

Unit 14 - Week 12

Course outline

How does an NPTEL online course work?

Practice Assignment

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

Lecture 56 : Reflector Antennas-I

Lecture 57 : Reflector Antennas-II

Lecture 58 : Reflector Antennas-III

Lecture 59 : Reflector Antennas-IV

Lecture 60 : Lab Session

Study Material

Quiz : Assignment-12

Assignment-12 Solution

Download Videos

Weekly Feedback

Text Transcripts

Assignment-12

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-04-22, 23:59 IST.

1) For a corner reflector antenna with corner angle of 40° , the number of images will be: **2 points**

- 4
 6
 8
 9

No, the answer is incorrect.
Score: 0

Accepted Answers:
8

2) For a fixed angle corner reflector antenna, the distance of feed from the corner mainly affects: **2 points**

- Number of images formed
 Radiation pattern
 Polarization
 Bandwidth

No, the answer is incorrect.
Score: 0

Accepted Answers:
Radiation pattern

Common Data for Questions 3-5: A prime focus parabolic reflector antenna is to be designed at 2.45 GHz for a gain of 30 dBi. Assume efficiency of 70%.

3) Diameter of the parabolic reflector should be: **2 points**

- 0.73 m
 1.47 m
 2.5 m
 5.9 m

No, the answer is incorrect.
Score: 0

Accepted Answers:
1.47 m

4) If f/d ratio is 0.55, the value of aperture angle (θ_0) of the reflector will be: **2 points**

- 30.5°
 48.9°
 55.3°
 68.1°

No, the answer is incorrect.
Score: 0

Accepted Answers:
 48.9°

5) To improve taper efficiency, the feed antenna should have: **2 points**

- High gain
 High side-lobe levels
 Small half power beam width (HPBW)
 Large half power beam width (HPBW)

No, the answer is incorrect.
Score: 0

Accepted Answers:
Large half power beam width (HPBW)

6) Cassegrain feed is used instead of prime focus in parabolic reflector antenna, mainly for: **2 points**

- High power transmission
 Low power transmission
 High efficiency transmission
 Low efficiency transmission

No, the answer is incorrect.
Score: 0

Accepted Answers:
High power transmission

7) For far field measurements of a test antenna with maximum dimension of D, minimum distance between the reference antenna and the test antenna should be: **2 points**

- $2D^2/\lambda_0$
 D^2/λ_0
 D^2/λ_0
 $2D/\lambda_0$
 $2D^2 \times \lambda_0$

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $2D^2/\lambda_0$

8) To measure input impedance of an antenna, _____ should be used. **2 points**

- Vector network analyzer
 Spectrum analyzer
 Signal generator
 Power meter

No, the answer is incorrect.
Score: 0

Accepted Answers:
Vector network analyzer

9) Spectrum analyzer cannot be used to measure: **2 points**

- Harmonic distortion
 Third order intercept point
 Phase noise
 S-parameters

No, the answer is incorrect.
Score: 0

Accepted Answers:
S-parameters

10) Which of the followings is not a standard load used during calibration of a 50Ω vector network analyzer? **2 points**

- Open
 Short
 50Ω
 25Ω

No, the answer is incorrect.
Score: 0

Accepted Answers:
 25Ω