

[117]

## SARDAR PATEL UNIVERSITY

First Year BBA-ITM (3 Years) (SEM-I) EXAMINATION

UM01EBBI06: Digital Computer Electronics [NC]

DATE: 25/10/2018, Thursday

TIME: 2:00p.m to 4:00p.m

Total Marks: 60

Note: 1. All the questions are compulsory. 2. Figures to the right indicate marks.  
3. Start a new question from a new page.

Q.1

a. Perform the following:

1. Convert  $24.5_D = (?)_B$
2.  $11011_B - 1101_B = (?)_B$  using 2's complement method.
3. Represent  $+19_D$  using Signed Magnitude Integer Representation method.
4. Convert  $24.5_D = (?)_H$
5. Represent  $+19.5_D$  using Floating Point Representation method.

[15]

OR

Q.1

- a. Write a note on Binary Number System. [05]
- b. Write a note on 1's Complement Integer Representation method giving an example. [05]
- c. Convert  $25.6_D = (?)_O = (?)_B = (?)_H$  (upto 3 significant places) [05]

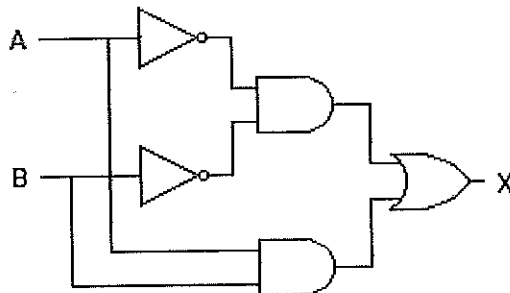
Q.2

- a. Draw the circuit for the equation and also reduce it:  $A+B + A'.B + A+B' + A.B$  [07]
- b. Write a note on AND and NAND gates with 3-inputs, giving symbol and truth table. [08]

OR

Q.2

a.



Construct the equation of the given circuit. Reduce the expression and give its circuit diagram. [07]

- b. Explain NOR gate as a Universal gate giving its equivalence circuits and truth tables. [08]

Q.3

- a. Write a note on 8-to-1 Multiplexer giving its circuit. [07]
- b. Write a note on Full adder. Give its diagram and explain. [08]

OR

Q.3

- a. Write a note on Binary-to-Decimal Decoder. Give its circuit diagram and explain. [07]
- b. Write a note on 1-to-8 Demultiplexer giving its circuit. [08]

Q.4

- a. Write a note on Ring Counter giving its block diagram. [07]
- b. Write a note on Shift-Right Register. Give its block diagram and explain. [08]

OR

Q.4

- a. Write a note on RS Flip Flop. Give its circuit diagram and explain. [07]
- b. Write a note on Ripple Counter giving its block diagram. [08]

— X —