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1. _____ is the progressive decrease of signal strength with increasing distance.

- A. Radiation
- B. Attenuation
- C. Modulation
- D. Propagation

ANSWERS:B

2. Calculate the effective earth's radius if the surface refractivity is 301.

- A. 8493 km
- B. 8493 mmi
- C. 6370 km
- D. 6370 mi

ANSWERS:A

3. If k-factor is greater than 1, the array beam is bent

- A. Away from the earth
- B. towards the ionosphere,
- C. towards the earth
- D. towards the outer space

ANSWERS:C

4. the antenna separations (in meters) required for optimum operation of a space diversity system can be calculated from:

- A. $S = 2\lambda R/L$
- B. $S = 3\lambda R/L$
- C. $S = \lambda R/RL$
- D. $S = \lambda R/L$

where R = effective earth radius (m) and L = path length (m)

ANSWERSB:

5. Rainfall is an important factor for fading of radio waves at frequencies above

- A. 10 GHz
- B. 100 GHz
- C. 1 GHz
- D. 100 MHz

ANSWERS:A

6. Theoretically electromagnetic radiation field strength varies in inverse proportion to the square of the distance, but when atmospheric attenuation effects and the absorption of the terrain are taken into account the attenuation can be as high as the inverse _____ power of the distance.

- A. Third
- B. Fourth
- C. Fifth
- D. Sixth

ANSWERS:D

7. What do you call an attenuation that occurs over many different wavelengths of the carrier?

- A. Rayleigh fading
- B. Rician fading
- C. Wavelength fading
- D. Slow fading

ANSWERS:D

8. Which of the reception problems below that is not due to multipath?

- A. Delayed spreading
- B. Rayleigh fading
- C. Random Doppler shift
- D. Slow fading

ANSWERS:D

9. Which causes multipath or frequency-selective fading?

- A. Small reflector
- B. Nearer reflector
- C. Further reflector
- D. Large reflector

ANSWERS:D

10. In microwave transmission using digital radio, what causes most intersymbol interference?

- A. Delayed spreading
- B. Rayleigh fading
- C. Random Doppler shift
- D. Slow fading

ANSWERS:A