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Question Paper Code : 50456

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Fifth/Eighth Semester

Electronics and Communication Engineering

EC 6801 – WIRELESS COMMUNICATION

(Common to Robotics and Automation Engineering/Information Technology)

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

(10×2=20 Marks)

1. What is meant by multipath propagation ?
2. What is flat fading ?
3. What do you mean by forward and reverse channel ?
4. Define frequency reuse.
5. Define offset QPSK and $\pi/4$ differential QPSK.
6. Define PAPR.
7. Define spatial diversity.
8. Define STCM.
9. Define spatial multiplexing.
10. Define receiver diversity.

PART – B

(5×13=65 Marks)

11. a) i) What do you mean by path loss model ? Explain in detail about log-distance path loss model.
ii) What is the need for link calculation ? Explain with suitable example.

(OR)

- b) Distinguish fast fading and slow fading in wireless channel and explain in detail.



12. a) Identify the channel capacity of TDMA in cell system.
(OR)
b) Write short note on i) Trunking ii) Grade of service of cell system.
13. a) i) Describe with neat diagram, the modulation technique of QPSK.
ii) List the advantages and applications of BFSK.
(OR)
b) Examine the principle of MSK modulation and derive the expression for power spectral density.
14. a) Describe in detail about i) Linear equalizers ii) Non-linear equalizers.
(OR)
b) Analyze various diversity techniques used in wireless communication.
15. a) What is meant by MIMO systems ? Explain the system model with necessary diagrams.
(OR)
b) Distinguish between different beamforming techniques.

PART – C

(1×15=15 Marks)

16. a) Analyze and compare the error performance in fading channels with and without diversity reception techniques.
(OR)
b) With valid statements, analytically prove that the adaptive equalisers exhibit superior performance over the conventional equalisers. (15)