EE 672	Satellite Communications	QUIZ # 2
Semester (062)	Section (01)	9 April, 2007

NAME :	
I.D. # :	Score : / 10

1) Calculate the exact maximum directivity of an antenna with radiation intensity given by:

   $U = U_m \ \cos^4 \theta$ for $0 \le \theta \le \dfrac{\pi}{2}$ **and** $0 \le \phi \le 2\pi$.

2) Calculate the half-power beam-widths (θ_{HP1} and θ_{HP2}) in two perpendicular planes containing the direction of maximum radiation.

3) If the approximate directivity is obtained from: $D_o = 4\pi / (\theta_{HP1} . \theta_{HP2})$, where θ_{HP1} and θ_{HP2} are expressed in radians; calculate the percentage error in obtaining the approximate directivity.