

Unit 13 - Week 11

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

Lecture 50 : Yagi-Uda and Log-Periodic Antennas-I

Lecture 51 : Yagi-Uda and Log-Periodic Antennas-II

Lecture 52 : Yagi-Uda and Log-Periodic Antennas-III

Lecture 53 : IE3D Session TA-I

Lecture 54 : IE3D Session TA-II

Lecture 55 : IE3D Session TA-III

Study Material

Quiz : Assignment-11

Assignment-11 Solution

Download Videos

Weekly Feedback

Week 12

Text Transcripts

Assignment-11

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

Due on 2020-04-15, 23:59 IST.

1) Primary objectives of Yagi-Uda and log-periodic antenna configurations are to achieve ____ and ____, respectively. **2 points**

- High bandwidth, High gain
- High bandwidth, High bandwidth
- High gain, high bandwidth
- High gain, high gain

No, the answer is incorrect.
Score: 0

Accepted Answers:
High gain, high bandwidth

Common Data for Questions 2-6: A 3-element Yagi-Uda antenna is to be designed at 925 MHz for a gain of around 7 dBi on a substrate with $\epsilon_r = 2.55$ and $h = 0.16$ cm. The width of the printed lines can be taken as 0.3 cm.

2) Approximate length of the driven element (feeder) should be: **2 points**

- 9.6 cm
- 14.5 cm
- 32.4 cm
- 40.5 cm

No, the answer is incorrect.
Score: 0

Accepted Answers:
14.5 cm

3) Approximate length of the reflector element should be: **2 points**

- 12.6 cm
- 15.8 cm
- 18.5 cm
- 19.6 cm

No, the answer is incorrect.
Score: 0

Accepted Answers:
15.8 cm

4) Approximate length of the director element should be: **2 points**

- 10.4 cm
- 13.1 cm
- 16.5 cm
- 20.5 cm

No, the answer is incorrect.
Score: 0

Accepted Answers:
13.1 cm

5) Approximate spacing between the reflector and driven (feeder) element should be: **2 points**

- 2 cm
- 4 cm
- 7 cm
- 10 cm

No, the answer is incorrect.
Score: 0

Accepted Answers:
7 cm

6) If the gain of the antenna is to be increased from 7 dBi to 9 dBi, in the higher frequency region: **2 points**

- An extra reflector should added
- Diameter of the driven (feeder) element should be increased
- Length of the driven (feeder) element should be increased
- Extra director elements should be added

No, the answer is incorrect.
Score: 0

Accepted Answers:
Extra director elements should be added

Common data for Questions 7-9: A log-periodic dipole array antenna is to be designed for frequency range of 800 MHz to 2000 MHz for a directivity of 9 dBi. The optimum values of τ and s are 0.86 and 0.16, respectively. A wire of 0.1 cm diameter is to be used.

7) The lengths of the longest and shortest dipoles will be, approximately: **2 points**

- 37.5 cm, 15 cm
- 17.9 cm, 7.1 cm
- 7.5 cm, 3 cm
- 5.5 cm, 2.4 cm

No, the answer is incorrect.
Score: 0

Accepted Answers:
17.9 cm, 7.1 cm

8) The number of array elements should be: **2 points**

- 8
- 12
- 15
- 18

No, the answer is incorrect.
Score: 0

Accepted Answers:
8

9)The radiation pattern of the antenna is: **2 points**

- Omnidirectional
- Isotropic
- Broadside
- Endfire

No, the answer is incorrect.
Score: 0

Accepted Answers:
Endfire

10) Which of the following software cannot be used for EM simulation of antenna structures? **2 points**

- IE3D
- CST Microwave Studio
- HFSS
- Microsoft Excel

No, the answer is incorrect.
Score: 0

Accepted Answers:
Microsoft Excel