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Barasat, Kolkata -700125

BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Tech.(EE)]-2021/B.Tech.(EE)-2023
Course Name – Digital Electronics
Course Code - PCC-EE402
(Semester IV)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Identify at what condition error occurs in the servo tracking A/D Converter
 - a) Slow change input
 - b) Rapid change in input
 - c) No change in input
 - d) All of the mentioned
- (ii) Choose 1's complement of 1011001
 - a) 100111
 - b) 101100
 - c) 0100110
 - d) 110110
- (iii) Select which of the given logic family provide minimum power dissipation
 - a) JFET
 - b) ECL
 - c) CMOS
 - d) TTL
- (iv) Select the following logic unit is the fastest of all the logic families
 - a) DTL
 - b) TTL
 - c) ECL
 - d) CMOS
- (v) A register can be defined as
 - a) The group of transistors for storing n- a bit of information
 - b) The group of transistors for storing two bits of information
 - c) The group of flip-flops for storing n bit of information
 - d) The group of flip-flops for storing binary information.
- (vi) The primary contrast between a counter and a register is named as
 - a) A counter has the capability to store n bit of information whereas a register has one bit.
 - b) A register counts data.
 - c) A register has no specific sequence of states.
 - d) A counter has no particular sequence of states.
- (vii) The radix of the octal number system is recognized as
 - a) 2
 - b) 10
 - c) 8
 - d) 16
- (viii) Write the main function of the filter in a rectifier circuit

9. Construct 4:1 Multiplexer using 2:1 Multiplexer and one OR gate. (5)
10. Construct 4-bit ring counter using J-K flip-flops. Draw the state table. (5)
11. Discuss about different types of ROMs. (5)
12. Explain the construction of S-R flip flop using D flip flop. (5)

OR

Discriminate between latch & flip flop. (5)

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