JEE Main 2023 Question Paper with Answer Key April 10 Shift 2 (Memory-based)
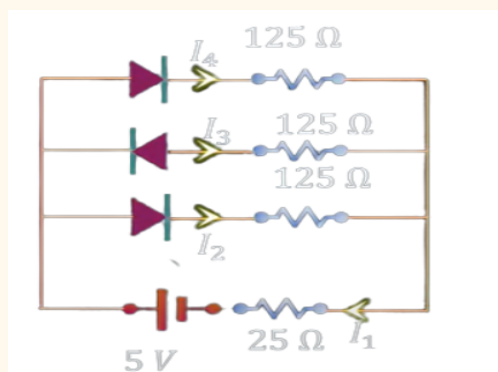
JEE Main 2023 Physics Question Paper

Question 1. An object moves x distance with speed v1 and next x distance with speed v2. The average velocity v is related to v1 and v2 as

  A. v = (v1 + v2)/2
  B. 1/v = 1/v1 + 1/v2
  C. v = (2v1 v2) / (v1 + v2)
  D. v = (v1 - v2) / 2

Answer. C

Question 2. Following circuit contains diodes with forward bias having resistance 25 Ω, and reverse bias having infinite resistance. The ratio of I_1/I_2 is equal to

  A. 1
  B. 2
  C. 3

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D. 4

Answer. B

Question 3. An infinitely-long conductor has a current 14 A flowing as shown in the figure. Find the magnetic field at centre C.

    A. 88 µT
    B. 44 µT
    C. 10 µT
    D. 120 µT

Answer. B

Question 4. If half life for a radioactive decay reaction is T. Find the time after which 7/8th of initial mass decays

    A. 3T
    B. 2T
    C. T/2
    D. 4T

Answer. A

Question 5. Assertion (A):- fan spins even after switch is off
        Reason (R) :- Fan in rotation has rotational inertia.

    A. A is correct and R is correct explanation of A
    B. A is correct and R is incorrect explanation of A
    C. A is correct and R is correct but R is not correct explanation of A
    D. Both (A) and (R) are incorrect

Answer. A

Question 6. When electric field is applied to the electrons in a conductor it starts

    A. Moving in straight line
    B. Drifting from higher potential to lower potential
    C. Drifting from lower potential to higher potential
    D. Moving with constant velocity

Answer. C

Question 7. Wire A and B have their Young's moduli in the ratio 1:3, area of cross section in the ratio of 1:2 and lengths in ratio of 3:4. If same force is applied on the two wires to elongate then ratio of elongation is equal to

    A. 8:1
    B. 1:12
    C. 1:8
    D. 9:2

Answer. D

JEE Main 2023 Chemistry Question Paper

Question 1. Delicate balance of CO_2 and 0_2 is not disturbed by:

    A. Deforestation
    B. Photosynthesis
    C. Burning of coal
    D. Burning of petroleum

Answer. B

Question 2. For a metal ion magnetic moment is calculated to be 4.9BM. Find the number of unpaired.

Answer. 4

JEE Main 2023 Mathematics Question Paper

Question 1. Let a circle of $x^2 + y^2 = 16$ and line passing through (1,2) cuts the circle at A and B then the locus of the mid-point of AB is:

   A. $x^2 + y^2 + x + y = 0$
   B. $x^2 + y^2 - x + 2y = 0$
   C. $x^2 + y^2 - x - 2y = 0$
   D. $x^2 + y^2 + x + 2y = 0$

Answer. C

Question 2. The sum of all 4 digit numbers using the digits 1,2,2,3 is?

Answer. 26464

Question 3. 4,11,21,34….. Find the value of $(S_{29} - S_9) / 60$?

Answer. 1331.6