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FACULTY OF SCIENCE

B.Sc. (Third Year) (Sixth Semester) EXAMINATION

MAY/JUNE, 2022

(CBCS/New Pattern)

PHYSICS

Paper-XV

(Digital and Communication Electronics)

(Thursday, 09-06-2022)   **Time : 10.00 a.m. to 12.30 p.m.**

Time— 2½ Hours   *Maximum Marks—40*

N.B. :—   (i)   *All* questions are compulsory.

      (ii)   Symbols have their usual meaning.

      (iii)   Non-programmable calculator is allowed.

1.   Explain in detail B.C.D, Excess-3 and Grey code.   15

Or

   (i)   Obtain an expression for amplitude modulated voltage.   8

   (ii)   Explain frequency spectrum of A.M. Wave.   7

2.   Explain in detail three types of basic gates. Give their logic symbols and truth tables.   15

Or

   (i)   Give the block diagram of super heterodyne receiver and explain each block in detail.   8

   (ii)   Explain Basic Communication system with block diagram.   7

3.   Write short notes on (any *two*) :   10

   (i)   Hexadecimal Number System.

   (ii)   Universal properties of NAND-Gate.

   (iii)   Demodulation

   (iv)   T.R.F. Receiver.