Assignment-11

The due date for submitting this assignment has passed.

For your records you have not submitted this assignment.

1. Primary objectives of Yagi-Uda and log-periodic antenna configurations are to achieve ___ and ___ respectively.
   - High beamwidth, High gain
   - High beamwidth, High backlobe
   - High gain, High backlobe
   - High gain, High beamwidth
   
   Note: The answer is incorrect.
   Accepted Answers:
   - High gain, High beamwidth

2. Data for Question 2-6: A 3-element Yagi-Uda antenna is to be designed at 5.8 GHz for a gain of around 7.5 dBi on a substrate with εr = 2.95 and h = 0.16 m. The width of the printed lines can be taken as 0.2 cm.
   
   Note: The answer is incorrect.
   Accepted Answers:
   - 1.6 cm
   - 1.4 cm
   - 1.2 cm
   - 0.6 cm
   - 0.8 cm
   
   Correct Answer:
   - 1.2 cm

3. Approximate length of the reflector element (beak) should be:
   - 2 cm
   - 4 cm
   - 6 cm
   - 7 cm
   - 10 cm
   
   Note: The answer is incorrect.
   Accepted Answers:
   - 7 cm

4. Approximate length of the director element should be:
   - 10.4 cm
   - 11.7 cm
   - 13.5 cm
   - 19.6 cm
   - 20.1 cm
   
   Note: The answer is incorrect.
   Accepted Answers:
   - 15.7 cm

5. Approximate spacing between the reflector and director (beak) element should be:
   - 2 cm
   - 4 cm
   - 6 cm
   - 7 cm
   - 10 cm
   
   Note: The answer is incorrect.
   Accepted Answers:
   - 7 cm

6. If the gain of the antenna is to be increased from 7.5 dBi to 8 dBi, in the higher frequency region:
   - An extra reflector should be added
   - Diameter of the driven (beak) element should be increased
   - Length of the driven (beak) element should be increased
   - Extra director elements should be added
   
   Note: The answer is incorrect.
   Accepted Answers:

7. Three director elements should be added.

8. Extreme data for Question 1-8: A log-periodic dipole array antenna is to be designed for frequency range of 880 MHz to 3000 MHz for a directivity of 8 dBi. The optimum values of εr and h are 5.9 and 0.15, respectively. A wire of 0.1 cm diameter is to be used.
   
   Note: The answer is incorrect.
   Accepted Answers:
   - 5.9
   - 8.9
   - 9.8
   - 9.8
   - 9.8

9. The number of array elements should be
   - 8
   - 12
   - 15
   - 18

10. The radiation pattern of the antenna is:
    - Omnidirectional
    - Bi-directional
    - Unidirectional
    - Tridirectional

   Note: The answer is incorrect.
   Accepted Answers:
   - Omnidirectional

11. Which of the following software cannot be used for EM simulation of antenna structures?
    - CST
    - Ansoft HFSS
    - Zeland ANSYS
    - Microsoft Excel

   Note: The answer is incorrect.
   Accepted Answers:
   - Microsoft Excel