

1. The filament of an electric bulb is made of
A) iron B) nichrome C) tungsten D) graphite
2. The technique used to transmit audio signals in television broadcasts is
A) Amplitude Modulation B) Frequency Modulation
C) Pulse Code Modulation D) Time Division Multiplexing
3. If v is the speed, r is radius and g is the acceleration due to gravity, then which of the following is dimensionless?
(A) $\frac{v^2}{rg}$ (B) $vr g$ (C) $\frac{v^2 r}{g}$ (D) $\frac{vr^2}{g}$
4. A packet of weight W is dropped with the help of a parachute and on striking the ground comes to rest with retardation equal to twice the acceleration due to gravity. The force exerted on the ground is
(A) W (B) $2W$ (C) $3W$ (D) $4W$
5. A current carrying conductor produces
(A) only electric field (B) only magnetic field
(C) neither electric nor magnetic field (D) both electric and magnetic fields
6. If $2^{x+13} = 4^{x+2}$ then x is equal to
(A) 2 (B) 3 (C) 9 (D) 4
7. The sum of two numbers is 50. The fraction obtained by dividing the larger number by the smaller number is $\frac{3}{2}$. The numbers are.
(A) 25, 25 (B) 10, 40 (C) 15, 35 (D) 20, 30
8. Father's age is 5 times the age of his son. After 15 years the father will be $2\frac{1}{2}$ times older than his son. What is the present age of the father?
(A) 35 years (B) 45 years (C) 55 years (D) 30 years
9. The sum of the series $5 + 9 + 13 + \dots + 49$ is
(A) 351 (B) 535 (C) 324 (D) 435
10. What will be the remainder if $(x^{97} - 1)$ is divided by $x + 1$?
(A) 96 (B) 0 (C) 2 (D) - 2