

Phy-101 Important Mid Term
Mcq's Solution 100% Correct :
Solve By Vu-Topper RM!!

وَعَزَّ مِنْ تَشَاءِ وَتَذَلَّ مِنْ تَشَاءِ



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Question No:1

(Marks:1)

Vu-Topper RM

Light year is a unit of:

Distance

Question No:2

(Marks:1)

Vu-Topper RM

A force of 100 N acts upon a body for five seconds. What will be the change in momentum?_____.

500Ns

Question No:3

(Marks:1)

Vu-Topper RM

Add two vectors of length 4 m & 5 m but their orientation is not known. The length after addition of these two vectors will be:

Between 9m and 1m

Question No:4

(Marks:1)

Vu-Topper RM

Example of physical quantity is:

Length

Question No:5

(Marks:1)

Vu-Topper RM

An inelastic collision is one in which:

kinetic energy

Question No:6

(Marks:1)

Vu-Topper RM

Acceleration in a body is always produced in the direction of:

Velocity

Question No:7

(Marks:1)

Vu-Topper RM

Ali wants to lift a mass of 7.5 kg with constant velocity by a rope that passes through a frictionless pulley which is attached to the ceiling of room. Calculate the tension in the rope by neglecting the mass of the rope.

0.75N

Question No:8

(Marks:1)

Vu-Topper RM

Newton-second is SI unit of:

Impulse

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Question No:9 (Marks:1) **Vu-Topper RM**

The area under the curve of force-displacement graph represents:

Fs

Question No:10 (Marks:1) **Vu-Topper RM**

When you step on the accelerator to increase the speed of your car, the force that accelerates the car is?

Friction

Question No:11 (Marks:1) **Vu-Topper RM**

Is the total momentum of a system is changing?

A next external force must be acting on the system

Question No:12 (Marks:1) **Vu-Topper RM**

If the acceleration of a body is not uniform, then velocity-time graph will be:

A curved line.

Question No:13 (Marks:1) **Vu-Topper RM**

The goal of all scientific inquiry (or scientific method) is:

predicting natural events based.

Question No:14 (Marks:1) **Vu-Topper RM**

The law of conservation of momentum applies to a system of colliding objects only if:

The net external Impulse is zero

Question No:15 (Marks:1) **Vu-Topper RM**

Work has dimensions like:

power

Question No:16 (Marks:1) **Vu-Topper RM**

The work done by gravity during the descent of a projectile:

Is positive

Question No:17 (Marks:1) **Vu-Topper RM**

An object moves in a circle at constant speed. The work done by the centripetal force is zero because:

The centripetal force is perpendicular to the velocity

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Question No:18 (Marks:1) **Vu-Topper RM**

The dimensional units of ratio of work and power is:

T

Question No:19 (Marks:1) **Vu-Topper RM**

A heavy particle moving with 5 m/s suffers an elastic collision with a light particle at rest. After collision, the velocity of light particle will be:

5 m/s

Question No:20 (Marks:1) **Vu-Topper RM**

Which of the following statement/s is / are true?

1 only

Question No:21 (Marks:1) **Vu-Topper RM**

The law of inertia was firstly formulated by:

Galileo

Question No:22 (Marks:1) **Vu-Topper RM**

The product of force and time is called change in:

Momentum

Question No:23 (Marks:1) **Vu-Topper RM**

It is easier to walk on the concrete road than on ice because:

The friction between the ice and the feet is less

Question No:24 (Marks:1) **Vu-Topper RM**

What is the angle of projection of projectile, for which its maximum height and horizontal range are equal?

76*

Question No:25 (Marks:1) **Vu-Topper RM**

The SI standard of time is based on:

none of these

Question No:26 (Marks:1) **Vu-Topper RM**

A net torque applied to a rigid object always tends to produce:

rotational equilibrium

linear acceleration

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Question No:27 (Marks:1) **Vu-Topper RM**

An object attached to one end of a spring makes 20 vibrations in 10 s.

Its angular frequency is:

12.6 rad/s

2.0 rad/s

Question No:28 (Marks:1) **Vu-Topper RM**

In simple harmonic motion, the restoring force must be proportional to the:

Velocity

Displacement

Question No:29 (Marks:1) **Vu-Topper RM**

Mercury is a convenient liquid to use in a barometer because:

it is a metal

it has a high density

Question No:30 (Marks:1) **Vu-Topper RM**

The units of the electric field are:

J/m

J/(C·m)

Question No:31 (Marks:1) **Vu-Topper RM**

A farad is the same as a

J/V

V/J

Question No:32 (Marks:1) **Vu-Topper RM**

We desire to make an LC circuit that oscillates at 100 Hz using an inductance of 2.5H. We also need a capacitance of:

1 F

100 μ F

Question No:33 (Marks:1) **Vu-Topper RM**

Which of the following statements is NOT TRUE about electromagnetic?

Electromagnetic waves satisfy the Maswell's Equation.

The electromagnetic radiation from a burning candle is unpolarized.

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Question No:34 (Marks:1) **Vu-Topper RM**

Radio waves and light waves are _____.

Longitudinal waves

Transverse waves

Electromagnetic and transverse both

Question No:35 (Marks:1) **Vu-Topper RM**

Wien's Law states that, $\lambda_{max} =$ _____ K.

2.90×10^{-3} m

2.90×10^{-3} m

Question No:36 (Marks:1) **Vu-Topper RM**

Interference of light is evidence that:

the speed of light is very large

light is a wave phenomenon

Question No:37 (Marks:1) **Vu-Topper RM**

Fahrenheit and Kelvin scales agree numerically at a reading of:

-40

0

Question No:38 (Marks:1) **Vu-Topper RM**

According to the theory of relativity:

moving clocks run fast

energy is not conserved in high-speed collisions

Question No:39 (Marks:1) **Vu-Topper RM**

Light from a stationary spaceship is observed, and then the spaceship moves directly away from the observer at high speed while still emitting the light.

As a result, the light seen by the observer has:

higher frequency and a longer wavelength than before

lower frequency and a shorter wavelength than before

Question No:40 (Marks:1) **Vu-Topper RM**

How fast should you move away from a 6.0×10^{14} Hz light source to observe waves with a frequency of 4.0×10^{14} Hz?

20c

38c

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Question No:41 (Marks:1) **Vu-Topper RM**

The quantum number n is most closely associated with what property of the electron in a hydrogen atom?

Energy

Orbital angular momentum

Question No:42 (Marks:1) **Vu-Topper RM**

The quantum number m_s is most closely associated with what property of the electron in an atom?

Magnitude of the orbital angular momentum

Energy

Question No:43 (Marks:1) **Vu-Topper RM**

As the wavelength of a wave in a uniform medium increases, its speed will_____.

Decrease

Remain the same

Question No:44 (Marks:1) **Vu-Topper RM**

The lowest tone produced by a certain organ comes from a 3.0-m pipe with both ends open. If the speed of sound is 340m/s, the frequency of this tone is approximately:

7Hz

57 Hz

Question No:45 (Marks:1) **Vu-Topper RM**

To raise the pitch of a certain piano string, the piano tuner:

loosens the string

tightens the string

Question No:46 (Marks:1) **Vu-Topper RM**

An object attached to one end of a spring makes 20 vibrations in 10 s. Its angular frequency is:

12.6 rad/s

1.57 rad/s

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Question No:47

(Marks:1)

Vu-Topper RM

For an object in equilibrium the net torque acting on it vanishes only if each torque is calculated about:

the center of mass

the same point

Question No:48

(Marks:1)

Vu-Topper RM

Ten seconds after an electric fan is turned on, the fan rotates at 300 rev/min. Its average angular acceleration is:

3.14 rad/s²

30 rad/s²

Question No:49

(Marks:1)

Vu-Topper RM

A 4.0-N puck is traveling at 3.0m/s. It strikes a 8.0-N puck, which is stationary. The two pucks stick together. Their common final speed is:

1.0m/s

1.5m/s

Question No:50

(Marks:1)

Vu-Topper RM

An object moving in a circle at constant speed:
must have only one force acting on it

has an acceleration of constant magnitude

Question No:51

(Marks:1)

Vu-Topper RM

A plane traveling north at 200m/s turns and then travels south at 200m/s. The change in its velocity is:

400m/s north

400m/s south

Question No:52

(Marks:1)

Vu-Topper RM

At time $t = 0$ a car has a velocity of 16 m/s. It slows down with an acceleration given by $-0.50t$, in m/s² for t in seconds. It stops at $t =$

64 s

8.0 s

Question No:53

(Marks:1)

Vu-Topper RM

1 mi is equivalent to 1609 m so 55 mph is:

15 m/s

25 m/s

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Question No:54

(Marks:1)

Vu-Topper RM

The number of significant figures in 0.00150 is:

5

3

Question No:55

(Marks:1)

Vu-Topper RM

One revolution is the same as:

2π rad

2π rad

Question No:56

(Marks:1)

Vu-Topper RM

For a body to be in equilibrium under the combined action of several forces:

All the forces must be applied at the same point

all the forces must be applied at the same point

any two of these forces must be balanced by a third force

Question No:57

(Marks:1)

Vu-Topper RM

A bucket of water is pushed from left to right with increasing speed across a horizontal surface. Consider the pressure at two points at the same level in the water.

It is the same

It is higher at the point on the left

Question No:58

(Marks:1)

Vu-Topper RM

An organ pipe with both ends open is 0.85m long. Assuming that the speed of sound is 340m/s, the frequency of the third harmonic of this pipe is:

A. 200 Hz

D. 600 Hz

Question No:59

(Marks:1)

Vu-Topper RM

Capacitors C1 and C2 are connected in series. The equivalent capacitance is given by

$C_1C_2/(C_1 + C_2)$

$(C_1 + C_2)/C_1C_2$

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Question No:60 (Marks:1) **Vu-Topper RM**

If the potential difference across a resistor is doubled:

only the current is doubled

only the current is halved

Question No:61 (Marks:1) **Vu-Topper RM**

By using only two resistors, R_1 and R_2 , a student is able to obtain resistances of 3Ω , 4Ω , 12Ω , and 16Ω . The values of R_1 and R_2 (in ohms) are:

3, 16

4, 12

Question No:62 (Marks:1) **Vu-Topper RM**

Faraday's law states that an induced emf is proportional to:

the rate of change of the electric field

the rate of change of the magnetic flux

Question No:63 (Marks:1) **Vu-Topper RM**

A generator supplies 100V to the primary coil of a transformer. The primary has 50 turns and the secondary has 500 turns. The secondary voltage is:

1000V

500V

Question No:64 (Marks:1) **Vu-Topper RM**

Which of the following electromagnetic radiations has photons with the greatest energy?

blue light

x rays

Question No:65 (Marks:1) **Vu-Topper RM**

A virtual image is one:

toward which light rays converge but do not pass through

from which light rays diverge as they pass through

Question No:66 (Marks:1) **Vu-Topper RM**

What is the unit of magnification factor?

meter. Kelvin

no units

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Question No:67

(Marks:1)

Vu-Topper RM

During an adiabatic process an object does 100 J of work and its temperature decreases by 5K. During another process it does 25 J of work and its temperature decreases by 5 K. Its heat capacity for the second process is.

100 J/K

15 J/K

Question No:68

(Marks:1)

Vu-Topper RM

An ideal gas expands into a vacuum in a rigid vessel. As a result there is:

a change in entropy

a decrease of internal energy

Question No:69

(Marks:1)

Vu-Topper RM

The Stern-Gerlach experiment makes use of:
a strong uniform magnetic field

a strong non-uniform magnetic field

Question No:70

(Marks:1)

Vu-Topper RM

A large collection of nuclei are undergoing alpha decay. The rate of decay at any instant is proportional to:

the number of undecayed nuclei present at that instant

the time since the decays started

Question No:71

(Marks:1)

Vu-Topper RM

As a 2.0-kg block travels around a 0.50-m radius circle it has an angular speed of 12 rad/s. The circle is parallel to the xy plane and is centered on the z axis, a distance of 0.75m from the origin. The z component of the angular momentum around the origin is:

6.0kg · m²/s

9.0kg · m²/s

Question No:72

(Marks:1)

Vu-Topper RM

A body will be in translation equilibrium if:

F = 0

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Question No:73 (Marks:1) **Vu-Topper RM**
The fundamental dimensions of angular momentum are .
ML²T⁻¹

Question No:74 (Marks:1) **Vu-Topper RM**
The ultimate strength of a sample is the stress at which the sample
Breaks

Question No:75 (Marks:1) **Vu-Topper RM**
The law of inertia was firstly formulated by:
Newton

Question No:76 (Marks:1) **Vu-Topper RM**
Sound waves are
Longitudinal

Question No:77 (Marks:1) **Vu-Topper RM**
One revolution is the same as:
2 π rad

Question No:78 (Marks:1) **Vu-Topper RM**
A force of 100 N acts upon a body for five second. What will be the
change in momentum?
500 NS

Question No:79 (Marks:1) **Vu-Topper RM**
The dot product of vector A with itself is equal to
A²

Question No:80 (Marks:1) **Vu-Topper RM**
Swimming becomes possible because of:
Third law of motion

Question No:81 (Marks:1) **Vu-Topper RM**
Coulomb's law is only true for point charges whose sizes are
Very small

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Question No:82 (Marks:1) **Vu-Topper RM**
If the force acting on a body is doubled then the acceleration becomes:
Double

Question No:83 (Marks:1) **Vu-Topper RM**
The approximate value of g at an altitude above Earth equal to one Earth diameter is:
1.1m/s²

Question No:84 (Marks:1) **Vu-Topper RM**
Young's modulus can be used to calculate the strain for a stress that is:
Well below the yield strength

Question No:85 (Marks:1) **Vu-Topper RM**
The rate of change of momentum of a body is equal to:
Applied force

Question No:86 (Marks:1) **Vu-Topper RM**
As the wavelength of a wave in a uniform medium increases, its frequency will_____.
Decrease

Question No:87 (Marks:1) **Vu-Topper RM**
The momentum of an object at a given instant is independent of its:
Acceleration

Question No:88 (Marks:1) **Vu-Topper RM**
Work has dimensions like:
Torque

Question No:89 (Marks:1) **Vu-Topper RM**
The unit $\text{kg}\cdot\text{m}^2/\text{s}$ can be used for:
Angular momentum

Question No:90 (Marks:1) **Vu-Topper RM**
People try to keep the..... over their feet, in order to feel stable.
Centre of gravity

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Question No:91 (Marks:1) **Vu-Topper RM**

A..... vector is obtained by dividing the vector by its magnitude:

Unit

Question No:92 (Marks:1) **Vu-Topper RM**

Which of the following is NOT one of Piaget's stages of development?

Operational

Question No:93 (Marks:1) **Vu-Topper RM**

Which of the following process is suggested by Bandura that help human behavior to learn?

Observation

Question No:94 (Marks:1) **Vu-Topper RM**

All of the following are the areas of interest for Behaviorists EXCEPT:

Unconscious desires

Question No:95 (Marks:1) **Vu-Topper RM**

Which of the following learning forms an association between two stimuli?

Classical conditioning

Question No:96 (Marks:1) **Vu-Topper RM**

Helmholtz's explanation of color vision is called as what?

Trichromatic theory

Question No:97 (Marks:1) **Vu-Topper RM**

In which of the following process sensory receptors become less sensitive to repeated presentations of the same stimulus?

Sensation

Question No:98 (Marks:1) **Vu-Topper RM**

Farha is interested to study about progressive change in individuals' body and their functions throughout the life span. She is more likely to study:

Biological changes

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Question No:99 (Marks:1) **Vu-Topper RM**

All of the following are considered as the founders of gestalt school of thought EXCEPT:

Max Wertheimer

Question No:100 (Marks:1) **Vu-Topper RM**

Which of the following is NOT a part of mid brain?

Cerebrum

Question No:101 (Marks:1) **Vu-Topper RM**

Which of the following process is suggested by Bandura that help human behavior to learn?

Observation

Question No:102 (Marks:1) **Vu-Topper RM**

Which of the following hormone is involved in the growth and proper functioning of gonads and ovaries?

Gonadotropic

Question No:103 (Marks:1) **Vu-Topper RM**

Which of the followings are the branch-like structures that receive messages from other neurons?

Dendrites

Question No:104 (Marks:1) **Vu-Topper RM**

Who among the following talked about the “cognitive maps”?

Tolman

Question No:105 (Marks:1) **Vu-Topper RM**

Coherent sources of light mean _____.

They must have same frequency

Question No:106 (Marks:1) **Vu-Topper RM**

The focal length of a spherical mirror is N times its radius of curvature where N is:

1/2

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Question No:107 (Marks:1) **Vu-Topper RM**

The torque about any two points has the same value when the body is in.

translational equilibrium

Question No:108 (Marks:1) **Vu-Topper RM**

A light entering into glass prism from air does not give change in its:

Frequency

Question No:109 (Marks:1) **Vu-Topper RM**

The wavelength of red light is 700 nm. Its frequency is _____.

$4.29 * 10^{14}$ Hertz

Question No:110 (Marks:1) **Vu-Topper RM**

Bending of light around the edges of an obstacle called:

Diffraction

Question No:111 (Marks:1) **Vu-Topper RM**

If I_0 is the peak value of an AC supply, then its rms value is given as I_{rms} :

$I_0/\sqrt{2}$

Question No:112 (Marks:1) **Vu-Topper RM**

The total energy in an LC circuit is 5.0×10^{-6} J. If $L = 25$ mH the maximum current is:

20 mA

Question No:113 (Marks:1) **Vu-Topper RM**

A source of frequency of 500 Hz emits waves of wavelength 0.4 m, how long does the wave take to travel 600 m?

3 s

Question No:114 (Marks:1) **Vu-Topper RM**

The center of mass of a uniform disk of radius R is located:

at the center

Question No:115 (Marks:1) **Vu-Topper RM**

Coulomb's law is only true for point charges whose sizes are

Large

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