

FIFTH SEMESTER BTECH. (E & C) DEGREE END SEMESTER EXAMINATION FEBRUARY 2022

SUBJECT: ANALOG AND DIGITAL COMMUNICATION(ECE - 3151)

Part B

TIME: 85 Minutes

MAX. MARKS: 20

Instructions to candidates

- Answer **ALL** questions.
- Missing data may be suitably assumed.

Q. No.	Questions	M *
1A.	Describe the time domain description of SSB modulated wave with necessary diagrams and equations.	5
1 B .	Describe the properties of FM wave with relevant equations.	3
1C.	Describe in brief, the concept of VSB modulation.	2
2A.	Starting from bank of correlators to noise input, prove that the Maximum Likelihood decision rule is simply to choose the message point closest to the received signal point	5
2B.	List the properties of the Matched Filter	3
2C.	The finite energy signal $S(t) = (A - \frac{A}{T}t); 0 \le t \le T$. (i) Sketch the signal S(t) and impulse response $h_{opt}(t)$ of optimum filter matched to the signal (ii)Determine the value of the output signal at t=T assuming noise is zero and input signal S(t)	2