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Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech.(AI&ML/DS/CSE/IT/Internet of Things and Cyber Security
including Block Chain Technology) (Sem.-3)**

DIGITAL ELECTRONICS

Subject Code : BTES-301-18

M.Code : 76435

Date of Examination : 04-01-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A

1. **Write briefly :**

- a) Differentiate between Minterms and Maxterms.
- b) What do you mean by principle of duality?
- c) What are the applications of Gray codes?
- d) Draw full adder circuit.
- e) How can you define BCD codes?
- f) What is the significance of excitation table?
- g) What is the difference between asynchronous and synchronous counters?
- h) What do you mean by PLA?
- i) What are the various types of ROM?
- j) Draw sample and hold circuit.

SECTION-B

2. With the help of examples, explain Boolean laws.
3. Convert hexadecimal number "7C" into other number systems.
4. Design mod-6 counter.
5. Draw and explain field programmable gate array.
6. Design R-2R ladder type converter.

SECTION-C

7. Explain ASCII and Excess-3 codes.
8. Design master slave flip - flop and explain its working.
9. Draw and explain 3 bit parity checker.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.