : 1705

Bachelor of Computer Application (BCA) 2nd Semester
PRINCIPLES OF DIGITAL ELECTRONICS
Paper—II

Time Allowed—2 Hours] [Maximum Marks—75

Note :— There are **EIGHT** questions of equal marks. Candidates are required to attempt any **FOUR** questions.

1. Perform the following number conversions :

Binary	Octal	Decimal	Hexadecimal
110010001	?	?	?
?	173	?	?
?	?	17.25	?
?	?	?	E17

2. (a) Explain the importance of 2's Complement scheme. Discuss giving an example.

   (b) How negative numbers stored in the computer and why ? Explain.

   (c) Explain ASCII codes.

3. What is NAND gate ? Why it is called universal gate ? Explain the concept with examples.

4. What is K-map ? How it is helpful in solving Boolean expressions ? Discuss in detail using suitable example.

5. What is the need of a Decoder ? Make a 3-8 Decoder using two 2-4 Decoders.

6. (a) What is a combinational circuit ? Make a 4-bit adder-subtracter circuit.

   (b) What is the limitation of J-K flip flop ? How is it solved ? Explain.

   (c) Draw and explain the structure of a 4-bit binary counter with increment input.

7. What is ROM ? Explain different types of ROM memory in detail.

8. What is Address Selection Logic ? Explain the Address Selection Logic in Random Access Memory in detail using a suitable example.