Assignment 11

Due on 2019-10-18, 23:59 IST.

1. A log periodic dipole array is designed to cover the frequency band 450 – 750 MHz with gain of 6 dBi. What will be the minimum number of dipole elements used to design this array? Assume an intrinsic efficiency of 80%.

   - 3
   - 4
   - 5
   - 6

   No, the answer is incorrect. Score: 0

   Accepted Answers:
   - 3

2. Generally, with increase in number of elements, ______ is improved for Yagi-Uda antenna and ______ is increased for log periodic dipole array.

   - Gain, bandwidth
   - Gain, front to back ratio
   - Bandwidth, gain
   - Bandwidth, front to back ratio

   No, the answer is incorrect. Score: 0

3. A parabolic reflector antenna of diameter 2.5 m is designed at 1.8 GHz. Due to manufacturing error, the antenna efficiency is reduced to 90%.

   What will be the gain of the reflector antenna in db? 2 points

   - 50
   - 40
   - 30
   - 20

   No, the answer is incorrect. Score: 0

   Accepted Answers:
   - 40

4. In comparison with semiconductor type switches, MEMS switches do not offer:

   - High power handling capability
   - High reliability
   - Low insertion loss
   - Low power consumption

   No, the answer is incorrect. Score: 0

   Accepted Answers:
   - High power handling capability

5. Which one of the following techniques can be used to detect brain cancer?

   - Computed tomography
   - Medical imaging
   - Through wall imaging
   - Structural health monitoring

   No, the answer is incorrect. Score: 0

   Accepted Answers:
   - Medical imaging

6. In the superheterodyne architecture of spectrum analyzers, the resolution bandwidth is decided by:

   - Bandwidth of the mixer
   - Bandwidth of the IF filter
   - Frequency of the IF filter
   - Frequency of the local oscillator

   No, the answer is incorrect. Score: 0

   Accepted Answers:
   - Bandwidth of the IF filter

7. In a return loss meter, which one of the following blocks enables measurement of reflected and transmitted power levels?

   - Coupler
   - Attenuator
   - Power detector
   - Power meter

   No, the answer is incorrect. Score: 0

   Accepted Answers:
   - Power detector

8. Which one of the following can be measured using a spectrum analyzer?

   - Harmonic distortion
   - Input reflection coefficient
   - Phase response of a filter
   - Volta

   No, the answer is incorrect. Score: 0

   Accepted Answers:
   - Harmonic distortion

9. Which one of the following can be measured using a network analyzer?

   - Harmonic distortion
   - Phase noise
   - Power level of a signal
   - Voltage

   No, the answer is incorrect. Score: 0

   Accepted Answers:
   - Harmonic distortion

10. Calibration of a network analyzer is performed to remove:

    - Random errors
    - Systematic errors
    -both random and systematic errors
    - none of the above

    No, the answer is incorrect. Score: 0

    Accepted Answers:
    - Systematic errors