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Sardar Patel University

M.Sc Sem-IV Examination April-2016

PS04CELC01-Mobile Communication

Date: 4-04-2016

Day: Monday

Total marks: 70

Time: 2:30 p.m to 5:30 p.m

Q-1 Multiple Choice Questions **(08)**

1 The toll-quality voice is usually around MOS _____.

a) ≥ 4 b) ≤ 4

c) ≥ 3 d) ≤ 3

2 _____ is referred as the heart of the cellular mobile system.

a) MTSO b) mobile units

c) cell site d) none of them

3 Co-channel interference factor is given by _____.

a) D×R b) D/R

c) R×D d) R/D

4 D = _____ when K = 7.

a) 3.46 R b) 4.6 R

c) 6 R d) 7.55 R

5 The 1-mi intercept level in a suburban area is _____.

a) 40 dB/dec b) 50 dB/dec

c) 60 dB/dec d) 70 dB/dec

6 The foliage loss along the radio path is _____.

a) -61.7 dBm b) 61.7 dBm

c) -6.17 dBm d) 6.17 dBm

7 Full form of GSM is _____.

a) Global signal for mobile b) Global system for mobile

a) Global signal for machine d) Global system for machine

8 _____ is a gateway for MSC to interface with external networks for communication with outside users.

a) BTS b) IWF

c) HLR d) VLR

Q-2 **Answer the following questions in short. (Any seven)** **(14)**

1. What are the limitations of conventional mobile telephone system?
2. What is cell coverage?
3. What is cross-talk?
4. Explain mobile originated call
5. What is co-channel interference?
6. On which factors does cell coverage depend?
7. Explain the function of setup channel.
8. What is frequency reuse?
9. What is cross talk?

Q-3(A) Explain basic cellular system in detail. **(06)**

(B) Discuss the handoff phenomenon in detail. **(06)**

OR

(A) What is need of cell splitting? Also discuss different techniques of cell splitting. **(06)**

Q-4(A) Explain the term adjacent channel interference.How it can be reduced? **(06)**

(B) Explain the types of adjacent channel interference in brief. **(06)**

OR

(B) Describe the near-end-far-end interference in one cell and in two system cells. **(06)**

Q-5(A) Discuss the characteristics of foliage environment. **(06)**

(B) Discuss various methods for improving the coverage & capacity in cellular systems. **(06)**

OR

(B) Explain why there is a constant standard deviation along a path loss curve. **(06)**

Q-6(A) Explain GSM architecture of GSM. **(06)**

(B) Explain CDMA in detail. **(06)**

OR

(B) Differentiate between analog and digital cellular systems. **(06)**

X=X=X