4E 2110

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4E 2110

B.Tech. IV Semester (Main/Back) Examination - 2012

Electrical Engineering.

4EE2 Digital Electronics

Time : 3 Hours **Maximum Marks : 80**

Min. Passing Marks : 24

Instructions to Candidates:

*Attempt Overall **Five questions** selecting **one question** from **each unit**. All questions carry **equal marks**. (Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/ calculated must be stated clearly.)*

Unit - I

1. a) Explain the following codes with suitable examples: **(12+4)**

   i) Self complementary codes

   ii) Error detecting and correcting codes.

   b) Find the radix of the following equations :

   i) $\left(\frac{302}{20}\right)_x = (12.1)_x$

   ii) $(135)_x + (531)_x = (666)_x$

OR

1. a) i) Perform the following subtraction using 9's complement: 9085 - 637.4 **(6+4+6)**

   ii) Perform subtraction of the following BCD number using 10's complement: 159-43.

   b) Assume that x is the 2's complement of n-bit binary number y. Prove that the 2's complement of x is y.

   c) Write short note on :

   i) Weighted code

   ii) Alphanumeric code