



Reg. No. :

--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : X20462

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020

Fifth/Eighth Semester

Electronics and Communication Engineering

EC 6801 – WIRELESS COMMUNICATION

(Common to Robotics and Automation Engineering/Information Technology)

(Regulations 2013)

(Also Common to PTEC 6801 – Wireless Communication for B.E. (Part-Time)

Sixth Semester Electronics and Communication Engineering)

(Regulations 2014)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. What is meant by small and large-scale fading ?
2. Interpret Snell's law.
3. What are the effects of multi path propagation on CDMA ?
4. Define co-channel reuse ratio.
5. What is Windowing ? Mention its significance.
6. Define cyclic prefix.
7. Compare macro and micro diversity.
8. Draw the structure of linear transversal equalizer.
9. Write about MMSE decision feedback equalizer.
10. Define coding gain.

PART – B

(5×13=65 Marks)

11. a) Discuss about technical challenges faced by the wireless communication.

(OR)

b) i) Discuss in detail Two Ray Rayleigh Fading model.

(7)

ii) Describe on Rician distribution.

(6)



12. a) Explain the principle of cellular networks and various types of Handoff techniques.

(OR)

b) Explain in brief about Trunking and Grade of Service.

13. a) Explain MSK transmitter and receiver with signal space diagram and give an expression for spectral efficiency.

(OR)

b) Describe with necessary diagram the operation of Orthogonal Frequency Division Multiplexing Transceiver.

14. a) Briefly explain about linear equalizers.

(OR)

b) Explain with diagram how Rake receiver provides diversity to improve the performance of CDMA receiver.

15. a) Discuss about the MIMO systems in detail.

(OR)

b) Explain with relevant diagrams the layered space time structure with respect to MIMO systems.

PART – C

(15×1=15 Marks)

16. a) Derive the expressions for the total Electric field, $E_{TOT}(d)$ and received power at distance, $P_r(d)$ using two-ray ground reflection model.

(OR)

b) Explain with neat diagram, the principle of Gaussian Minimum shift keying receiver and mention how this is different from MSK.
