EA-2497 Seat No. _____

M. Sc. (Sem. II) Examination

April / May – 2003

S/SC-2497 : Electronics : Paper - V

(Communication Electronics)

Time : **3** Hours] [Total Marks : **100**

Notes:(1) Question No.(1) and (5) are compulsory.
    (2) Attempt any two remaining questions from each section
    (3) Use separate answer books for each section.

SECTION A

Q(1) Derive the Radar equation. (10)

Q(2) Derirve an expression $Z_0 = (\ R + j\omega L\ /\ G + j\omega C\ )^{1/2}$ a transmission line (20)
    charaecteristic impedance. Also, discuss lossless and distortion less line.

Q(3) Write a brief note on waveguide resonators. (20)

Q(4) Derive the mathematical expression for Amplitude Modulated envelope. Show the (20)
    side band generation using frequensy spectrum. How the power is distributed in
    AM envelope ?

SECTION B

Q(5) Write a short note on " Advantages and disadvanteges of SSB transmission " (10)

Q(6) Explain the angle modulation technique. Derive the mathematical expression for (20)
    FM envelope.

Q(7) Using frequency analysis of Angle Modulated wave, show that the infinite (20)
    number of sidebands are generated. Define the significant sidebands.

Q(8) With the help of circuit diagram explain the designing and working of any one (20)
    FM modulator circuit.

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