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**Question Paper Code: 53Q01**

M.E. DEGREE EXAMINATION, NOV 2019

Third Semester

Communication Systems

15PCM301 - WIRELESS COMMUNICATION ENGINEERING

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) (i) Examine the NLOS Multipath fading models. CO1- U (16)  
(ii) State the difference between small scale and large scale fading. CO1- U (4)  
Or
- (b) Explain Composite fading and link budget power design in details. CO1- U (20)
2. (a) (i) Explain in detail about capacity in AWGN. CO2- U (10)  
(ii) Discuss in detail about the channel and system model and CDI of flat fading channels CO2- U (10)  
Or
- (b) Explain the capacity of frequency selectivity fading channels. CO2- U (20)
3. (a) Explain about the receiver diversity and discuss  
(i) Selection combining CO3-U (10)  
(ii) Threshold combining CO3-U (10)  
Or
- (b) (i) Differentiate between Maximum combining ratio and equal gain combining. CO3-U (8)  
(ii) Compute the average probability of bit error for DPSK modulation under three branch MRC. CO3-U (12)

4. (a) Explain the data transmission using multiple carriers and multicarrier modulation with overlapping sub channels. CO4- U (20)
- Or
- (b) Explain the challenges in multicarrier modulation with suitable case study. CO4- U (20)
5. (a) (i) Explain the significance of spatial multiplexing and BLAST Architecture. CO5- U (10)
- (ii) Compare the features of STTC and STBC. CO5- U (10)
- Or
- (b) (i) Explain Briefly about MIMO channel capacity. CO5- U (12)
- (ii) Explain about space-time modulation and coding. CO5- U (8)
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