Sinai University

Faculty of Information Technology

Wireless and Mobile Networks **Quiz #1**

Name : **ID:**

Answer the following Questions[15 marks]

Q1: Put True or False for each of the following statements

STATEMENT	T / F
1. **The terms wireless and mobile communication refer to different things.**	
2. **The effective area of an ideal isotropic antenna is $\lambda/4\pi$ with a power gain of 1.**	
3. **The statistical multiplexer does not send empty slots if there are any other data to send.**	
4. **The received power P_r is proportional to d^2 (d = distance between the sender and receiver).**	
5. **In the synchronous TDM, each time slot will be allocated even there is no data transfer**	

Q2-

a) **Find the effective area of a parabolic reflective antenna operating at 10 GHz and its gain is 35.**

b) **Find the loss of an antenna if it is 100 m high and operates at 12 GHz.**

Q3: Three different mobile devices use the following codes: Mobile A: 11110000, Mobile B: 10101010 and Mobile C: 00110011. Assume that Mobile A sends 10, B sends 01, and C sends 11. Apply the CDM