Assignment-3

The due date for submitting this assignment has passed.
Do not resubmit an answer after this date.

1. For a monopole antenna over ground plane, the directivity is _______ and input impedance is _______ as compared to a dipole antenna. 2 points

   - Yes, Yes
   - Yes, No
   - No, Yes
   - No, No

   No, the answer is incorrect. Accepted Answers: Yes, Yes

2. A dipole antenna of diameter 5.5 cm is to be designed on a very large ground plane to cover 800 MHz. The length of the dipole is _______ cm. 2 points

   - 1
   - 1.5
   - 3
   - 4

   No, the answer is incorrect. Accepted Answers: 1

3. A circular loop antenna is to be designed for a satellite having a very small ground plane. The approximate length of monopole should be ______. 2 points

   - $\lambda/2$
   - $\lambda$
   - $\lambda/4$
   - $2\lambda$

   No, the answer is incorrect. Accepted Answers: $\lambda/2$

4. A circular loop antenna has loop diameter of 4 cm and wire diameter is 1 mm. It is wound on the ferrite core, whose effective permeability is 27. 2 points

   - Outer loop radius $= 30$ cm
   - Total loop area $= 52.36$ mm²

   No, the answer is incorrect. Accepted Answers: Outer loop radius $= 30$ cm

5. A dipole antenna of length 18 cm and width $0.5$ cm is cut in a large ground plane. Its approximate resonant frequency is ______. 2 points

   - 1.9 GHz
   - 1.2 GHz
   - 1.6 GHz
   - 1.5 GHz

   No, the answer is incorrect. Accepted Answers: 1.6 GHz

6. The number of turns required to obtain $Q_{ext} = 50$ for a 100 MHz are: 2 points

   - 110
   - 64
   - 32
   - 17

   No, the answer is incorrect. Accepted Answers: 110

7. A printed antenna is to be designed at 1.8 GHz on glass epoxy substrate with $\varepsilon_r = 4.4$, $h = 0.165$ cm and $a_x = 1.122$ cm. 2 points

   - 1.58
   - 1.76
   - 1.93
   - 1.54

   No, the answer is incorrect. Accepted Answers: 1.76

8. With increase in slot width, bandwidth of the antenna will ______. 2 points

   - Increase
   - Decrease
   - Remain same
   - Increase and then decrease

   No, the answer is incorrect. Accepted Answers: Increase

9. If input impedance of a dipole antenna is $70 \Omega$, what will be approximate input impedance of a complimentary vail antenna? 2 points

   - 300
   - 100
   - 120
   - 100

   No, the answer is incorrect. Accepted Answers: 300

10. Radiation pattern of a slot antenna is ______. 2 points

    - Omni in both $E$ and $H$ planes
    - Omni in $E$ plane and directional in $H$ plane
    - Direcional in $E$ plane and Omni in $H$ plane
    - Directional in both $E$ and $H$ planes

    No, the answer is incorrect. Accepted Answers: Omni in $E$ plane and directional in $H$ plane.