

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 v_1 and next x distance with speed v_2 . The average velocity v is related to v_1 and v_2 as

- A. $v = (v_1 + v_2)/2$
- B. $1/v = 1/v_1 + 1/v_2$
- C. $v = (2v_1 v_2) / (v_1 + v_2)$
- D. $v = (v_1 - v_2) / 2$

Answer. C

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



- A. 1
- B. 2
- C. 3

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 O_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

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