COURSE CODE(CREDITS): 18B1WEC845(3)   MAX. MARKS: 35

COURSE NAME: Satellite Communication

COURSE INSTRUCTORS: Salman Raju Talluri   MAX. TIME: 2 Hours

Note: (a) All questions are compulsory. (b) The candidate is allowed to make suitable numeric assumptions wherever required for solving problems. (c) Scientific Calculator is allowed.

Q.No	Question	CO	Marks
Q.1	What do you mean by System noise? How do you define a figure of merit for a system in a noisy environment? Give the formula for noise figure of the overall system of cascade sections.	CO-2	5
Q.2	Which are the two different types of communications satellite transponder implementations /configurations. Draw the block diagrams and explain in detail.	CO-3	5
Q.3	Derive the Friis radio link formula and explain its significance in coverage area selection.	CO-3	5
Q.4	What are the two key elements of the payload portion of the space segment? Explain in detail about each.	CO-4	5
Q.5	What are the mechanisms of radio wave propagation? Which one is dominant in satellite communication?	CO-4	5
Q.6	What are the different types of multiple access techniques used in satellite communication? Draw neat diagrams to compare one with the other.	CO-5	5
Q.7	Define the following terms in brief a) Mixer and Multiplier b) Polarization and Attenuation c) Frequency Dispersion and Spatial dispersion d) Ionospheric/Sky wave and Line of Sight Wave and e) Modulation and Demodulation	CO-5	5