

Q: In a shooting test, the probability of hitting the target is  $\frac{1}{2}$  for A,  $\frac{2}{3}$  for B, and  $\frac{3}{4}$  for C. If all of them fire at the target, what is the probability that none of them hit the target and at most two of them hit the target?

Q: Purple of Cassius is a colloidal solution of

Q: Which of the following will not exhibit keto-enol tautomerism?

Q: The violet color of  $[\text{Ti}(\text{H}_2\text{O})]$  is due to?

Q: When a current-carrying coil is placed in a magnetic field, what is the force experienced by the coil?

Q: Charged particle 'q' moving through a magnetic field with velocity V will have zero magnetic force when the angle is,

Q: Electrophilic halogenation of phenol does not require catalyst because

Q: Which of the following will undergo hydrolysis by  $\text{S}_\text{N}2$  mechanism?

Q: Young's Modulus of elasticity is:

- Shear stress / Tensile strain
- Tensile stress / Tensile strain
- Shear stress / Shear strain
- Tensile stress / Shear strain

Q: Identify the quantity that has the dimensions different from the remaining three

Q: A coil of 100 turns with a current of 5A produced a magnetic flux of  $\frac{1}{4}$  Wb and each turn of the coil. The coefficient of self induction is

Q: Electric field intensity and electric potential at a certain distance from a point charge is 32 N/C and 16 J/C. What is the distance from the charge?

Q: Under what condition will the strength of current in a wire of resistance R be the same for connection in series and in parallel of n identical internal resistance r?

Q: For a telescope, the larger the diameter of the objective lens

- Greater the resolving power
- Greater the magnifying power
- Smaller the resolving power

Q: If the amplitude ratio of two sources producing interference is 3:5, the ratio of intensities at maxima and minima is?

Q: If the radius of a nucleus with mass number 64 is 1.2 Fermi, then radius of a nucleus with mass number 125 is

Q: If  $\alpha$  and  $\beta$  are roots of  $x^2 - 2x + 3 = 0$  then the equation with roots  $\frac{1}{\alpha}$ ,  $\frac{1}{\beta}$  is

Q: Which of the following pairs are isobars

Q: A square loop of side 22 cm is changed to a circle in time 0.4 sec with its plane normal to a magnetic field 0.2T. The emf induced is:

Q: What is the gravitational force experienced by an object of 10 kg that is 200 m away from an object weighing 1 ton?

Q: In a transistor,

- $I_C = I_E + I_B$
- $I_B = I_C + I_E$
- $I_E = I_C - I_B$
- $I_F = I_C + I_B$

Q: In a non transistor, are the minority carriers:

- donor ions
- acceptor ions
- holes
- free electrons

Q: The most suitable material for making the core of an electromagnet is,

- Iron
- Aluminium
- Soft iron
- Steel

Q: A large metal sheet carries an electric current along its surface. The current per unit length is

2. The magnetic field near the metal sheet is

