V.P & R.P.T.P SCIENCE COLLEGE
V.V.NAGAR
T.Y.B.Sc. Sem-V - Internal Test

SUB. CODE:-US05CELE02   Digital Systems

DATE:-1/10/2018   TIME:-10 am to 12 noon   MARKS-50

Q-1   Choose correct answer   [08]

1.   A serial-in-serial-out shift register can also work as _____
   (A) Serial in Parallel Out   (C) Parallel in Parallel Out
   (B) Parallel in Serial Out   (D) None of these

2.   In bidirectional register data can be shifted from left to right and right to _____
   (A)Left   (C) Right
   (B) Up   (D) None of these

3.   Carry generate function CG = _____
   (A) A • B   (C) A + B
   (B) A - B   (D) None of these

4.   Low speed modem uses _____ modulation.
   (A) FSK   (C) AM
   (B) AM-FM   (D) None of these

5   PAL means _____
   (A) Programmable Array Logic   (C) Program Access Memory
   (B) Programmable Alternate Loop   (D) None of these

6   The carry propagate function mean _____
   (A) A+B   (C) A - B
   (B) A • B   (D) None of these

7.   Register's are made of _____.
   (A) Flip-flop's   (C) Capacitor
   (B) Resistor   (D) None of these

8.   Schmitt Trigger is used as _____ Circuit
   (A) Signal Re-shaper   (C) Signal Absorber
   (B) Signal Distorter   (D) None of these

Q-2   Short answer type question. (Any 5)   [10]

1.   Draw the logic diagram of 4-Bit Parallel-in-Parallel-out simple shift register.
2.   Explain UART Drawing Diagram
3.   Draw the logic symbol of 74LS83 and label each pin.
4.   Draw the logic diagram of 4 bit serial-in-parallel-out simple shift register.
5.   Draw the logic diagram of 4 Stage Johnson Counter.
6.   Draw a neat block diagram of Serial Adder and explain in short.
7.   Explain FSK Drawing Diagram.
8.   Draw the block diagram of digital data transmission using MODEM.

Q.3   List different types of data transmission in shift register and explain its working in detail drawing diagram.   [8]

OR

Q.3   Draw the neat logic diagram of 4-bit controlled buffer register and explain its working in detail.   [8]

Q.4   Give an account of 4-bit Bidirectional register and explain its working in detail.   [8]

OR

Q.4   List applications of shift register and explain any two in detail.   [8]

Q.5   Explain TWO's complements addition and subtraction using parallel adders.   [8]

OR

Q.5   Give an account of comparator.   [8]

Q.6   Give an account of MODEM Interfaces.   [8]

OR

Q.6   Give an account of Schmitt Trigger as an Interface Circuit.   [8]