

# AP Physics 1

## Sample Question Paper - 2026

Country: US | Duration: 3 hours | Max Marks: 5-point scale | Language: English

Negative Marking: No | Total Questions: 40 | QuizVerse AI Tutor

### General Instructions:

1. This paper contains 40 questions across 1 section(s): Physics.
2. Duration: 3 hours. Maximum marks: 5-point scale.
3. Negative marking: No.
4. Read each question carefully before answering.

### Section 1: Physics (40 Questions)

**Q1. The work function of a metal is 1.6 eV. The threshold frequency is:**

- (A)  $9.14 \times 10^{14}$  Hz
- (B)  $11.96 \times 10^{14}$  Hz
- (C)  $10.62 \times 10^{14}$  Hz
- (D)  $3.11 \times 10^{14}$  Hz

**Q2. A wire of resistance 15 ohm is bent into a circle. Effective resistance between diametrically opposite points is:**

- (A) 7 ohm
- (B) 5 ohm
- (C) 5 ohm
- (D) 5 ohm

**Q3. The de Broglie wavelength of an electron accelerated through 100 V is approximately:**

- (A) 0.53 Angstrom
- (B) 2.20 Angstrom
- (C) 2.53 Angstrom
- (D) 2.24 Angstrom

**Q4. The de Broglie wavelength of an electron accelerated through 50 V is approximately:**

- (A) 2.64 Angstrom
- (B) 1.20 Angstrom
- (C) 2.14 Angstrom
- (D) 1.53 Angstrom

**Q5. A Carnot engine operates between 781 K and 324 K. Its efficiency is:**

- (A) 51%
- (B) 54%
- (C) 28%
- (D) 60%

**Q6. Light passes from glass ( $n=1.6$ ) to air. The critical angle is:**

- (A) 43 degrees
- (B) 39 degrees
- (C) 38 degrees
- (D) 43 degrees

**Q7. The escape velocity from a planet of mass  $3 \times 10^{24}$  kg and radius 6004 km is:**

- (A) 9.6 km/s
- (B) 9.1 km/s
- (C) 12.6 km/s
- (D) 14.0 km/s

**Q8. A spring with  $k = 388$  N/m is compressed by 0.15 m. The stored PE is:**

- (A) 15.02 J
- (B) 4.98 J
- (C) 20.86 J
- (D) 15.44 J

**Q9. A wire of resistance 19 ohm is bent into a circle. Effective resistance between diametrically opposite points is:**

- (A) 8 ohm
- (B) 6 ohm
- (C) 2 ohm
- (D) 8 ohm

**Q10. A ball is dropped from height 90 m. Its velocity just before hitting the ground is:**

- (A) 32.6 m/s
- (B) 35.8 m/s
- (C) 28.3 m/s
- (D) 35.0 m/s

**Q11. A radioactive substance has half-life 30 days. The fraction remaining after 33 days is:**

- (A)  $1/16$
- (B)  $1/8$
- (C)  $1/4$
- (D)  $1/16$

**Q12. An ideal gas at 304 K is heated at constant pressure to 757 K. The ratio of final to initial volume is:**

- (A) 1.6
- (B) 2.3
- (C) 2.0
- (D) 2.7

**Q13. A convex lens of focal length 16 cm forms a real image of an object placed 22 cm away. The image distance is:**

- (A) 25 cm
- (B) 15 cm
- (C) 45 cm
- (D) 51 cm

**Q14. The current through a 26 ohm resistor connected to a 7 V battery is:**

- (A) 2.28 A
- (B) 4.78 A
- (C) 4.61 A
- (D) 3.78 A

**Q15. The binding energy per nucleon of Fe-56 is approximately:**

- (A) 8.8 MeV
- (B) 7.6 MeV
- (C) 6.5 MeV
- (D) 9.2 MeV

**Q16. A solenoid of 268 turns and length 0.2 m carries current 10 A. The magnetic field inside is:**

- (A) 2.75 mT
- (B) 17.10 mT
- (C) 15.17 mT
- (D) 13.54 mT

**Q17. Two capacitors 9 uF and 9 uF are connected in series. The equivalent capacitance is:**

- (A) 3.34 uF
- (B) 1.37 uF
- (C) 4.38 uF
- (D) 4.96 uF

**Q18. An electron moves with velocity  $2 \times 10^6$  m/s perpendicular to a magnetic field of 1.0 T. The radius of its path is:**

- (A) 4.32 cm
- (B) 3.93 cm
- (C) 1.88 cm
- (D) 2.08 cm

**Q19. A body of mass 5 kg is moving in a circle of radius 8 m at 11 m/s. The centripetal force is:**

- (A) 113 N
- (B) 59 N
- (C) 173 N
- (D) 51 N

**Q20. A force of 38 N acts on a 19 kg body initially at rest. The velocity after 3 s is:**

- (A) 8 m/s
- (B) 48 m/s
- (C) 14 m/s
- (D) 13 m/s

**Q21. The current through a 26 ohm resistor connected to a 15 V battery is:**

- (A) 2.36 A
- (B) 0.50 A
- (C) 2.83 A
- (D) 1.89 A

**Q22. A wire of resistance 9 ohm is bent into a circle. Effective resistance between diametrically opposite points is:**

- (A) 3 ohm
- (B) 2 ohm
- (C) 3 ohm
- (D) 2 ohm

**Q23. Light passes from glass ( $n=1.5$ ) to air. The critical angle is:**

- (A) 39 degrees
- (B) 41 degrees
- (C) 47 degrees
- (D) 40 degrees

**Q24. The focal length of a concave mirror is 17 cm. An object at 30 cm forms image at:**

- (A) 43 cm, real inverted
- (B) 23 cm, real inverted
- (C) 32 cm, real inverted
- (D) 17 cm, real inverted

**Q25. The de Broglie wavelength of an electron accelerated through 50 V is approximately:**

- (A) 2.95 Angstrom
- (B) 1.06 Angstrom
- (C) 2.67 Angstrom
- (D) 2.48 Angstrom

**Q26. A Carnot engine operates between 765 K and 254 K. Its efficiency is:**

- (A) 65%
- (B) 52%
- (C) 30%
- (D) 58%

**Q27. Light passes from glass ( $n=1.6$ ) to air. The critical angle is:**

- (A) 48 degrees
- (B) 42 degrees
- (C) 46 degrees
- (D) 42 degrees

**Q28. An ideal gas at 292 K is heated at constant pressure to 489 K. The ratio of final to initial volume is:**

- (A) 2.1
- (B) 2.7
- (C) 2.3
- (D) 2.1

**Q29. Two capacitors 10  $\mu\text{F}$  and 6  $\mu\text{F}$  are connected in series. The equivalent capacitance is:**

- (A) 3.31  $\mu\text{F}$
- (B) 4.84  $\mu\text{F}$
- (C) 2.11  $\mu\text{F}$
- (D) 2.91  $\mu\text{F}$

**Q30. In photoelectric effect, the stopping potential for light of wavelength 260 nm on a metal with work function 2.9 eV is:**

- (A) 2.43 V
- (B) 2.94 V
- (C) 0.69 V
- (D) 3.39 V

**Q31. The focal length of a concave mirror is 12 cm. An object at 46 cm forms image at:**

- (A) 49 cm, real inverted
- (B) 26 cm, real inverted
- (C) 35 cm, real inverted
- (D) 32 cm, real inverted

**Q32. A convex lens of focal length 21 cm forms a real image of an object placed 23 cm away. The image distance is:**

- (A) 35 cm
- (B) 18 cm
- (C) 55 cm
- (D) 38 cm

**Q33. In photoelectric effect, the stopping potential for light of wavelength 324 nm on a metal with work function 3.1 eV is:**

- (A) 0.94 V
- (B) 2.24 V
- (C) 2.36 V
- (D) 3.23 V

**Q34. The de Broglie wavelength of an electron accelerated through 50 V is approximately:**

- (A) 1.17 Angstrom
- (B) 1.07 Angstrom
- (C) 2.55 Angstrom
- (D) 1.32 Angstrom

**Q35. A body of mass 4 kg is moving in a circle of radius 8 m at 19 m/s. The centripetal force is:**

- (A) 65 N
- (B) 146 N
- (C) 176 N
- (D) 124 N

**Q36. The escape velocity from a planet of mass  $4 \times 10^{24}$  kg and radius 7718 km is:**

- (A) 13.2 km/s
- (B) 9.0 km/s
- (C) 14.0 km/s
- (D) 8.9 km/s

**Q37. The escape velocity from a planet of mass  $8 \times 10^{24}$  kg and radius 6600 km is:**

- (A) 9.9 km/s
- (B) 14.3 km/s
- (C) 10.1 km/s
- (D) 14.9 km/s

**Q38. An electron moves with velocity  $1 \times 10^6$  m/s perpendicular to a magnetic field of 0.3 T. The radius of its path is:**

- (A) 0.80 cm
- (B) 1.71 cm
- (C) 0.95 cm
- (D) 2.09 cm

**Q39. In photoelectric effect, the stopping potential for light of wavelength 285 nm on a metal with work function 3.6 eV is:**

- (A) 3.88 V
- (B) 3.94 V
- (C) 3.40 V
- (D) 2.26 V

**Q40. In photoelectric effect, the stopping potential for light of wavelength 252 nm on a metal with work function 3.7 eV is:**

- (A) 2.45 V
- (B) 3.59 V
- (C) 1.49 V
- (D) 3.34 V

# Answer Key

Q1: (B)	Q2: (B)	Q3: (B)	Q4: (D)	Q5: (C)
Q6: (C)	Q7: (A)	Q8: (A)	Q9: (A)	Q10: (D)
Q11: (C)	Q12: (D)	Q13: (B)	Q14: (A)	Q15: (A)
Q16: (A)	Q17: (C)	Q18: (A)	Q19: (B)	Q20: (C)
Q21: (A)	Q22: (A)	Q23: (B)	Q24: (A)	Q25: (B)
Q26: (B)	Q27: (B)	Q28: (B)	Q29: (C)	Q30: (D)
Q31: (A)	Q32: (B)	Q33: (B)	Q34: (B)	Q35: (B)
Q36: (A)	Q37: (C)	Q38: (A)	Q39: (A)	Q40: (C)

QuizVerse AI Tutor - AP Physics 1 Sample Paper 2026 [English]

[www.quizverse.ai](http://www.quizverse.ai) | Powered by IntelliVerse X