

[133]

Seat No: _____

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SARDAR PATEL UNIVERSITY
Course (V - Semester) Examination
Code No. : US05CELE22 Paper Title - Digital Systems
Date : 24-11-2021, Time : 3 pm to 5 pm
Wednesday



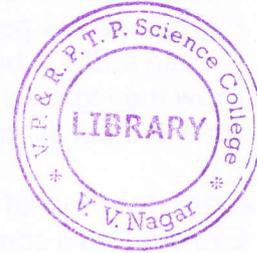
Note : _____

Total marks 70.

Q.1 Choose correct answer

[10]

- (1) All modern computer are _____ type.
(a) Program (b) Data
(c) Backup Data (d) None of these
- (2) MBM (Magnetic bubble memory) is _____ memory.
(a) Inductive (b) Semi Conductor
(c) Magnetic (d) None of these
- (3) The schmitt trigger has upper threshold point (UTP) & _____.
(a) Middle threshold point (b) Lower threshold point
(c) Zero threshold point (d) None of these
- (4) MODEM is also known as _____.
(a) DCE (b) DTE
(c) UART (d) None of these
- (5) In Tristate switch _____ transistors are used.
(a) One (b) Two
(c) Three (d) None of these
- (6) The carry generate function means _____.
(a) A+B (b) A/B
(c) A=B (d) None of these
- (7) Registers are made of _____.
(a) Capacitor (b) Inductor
(c) Flip-Flops (d) None of these
- (8) A serial in - serial out shiftS register can also work as _____ shift register.
(a) Parallel in Parallel out (b) Serial in Parallel out
(c) Parallel in Serial out (d) None of these
- (9) In Johnson counter _____ feedback is used.
(a) Positive (b) Inverse
(c) No Feedback (d) None of these
- (10) In Parallel in - Parallel out register _____ clock pulse is required to load it.
(a) 1 (b) 2
(c) 3 (d) None of these



①

(P.T.O.)

Q.2 A. Filling the Blanks

[4]

- 1) Full form of ROM is _____.
- 2) In 4Bit Serial in Serial out shift registers _____ clock pulse are required to store 4 input bits.
- 3) The _____ is contraction of modulation & de-modulation.
- 4) In 4 stage look ahead carry adder AND & _____ logic is used.

B. State true or false

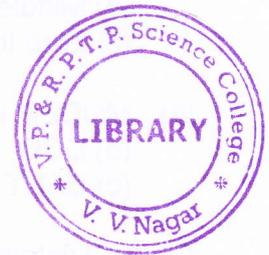
[4]

- 1) Bell 103 is a full duplex modem
- 2) In asynchronous 300 bps operations in modem no timing information is sent.
- 3) In Bidirectional register AND-OR logic is used.
- 4) XNOR is a basic comparator.

Q.3 Short answer type questions (any ten)

[20]

- 1) Explain FSK.
- 2) What is use of universal shift register.
- 3) Draw the Block diagram of digital data transmission using modem.
- 4) Draw a circuit of 3 stage ring counter.
- 5) Draw a circuit of 3 stage Johnson Counter.
- 6) What is difference in BJT & MOSFET memories.
- 7) Draw a figure of 3Bit serial in serial out shift register.
- 8) Draw a figure of 3Bit parallel in parallel out shift register.
- 9) Explain main & peripheral memory of computer.
- 10) Explain MBM in brief.
- 11) Draw the logic diagram of primitive buffer register.
- 11) Draw the pin diagram of 7485 4-bit comparator IC.



Q.3 Answer any four out of eight

- 1) Explain Two's complement addition & subtraction. [8]
- 2) Explain serial adder in detail. [8]
- 3) Explain controlled buffer register in detail. [8]
- 4) List different types of data transmission in registers & explain all drawing diagram. [8]
- 5) Give an account of Tristate switch. [8]
- 6) Explain look ahead carry adder in detail. [8]
- 7) Explain ROM timing diagram in detail. [8]
- 8) Explain writing & reading of data in micro computer system. [8]