AWP PERIODIC TEST 1

1. In flared transmission line, the radiation phenomenon increases due to _____ in flaring
   (0.5 Points)

   ○ a. Decrease

   ◉ b. Increase

   ○ c. Stability

   ○ d. Instability

2. At which angles does the front to back ratio specify an antenna gain?
   (0.5 Points)

   ◉ a. 0° & 180°

   ○ b. 90° & 180°

   ○ c. 180° & 270°

   ○ d. 180° & 360

3. How are the infinitesimal dipoles represented in terms of antenna length and signal wavelength?
   (0.5 Points)

   ○ a. $l = \lambda/2$

   ○ b. $(\lambda/50) < l \le (\lambda/10)$

   ○ c. Both a and b are correct.

   ◉ d. $l \le (\lambda/50)$

4. Which ionization layer exists during day time & usually vanishes at night due to highest recombination rate?
   (0.5 Points)

○ a.D region

○ b.Normal E-region

○ c.Sporadic E-region

○ d.Appleton region

5. Find the power received by the receiving antenna if it is placed at a distance of 20m from the transmitting antenna which is radiating 50W power at a frequency 900MHz and are made-up of half-wave dipoles.
(2 Points)

○ a) 23.65μW

○ b) 2.365μW

◉ c) 236.5μW

○ d) 4.73μW

6. Linear polarization can be obtained only if the wave consists of _____
(0.5 Points)

○ a. Ex

○ b. Ey

◉ c. Both Ex & Ey & in phase

○ d. Both Ex & Ey & out of phas

7. Yagi Uda antenna is used for which application?
(0.5 Points)

○ a.Reception of LF and HF frequency signals

○ b. as a direction finder

○ c.Reception of microwave frequency signals.

◉ d.reception of VHF and UHF signals

8. What is the radiation resistance of an antenna if input power to it is 1KW and current in it is 10A having a power loss of 200W?
   (3 Points)

   ○ a) 10Ω

   ○ b) 2Ω

   ○ c) 12Ω

   ◉ d) 8Ω

9. What is the nature of radiation pattern of an isotropic antenna?
   (0.5 Points)

   ○ a. Ellipitical

   ○ b. Dough-nut

   ◉ c. Spherical

   ○ d. Hyperbolic

10. For a dipole antenna with length $\lambda/12$, what is the antenna efficiency if the Radiation resistance is 2Ω?
    (3 Points)

    ◉ a) 0.73

    ○ b).73

    ○ c) 0.37

    ○ d) 0.78

11. An antenna has directivity of 20 and radiation efficiency of 90%. compute gain in dB.
    (1 Point)

    ◉ 10log(18)

    ○ 10.2

    ○ 20log (20)

    ○ 15.8

12. what is advantage of folded dipole antenna over half wave dipole antenna.
(1 Point)

   ◯ a.Efective length is more

   ◯ b.Efficiency is more

   ◉ c. Front to back ratio is more

   ◯ Effective apperture is more.

13. Which among the following plays a primary role in generation of conduction current in an ionosphere due to presence of electric field?
(0.5 Points)

   ◯ a. Ions

   ◉ b. Motion of electrons

   ◯ c. Neutral molecules

   ◯ d. both a and b options

14. In an electrically small loops, the overall length of the loop is _____ one-tenth of a wavelength
(0.5 Points)

   ◯ a. Greater than or equal to

   ◯ b. Equal to

   ◯ c. Greater than

   ◉ d.less than

15. On which factors of earth does the magnitude of tilt angle depend in surface wave?
(0.5 Points)

   ☑ A. Permittivity and conductivity

   ☐ B. Conductivity and Resitivity

   ☐ C. Resistivity and inductive properties

   ☐ D. Reflectivity and diffraction.

16. Which term is regarded as an inductive field as it is predictable from Biot Savart law & considered to be of prime importance at near field or the distance close to current element?
(0.5 Points)

○ a. 1/ r

◉ b. 1/ r2

○ c. 1/ r3

○ d. 1/ r4

17. How do the elements of an active region behave?
(0.5 Points)

○ a. Inductive

○ b. Capacitive

◉ c. Resistive

○ d.Neutral

18. If an observation point is closely located to the source, then the field is termed as _____
(0.5 Points)

◉ a. Induced

○ b. Radiated

○ c. Reflected

○ d. Far-field

19. Power density is basically termed as _____ power per unit area
(0.5 Points)

○ a. reflected

○ b. Refracted

◉ c. Radiated

○ d. Diffracted

20. By how many times is an input impedance of a folded dipole at resonance greater than that of an isolated dipole with same length as one of its sides?
(0.5 Points)

○ a. 2

○ b. 3

◉ c. 4

○ d. 6

21. The vector magnetic potential shows the inverse relationship with its ____
(0.5 Points)

○ a. Source

◉ b. Distance of point from the source (R)

○ c. Both a and b

○ d. None of the above

22. The knowledge of which parameter is sufficient for deriving the time varying electromagnetic field?
(0.5 Points)

○ a. Electric field intensity

○ b. Magnetic field intensity

◉ c. Current density

○ d. Power density

23. For receiving a particular frequency signal, which tuning component must be used by the loop to form a resonant circuit for tuning to that frequency?
(0.5 Points)

◉ a. Capacitor

○ b. Inductor

○ c. Resistor

d. Gyrator

24. In retarded potentials, what factor of time delay is generally introduced in A & V equations?
    (1 Point)

    ○ a. R + c

    ○ b. R – c

    ◉ c. R/c

    ○ d. R x c

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