SEAT No._____ No. of Printed Pages : 2

[70]

SARDAR PATEL UNIVERSITY

B.Sc. (5th Semester) Examination

Electronics

US05CELE22- DIGITAL SYSTEM

SATURDAY

DATE: 26/12/2020

TIME: 2:00P.M. TO 4:00P.M.

Total Marks: 70

Q.1 Multiple choice questions. [10]

1. Shift register has _____.
   (a) No specified sequence of states
   (b) Five states
   (c) Eight states
2. In controlled buffer register _____ is the control input.
   (a) LOAD (b) CLR (c) CLR
3. In ring counter data is _____
   (a) Circulated (b) Shifted out (c) Shifted In
4. _____ IC is used to construct four bit universal shift register.
   (a)7491A (b)74194 (c)74165
5. Full form of MOS is_____
   (a) Metal oxide semiconductor
   (b) Metal organised semiconductor
   (c) Mono only semiconductor
6. Shift register are made up of_____
   (a) Flip –Flop (b) Op-Amp (c) Inductor
7. The carry propagate function means _____ .
   (a) A+B (b) A .B (c) A=B
8. _____ is basic comparator.
   (a) XNOR (b) XOR (c) OR
9. Memory used to store the data is called _____memory.
   (a) Data (b) Program (c) instruction
10. Retrieving data from the memory is called _____
    (a) Reading memory (b) writing memory (c) Modifying memory

Q.2 State whether the following statements are True or false. [08]

1. Five clock pulses are required to store 0101 in serial in serial out shift register. True/False
2. In Bi directional shift register data can be shifted from left to right and right to left. True/False.
3. Universal shift register uses AOI logic. True/False.

[P.T.O.]

4. The speed of serial shift register is more than parallel shift register. True/False.
5. Two's complement addition and subtraction can be performed by parallel adders. True/False.
6. Serial adder uses one carry flip-flop. True/False.
7. The full form of ROM is Read Only Memory. True/False.
8. The full form is PROM is Programmable Read Only Memory. True/False.

Q.3 Answer any **TEN** questions in brief. [20]

1. What is the difference between shift register and counter?
2. What are the applications of shift register?
3. What is a register?
4. What is universal shift register?
5. Where dynamic MOS register are used?
6. What is full form of ANSI & IEEE?
7. Draw the logic diagram of full adder that produces CG and CP function.
8. Draw the block diagram of serial adder.
9. Draw the block diagram of digital data transmission using MODEMS.
10. Give the difference between program memory & data memory.
11. Give the classification of ROM.
12. State the difference between Static RAM and dynamic RAM.

Q.4 Long answer questions [Attempt any four out of eight]

[I] Explain serial IN serial OUT shift register in detail. [08]
[II] Explain Bi directional shift register. [08]
[III] Explain Universal shift register. [08]
[IV]Explain binary multiplier in detail. [08]
[V] Explain look ahead carry adder. [08]
[VI]Explain Modems and interfaces. [08]
[VII]Discuss in detail RAMs, ROMs, and PROM. [08]
[VIII] Discuss the role of memory in a computer system. [08]

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