Assignment-10

The due date for submitting the assignment is two passed.
As per our policy you have not submitted this assignment.

1) A horn antenna is designed using waveguide WR-90. For 10° in mode of operation, the antenna can be used at:

- 2 points
- 1.5 GHz
- 2.5 GHz
- 3.5 GHz
- 4.5 GHz

No, the answer is incorrect. Score: 0

2) Practical value for maximum aperture phase error for 9° plane section horn antenna, as recommended in this course, is:

- 2 points
- 0°
- 90°
- 153°
- 9°

No, the answer is incorrect. Score: 0

3) Practical value for maximum aperture phase error for rectangular horn antenna, as recommended in this course, is:

- 2 points
- 90°
- 153°
- 9°
- 0°

No, the answer is incorrect. Score: 0

4) Polarization provided by the horn antenna will be a waveguide operating in TM01 mode, as shown in Fig. 1.

- 2 points
- Circular
- Elliptical
- Vertical
- Horizontal

No, the answer is incorrect. Score: 0

5) A horn antenna, for a fixed horn aperture, if the horn length (a) to mouth diameter (b) is kept increasing, the efficiency will, in general points

- Keep on increasing
- Keep on decreasing
- Remain the same
- Increase is a certain value and then saturate

No, the answer is incorrect. Score: 0

6) For an aperture of a paraboloidal horn antenna is kept on increasing, its directivity increases first then decreases, because of:

- Increased aperture phase error
- Decreased aperture phase error
- Increased bandwidth
- Increased bandwidth

No, the answer is incorrect. Score: 0

7) Common data for Questions 7 and 9. A conical feed paraboloidal horn antenna is designed at 1.5 GHz with the following dimensions: a = 25 cm and b = 15 cm. Antenna aperture is 9° and 5° = 10.5cm and horn length from mouth = 20 cm.

Assuming efficiency of 70%, approximate gain of the horn will be:

- 2 points
- 15 dBi
- 18 dBi
- 16 dBi
- 19 dBi

No, the answer is incorrect. Score: 0

8) The material feed should be kept at distance of _____ from the waveguide end. (\( \lambda_u \) Free space wavelength, \( \lambda_p \) Guided wavelength)

- 2 points
- 1x
- 2x
- 3x
- 4x

No, the answer is incorrect. Score: 0

9) A paraboloidal horn antenna of length of the length should be taken in the range of: \( \lambda_u \) in free space wavelength

- 2 points
- 1.5x-1.6x
- 1.5x-1.8x
- 1.6x-2.2x
- 1.5x-1.5x

No, the answer is incorrect. Score: 0

10) An horn antenna material for horn antennas, antennas performance is improved because:

- Edge diffractions at the open ends are reduced
- Edge diffractions at the open ends are increased
- Antenna aperture is increased
- Fixed losses are reduced

No, the answer is incorrect. Score: 0