Solution

PHYSICS

MHT - CET - Physics

1.

(c) perpendicular to acceleration only once during its flight.

Explanation:

perpendicular to acceleration only once during its flight.

2.

(c) $u_{vertical}$

Explanation:

$u_{vertical}$

3. **(a)** (7.5, 7.5, 7.5)

Explanation:

(7.5, 7.5, 7.5)

4.

(c) 56%

Explanation:

56%

5. **(a)** $\frac{GMm}{6R}$

Explanation:

$\frac{GMm}{6R}$

6.

(c) $(2)^{\frac{-2}{3}}$ R

Explanation:

$(2)^{\frac{-2}{3}}$ R

7.

(c) degree rise in temperature.

Explanation:

degree rise in temperature.

8.

(d) large number of free electrons.

Explanation:

large number of free electrons.

9. **(a)** Polarisation

Explanation:

Polarisation

10.

(c) distribution of particles

Explanation:

distribution of particles

11. **(a)** 0.1°
Explanation:
0.1°

12. **(d)** D.D.V
Explanation:
D.D.V

13. **(a)** 4.7 km/s
Explanation:
4.7 km/s

14. **(b)** F
Explanation:
F

15. **(a)** option (b)
Explanation:
Number of free electrons for conduction is significant only in Si and Ge but small in C.

16. **(c)** 10.47 rad/s
Explanation:
10.47 rad/s

17. **(b)** $\frac{Ml^2\omega}{3}$
Explanation:
$\frac{Ml^2\omega}{3}$

18. **(a)** Option (c)
Explanation:
centrifugal force may be balanced by the horizontal component of the normal reaction of the rail.

19. **(c)** Option (c)
Explanation:
both the angular velocity and the angular momentum remains constant.

20. **(d)** $-A\omega^2$
Explanation:
$-A\omega^2$

21. **(c)** 0
Explanation:
0

22. **(c)** $\frac{\pi}{2}$
Explanation:

$\frac{\pi}{2}$

23.

(d) $10\sqrt{2}$ A
Explanation:
$10\sqrt{2}$ A

24. **(a)** $4\pi R^2T(n^{1/3} - 1)$
Explanation:
$4\pi R^2T(n^{1/3} - 1)$

25.

(b) 0.125 Nm^{-1}
Explanation:
0.125 Nm^{-1}

26. **(a)** f
Explanation:
f

27.

(c) 300 m/s
Explanation:
300 m/s

28. **(a)** directly proportional to its temperature.
Explanation:
directly proportional to its temperature.

29.

(c) are approximately equal and its value is 5 cal/mol ^oC.
Explanation:
are approximately equal and its value is 5 cal/mol ^oC.

30.

(c) $\frac{(p-q)}{p}$
Explanation:
$\frac{(p-q)}{p}$

31.

(d) 45 μF
Explanation:
45 μF

32.

(b) non-conducting substances.
Explanation:
non-conducting substances.

33.

(b) 32
Explanation:

32

34.

(c) the points on the surface become source of secondary wavelets.
Explanation:
the points on the surface become source of secondary wavelets.

35.

(b) different speeds.
Explanation:
different speeds.

36.

(c) a spherical wavefront which is converging.
Explanation:
a spherical wavefront which is converging.

37.

(d) 3.3
Explanation:
3.3

38.

(d) Direction of current.
Explanation:
Direction of current.

39.

(c) $\frac{\pi\mu_0 I}{\mathrm{L}}$
Explanation:
$\frac{\pi\mu_0 I}{\mathrm{L}}$

40.

(d) perpendicular to both $\vec{v}$ and $\vec{B}$.
Explanation:
perpendicular to both $\vec{v}$ and $\vec{B}$.

41.

(d) zero
Explanation:
zero

42.

(d) weaker to stronger part
Explanation:
weaker to stronger part

43. **(a)** 450 V, 15 A
Explanation:
450 V, 15 A

44.

(d) self induction
Explanation:
self induction

45. **(a)** three-times the initial energy
Explanation:
three-times the initial energy

46. **(a)** $r \propto n^2$
Explanation:
$r \propto n^2$

47.

(d) cube of the quantum number
Explanation:
cube of the quantum number

48. **(a)** ∞
Explanation:
∞

49.

(d) Rectifier, filter, regulator
Explanation:
Rectifier, filter, regulator

50.

(b) $RT(1 - n^{-1})$
Explanation:
$RT(1 - n^{-1})$