Roll No. | | | | | | | | | | | | Total No. of Pages : 01

Total No. of Questions : 08

M.Tech. (ECE) (2018 Batch) (Sem.–2)

MIMO SYSTEMS

Subject Code : MTEC-PE4B-18

M.Code : 76266

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWELVE marks.

1. a) What is space-time coding? Explain its advantages in brief.
   b) Explain coordinated multi-cell MIMO with an example in detail.
2. a) What is diversity? Explain the types of diversity in wireless communication.
   b) Draw and explain the RAKE receiver with a neat diagram in detail.
3. a) Explain the difference in performance of MIMO-OFDM and MIMO-CDMA.
   b) What is the difference between multi-antenna system and MIMO? Explain in brief.
4. a) Explain the need of integrating a MIMO in 4G WiMAX system.
   b) What is the significance of pre-coding and combining in MIMO systems?
5. a) What is Singular Value Decomposition? How this technique is useful in analysis of MIMO system?
   b) Explain the effect of shadowing in the wireless propagation of waves.
6. a) Explain the working principle of switched beam former with a neat block diagram.
   b) Explain the significance of channel state information (CSI) in wireless communication.
7. a) Explain the procedure of channel estimation in CDMA system.
   b) What is fading? Explain any one fading environment in detail.
8. a) What is channel sounding? Explain the correlative channel sounding in detail.
   b) What is the difference between narrowband and wideband channel in wireless communication?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.