

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
Department of Electrical Engineering

EE422 Antenna Theory	Quiz (1)	16/3/2010
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Student's Name:	I.D.#:
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The radiation intensity of an antenna is given by: $U(\theta, \phi) = \cos^4 \theta \sin^2 \phi$ for $0 \leq \theta \leq \pi/2$ and $0 \leq \phi \leq 2\pi$ (i.e. in the upper half-space) and is zero in the lower half-space. Find the

- (a) Maximum directivity (dimensionless and in dB)
- (b) Elevation plane half-power beam-width (in degrees).

Score /10
