EduFever™
It's all about education

PHYSICS

SET - 1

Sample Questions With Answers 2020 - 2021

OUR PRODUCTS

ERF EDUFEVER RANKING FRAMEWORK | SHOP Edufever exclusive shop | EduFever Jobs | एडुफ़ीवर हिन्दी

This PDF Sponsored by

RM GROUP OF EDUCATION

Choose your dream college with us..

WHO WE ARE

One of the best admission consultancies in India that boast its record breaking success rate of 96 percent.

VISION

To serve students for their career advancements through research and recognition approach.

MISSION

To create a platform where students get recognition for their hard work.

1. A perpetual motion machine is

A. a thermodynamic machine
B. a non-thermodynamic machine
C. a hypothetical machine
D. a hypothetical machine whose opera-tion would violate the laws of thermodynamics
E. an inefficient machine.

Answer: D

2. In an a.c. circuit V and I are given by V = 50 sin50t volt and I = 100 sin(50t + π/3) mA. The power dissipated in the circuit

A. 2.5 kW
B. 1.25 kW
C. 5.0 kW
D. 500 watt

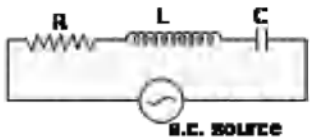
Answer: B

3. The average power dissipation in pure inductance in ac circuit, is

A. 1/2Li2
B. 2Li2
C. Li2/4
D. zero.

Answer: D

4. Circuit as shown in figure below, choose the correct statement.



A. current in resistance R and current in inductor L will be in 90° phase difference.
B. potential drop across R and potential drop across L will be in same phase.
C. current through C and current through L will be in 90° phase difference.
D. current in R and current in L will be in same phase.

Answer: A

5. In a series L, R, C, circuit which is connected to a.c. source. When resonance is obtained then net impedance Z will be

A. Z = R
B. Z = ωL -1/ωC
C. Z = ωL
D. Z = 1/ωC

Answer: A

6. The frequency for which a 5.0μF capacitor has a reactance of 1000 Ω is given by

A. 1000/π cycle /sec
B. 100/π cycle /sec
C. 200 cycle /s
D. 5000 cycles /sec

Answer: B

7. Neutrons has the charge

A. 1639 times of an electron
B. 1739 times of an electron
C. 1839 times of an electron
D. 1939 times of an electron

Answer: C

8. The number of electrons in any orbit is

A. 2n^2
B. 3n^2
C. 4n^2
D. 5n^2

Answer: A

9. The limited number of electrons in 'M' shell is

A. 2
B. 8
C. 18
D. 32

Answer: C

10. The r.m.s. velocity of the molecules in the sample of helium is 5/7th that of the molecules in the sample of hydrogen. If the temperature of the hydrogen sample is 0°C that of helium is

A. 0°C
B. 0°K
C. 273°C
D. 100°C

Answer: A

11. As per modern theory, the atom has a diameter of about

A. 10^-4mm
B. 10^-5mm
C. 10^-6mm
D. 10^-7mm

Answer: D

12. Mean square velocity of five molecules of velocities 2 m/s, 3 m/s, 4 m/s, 5 m/s and 6 m/s is

A. 10 m^2/s^2
B. 18 m^2/s^2
C. 20 m^2/s^2
D. 15 m^2/s^2

Answer: B

13. One atomic mass unit (AMU) is equal to

A. 1.66 x 10^-20 g
B. 1.66 x 10^-22 g
C. 1.66 x 10^-24 g
D. 1.66 x 10^-26 g

Answer: C

14. A gas is taken in a sealed container at 300 K. it is heated at constant volume to a temperature 600 K. the mean K.E. of its molecules

A. Halved
B. Doubled
C. Tripled
D. Quadrupled

Answer: B

15. If the distance between two bodies is doubled, the force of attraction F between them will be _____

- **A.** 1/4 F
- **B.** 2 F
- **C.** 1/2 F
- **D.** F

Answer: A

16. The difference between the principal specific heats of nitrogen is 300 J/kg °K and ratio of the two specific heats is 1.4. Then the CP is

- **A.** 1050 J/kg °K
- **B.** 650 J/kg °K
- **C.** 750 J/kg °K
- **D.** 150 J/kg °K

Answer: B

17. Periodic motion is motion that repeats itself at regular intervals of time. Everybody executing circular motion can be said to be executing periodic motion

Which of the following is a type of motion ?

- **A.** Circular
- **B.** Rectilinear
- **C.** Periodic
- **D.** All the above

Answer: D

18. The specific heat of a substance at its boiling point or melting point

- **A.** Is zero
- **B.** Is infinity
- **C.** Is negative
- **D.** Lies between 0 and 1

Answer: B

19. The distance between two bodies becomes 6 times more than the usual distance. The the F becomes

- **A.** 36 times

B. 6 times
C. 12 times
D. 1/36 times

Answer: D

20. What is the value of gravitational constant?

A. 6.6734x10-11N m2/kg2
B. 6.6734x10-10N m2/kg2
C. 6.6734x10-11N m/kg2
D. 6.6734x10-11N m2/kg

Answer: A

21. The ball is thrown up, the value of 'g' will be

A. Zero
B. positive
C. negative
D. negligible

Answer: C

22. Which type of motion of an object that moves at a fixed distance from a fixed point ?

A. Periodic motion
B. Rectilinear motion
C. Circular motion
D. none of the above

Answer: C

23. The gravitational force causes

A. Tides
B. Motion of moon
C. None of them
D. Both a n b

Answer: D

24. Which type of motion is "the pendulum of a wall clock moves at regular intervals" ?

A. rectilinear
B. Periodic

RM GROUP OF EDUCATION

Choose your dream college with us..

Journey of Your Dream College Starts Here...

10+	50+	20+	120+	5100+
FRANCHISE	EXPERT COUNSELORS	MOU SIGNED COLLEGES	COURSES	STUDENTS COUNSELED

OUR SERVICES

Career Counselling
Team with 50+ Career Counsellors having 8 years of combined expertise.

*Scholarship Assistance
Dedicated team to help you get over 5000+ scholarships Programs..

*Colleges Comparison
10,000+ free online resources to get the college of your Dream..

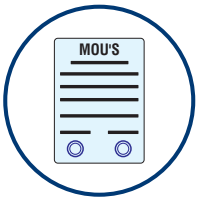
Entrance Exam Updates
Get updated notification of 30+ major entrance exams in India.

*Counselling Assistance
Complete counselling assistance (Seat locking, Freezing & Documentation).

Free Exam Study Materials
Explore 1000+ Notes & study materials to boost your exam preparation.

*Services are for premium customers

2500+ Clients



100+ MOU'S

ISO 9001:2018

10+ Partners

C. Circular
D. none of the above

Answer: B

25. A The change in position of an object is termed displacement

Which type of motion is "a train moving on a track " ?

A. Circular
B. rectilinear
C. Periodic
D. none of the above

Answer: B

26. Periodic motion is motion that repeats itself at regular intervals of time. Everybody executing circular motion can be said to be executing periodic motion (Circular motion is the motion of an object that moves at a fixed distance from a fixed point. Here, all objects rotate in circular motion).

What is known as the change in position of an object?

A. displacement
B. speed
C. velocity
D. none of the above

Answer: B

27. Image formed by convex mirror is:

A. virtual
B. real
C. enlarged
D. inverted

Answer: A

28. When a plane mirror is placed horizontally on level ground at a distance of 60 m from the foot of a tower, the top of the tower and its image in the mirror subtend an angle of 90 degree at the eye. The height of the tower is:

A. 130 m
B. 60 m
C. 90 m

D. 120 m

Answer: B

29. The number of wavelengths in the visible spectrum is:

A. 4000
B. 6000
C. 2000
D. infinite

Answer: D

30. If light travels from one medium to the other of which the refractive index is different, then which of the following will change?

A. Frequency, wavelength and velocity
B. Frequency and wavelength
C. Frequency and velocity
D. Wavelength and velocity

Answer: D

31. When a compression is incident on rigid wall it is reflected as

A. Compression with a phase change of π
B. Compression with no phase change
C. Rarefaction with a phase change of π
D. Rarefaction with no phase change

Answer: A

32. The size of the image, if an object of 2.5m height is placed at a distance of 10 cm from a concave mirror is: (Take radius of curvature of concave mirror = 30 cm)

A. 10.5 m
B. 9.2 m
C. 7.5 m
D. 5.6 m

Answer: C

33. A simple harmonic wave having amplitude A and time period T is represented by the equation y = 5 sin π (t + 4) metres. Then the value of A (in metres) and T (in seconds) are

A. A = 5, T = 2

B. A = 10, T = 1
C. A = 5, T = 1
D. A = 10, T = 2

Answer: A

34. Two tuning forks A and B vibrating simultaneously produce 5 beats. Frequency of B is 512 Hz. It is seen that if one arm of a is filed, then the number of beats increases. Frequency of A will be

A. 502 Hz
B. 507 Hz
C. 517 Hz
D. 522 Hz

Answer: C

35. A sound wave is represented by y = a sin (1000pt - 3x). the distance between two points having a phase difference of 60° is

A. $\frac{2\pi}{9}$
B. $\frac{\pi}{18}$
C. $\frac{\pi}{9}$
D. $\frac{5\pi}{18}$

Answer: C

36. Joule is a unit of:

A. Work
B. Power
C. Momentum
D. None of the above

Answer. A

37. The equation of a progressive wave traveling on a stretched string is y = 10 sin $\left(\frac{t}{0.02}+\frac{x}{100}\right)$ where x and y are in cm and t is in sec. what is the speed of the wave?

A. 500 cm/s
B. 50 m/s
C. 40 m/s
D. 400 cm/s

Answer: B

38. A radio set of 60 watts runs for 50 hours. How many units of electrical energy are consumed in kWh?

A. 2 kWh
B. 3 kWh
C. 4 kWh
D. 2.5 kWh

Answer. B

39. What happens to the body on which work is done:

A. It loses energy
B. It gains energy
C. No change in the energy
D. First it loses then it gain

Answer. B

40. When an object falls freely towards the ground, then its total energy:

A. Increases
B. Decreases
C. Remains constant
D. First increases then decreases

Answer. C

41. Both the number of turns and the core length of an inductive coil are doubled. Its self-inductance will be

A. unaffected
B. doubled
C. halved
D. quadrupled

Answer: B

42. What is the smallest unit of power?

A. Watt
B. Kilowatt
C. Horse power

D. Milliwatt

Answer. A

43. If current in a conductor increases then according to Lenz's law self-induced voltage will

A. aid the increasing current
B. tend to decrease the amount of cur-rent
C. produce current opposite to the in-creasing current
D. aid the applied voltage

Answer: C

44. Which of the following circuit element stores energy in the electromagnetic field ?

A. Inductance
B. Condenser
C. Variable resistor
D. Resistance

Answer: A

45. In an iron cored coil the iron core is removed so that the coil becomes an air cored coil. The inductance of the coil will

A. increase
B. decrease
C. remain the same
D. initially increase and then decrease

Answer: B

46. The first law of thermodynamics is the law of

A. conservation of mass
B. conservation of energy
C. conservation of momentum
D. conservation of heat
E. conservation of temperature.

Answer: B

47. An open coil has

A. zero resistance and inductance
B. infinite resistance and zero inductance

C. infinite resistance and normal inductance
D. zero resistance and high inductance

Answer: B

48. One barometric pressure or 1 atmospheric pressure is equal to

A. 1 kgf/cnr2
B. 1.033 kgf/cm2
C. 0 kgf/cm2
D. 1.0197 kgf/cm2
E. 100 kgf/cm2.

Answer: B

49. I kgf/cm2 is equal to

A. 760 mm Hg
B. zero mm Hg
C. 735.6 mm Hg
D. 1 mm Hg
E. lOOmmHg.

Answer: C

50. Kelvin Planck's law deals with

A. conservation of heat
B. conservation of work
C. conversion of heat into work
D. conversion fo work into heat
E. conservation of mass.

Answer: C

RM GROUP OF EDUCATION

Choose your dream college with us..

WHY CHOOSE US?

- Expert career guidance & suggestions.
- Interest based career counselling.
- Get updated notification of major entrance exams in India.
- Explore 1000+ Notes & study materials to boost your exam preparation.
- *Complete counselling assistance (Seat locking, Freezing & Documentation).
- Assured admission in 20+ MOU signed colleges across the country.
- Personalized counselling videos and live updates of major entrance exams in India.

HOW TO APPLY

Visit Us
www.rmgoe.org

I Accept
Read the Instruction page carefully

Payment
Make the payment using your banking credentials.

RMGOE

Apply Now
Click on "apply now"

Application Form
Fill the application details very carefully

Congratulations
For successful Registration

0120-2663444, 98730-56333

mail@rmgoe.org

Scan QR Code