

CBSE Class 12 Physics Answer Key 2024 Set 1

Section A

1. A battery supplies 0.9 A current through a $2\ \Omega$ resistor and 0.3 A current through a $7\ \Omega$ resistor when connected one by one. The internal resistance

of the battery is:

A. $2\ \Omega$

B. $1.2\ \Omega$

C. $1\ \Omega$

D. $0.5\ \Omega$



Answer: D. $0.5\ \Omega$

2. A particle of mass m and charge q describes a circular path of radius R in a magnetic field. If its mass and charge were $2m$ and $q/2$ respectively, the radius of its path would be:

A. $R/4$

B. $R/2$

C. 2R

D. 4R

Answer: C. 2R

3. Which of the following pairs is that of paramagnetic materials?

(A) Copper and Aluminium

(B) Sodium and Calcium

(C) Lead and Iron

(D) Nickel and Cobalt



Answer: (D) Nickel and Cobalt

4. A galvanometer of resistance 50Ω is converted into a voltmeter of range (0 - 2V) using a resistor of $1.0 \text{ k}\Omega$. If it is to be converted into a voltmeter of range (0 - 10 V), the resistance required will be

(A) $4.8 \text{ k}\Omega$

(B) $5.0 \text{ k}\Omega$

(C) $5.2 \text{ k}\Omega$

(D) 5.4 k Ω

Answer: (C) 5.2 k Ω

5. Two coils are placed near each other. When the current in one coil is changed at the rate of 5 A/s, an emf of 2 mV is induced in the other. The mutual inductance of the two coils is

A. 0.4 mH

B. 2.5 mH

C. 10 mH

D. 2.5 H



Answer: A. 0.4 mH

6. The electromagnetic waves used to purify water are

A. Infrared rays

B. Ultraviolet rays

C. X-rays

D. Gamma rays

Answer: B. Ultraviolet rays

7. The focal lengths of the objective and the eyepiece of a compound microscope are 1 cm and 2 cm respectively. If the tube length of the microscope is 10 cm, the magnification obtained by the microscope for most suitable viewing by relaxed eye is :

(A) 250

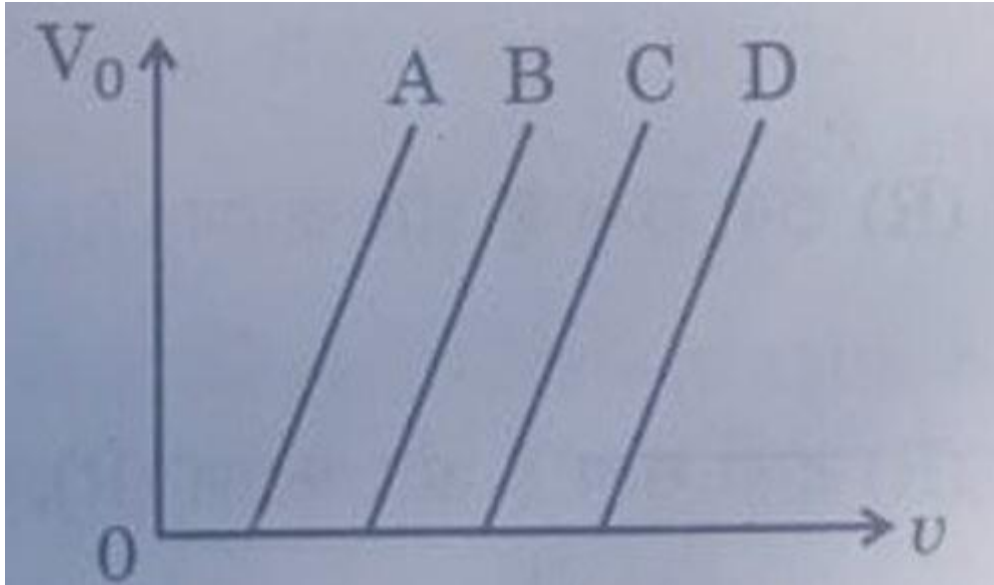
(B) 200

(C) 150

(D) 125

Answer: D

8. The variation of the stopping potential (V_0) with the frequency (ν) of the incident radiation for four metals A, B, C and D is shown in the figure. For the same frequency of incident radiation producing photo-electrons in all metals, the kinetic energy of photo-electrons will be maximum for metal



(A) A

(B) B

(C) C

(D) D

Answer: (B)

9. The energy of an electron in the ground state of hydrogen atom is -13.6 eV. The kinetic and potential energy of the electron in the first excited state will be

(A) -13.6 eV, 27.2 eV

(B) -6.8 eV, 13.6 eV

(C) -3.4 eV, -6.8 eV

(D) 6.8 eV, -3.4 eV

Answer: (A)

10. A Young's double-slit experimental set up is kept in a medium of refractive index $(4/3)$. Which maximum in this case will coincide with the 6th maximum obtained if the medium is replaced by air ?

(A) 4th

(B) 6th

(C) 8th

(D) 10th



Answer: (B)