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JAYA GROUP OF INSTITUTIONS-THIRUNINDRAVUR

6<sup>th</sup> SEMESTER-B.E/B.Tech

INTERNAL ASSESSMENT-II (MODEL EXAMINATION-2)

Sub.Name: **ANTENNA AND WAVE PROPAGATION**

Date: **06.03.2015**

SUB.Code: **EC2353**

Branch: **ECE**

Duration: **180 Minutes**

Max.Marks: **100**

**PART-A (10×2=20) Answer all questions**

1. State Huygen's Principle.
2. What are the features of slot antenna?
3. The aperture dimensions of a pyramidal horn are 12×6cm and operating at a frequency of 10GHz. Find the beam width and directivity.
4. What is called method of imaging?
5. State field equivalence principle.
6. Mention the types of feeding structures used for microstrip patch antennas.
7. Design a 3 element Yagi-Uda antenna to operate at a frequency of 200MHz.
8. Mention any two applications of Helical antenna.
9. What are the features of Anechoic chamber?
10. What is the difference between Yagi-Uda antenna and log periodic dipole array?

**PART-B(5×16=80)Answer the questions as per choice**

11. a. (i) Explain the principle of horn antenna with a neat sketch. (8)  
(ii) Explain the salient features of Flat and corner reflector antenna. (8)  
Or  
b. With neat diagram, explain the principle of Parabolic reflector antenna and various types of feed used. (16)
12. a. (i) Explain the Image theory and its application in detail. (8)  
(ii) Write short notes on Lens antenna. (8)  
Or  
b. (i) Explain the field equivalence principle in detail. (8)  
(ii) Write short notes on pattern properties. (8)
13. a. Explain the radiation mechanism of slot antenna with neat diagram. (16)  
Or  
b. With a neat sketch, explain the construction and operation of Helical antenna. (16)
14. a. With a neat sketch, explain the construction and operation of Multi element Yagi-Uda antenna. (16)

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b. With necessary illustrations explain the radiation characteristics of microstrip antenna and mention its possible application. (16)

15. a. With neat block diagram explain how radiation pattern and Gain of an antenna can be measured. (16)

Or

b. With necessary illustrations explain the radiation characteristics of multi element log periodic antenna and mention its possible applications. (16)