

# SAAT

## Physics Tajmi3at

Prepared by: Leen Training Center



This handout was prepared by: Leen Center  
Special thanks to: Beshar Slamah

## About Leen

Accredited by..



We offer quality courses that help students prepare  
for critical educational tests, such as:

ITC, CPC, GAT & SAAT (in English and Arabic)

Find more free Tajmi3at on  [\(Click here\)](#)

## How to Prepare: Leen SAAT Course



**Accredit**



**Trainers' Experience**



**Question Bank**  
and mock exams



**For Early Prep**

Math Recordings available



**For Review**

All recorded courses  
available for 6 months



**Complete Manual**

Explanation & Examples

For more Information [\(Click here\)](#)

## Physics Section

### 1. Which of these quantities is a vector quantity?

A.	Mass	B.	Temperature
C.	Force	D.	Time

Correct Answer	[C]	Vector Quantity: described by magnitude and direction
----------------	-----	---

### 2. Which of these is a derived quantity?

A.	Length	B.	Area
C.	Mass	D.	Time

Correct Answer	[B]	Derived quantities are derived from fundamental quantities
----------------	-----	--

### 3. Which quantity is measured using Candela (cd)?

A.	Luminous flux	B.	Optical transparency
C.	Illumination	D.	Luminous intensity

Correct Answer	[D]	Candela measures Luminous intensity
----------------	-----	-------------------------------------

### 4. If a person listens to a radio with a frequency of 4.5 MHz that equals to how many Hz?

A.	$4.5 \times 10^7$	B.	$4.5 \times 10^3$
C.	$4.5 \times 10^6$	D.	$4.5 \times 10^4$

Correct Answer	[C]	$1 \text{ MHz} = 1 \times 10^6 \text{ Hz}$
----------------	-----	--

5. "Energy is neither created nor destroyed" is an example of a:

A.	Principle	B.	Hypothesis
C.	Theory	D.	Conclusion
Correct Answer		[A]	Energy conservation law is a fundamental truth therefore the answer is principle

6. How to increase a ruler's measuring accuracy?

A.	Increase its length	B.	Decrease its length
C.	Increase the intervals between hash marks	D.	Decrease the intervals between hash marks
Correct Answer		[D]	The smaller the intervals the more accurate measuring

7. A body moves in a circle with a radius of 10 m when returning to the starting point his total displacement is equal to:

A.	10	B.	0
C.	5	D.	15
Correct Answer		[B]	When returning to the starting point the displacement equals 0

8. If the speed of light is  $3 \times 10^8$  in vacuum, find the distance between earth and a meteor if light reaches the meteor in  $6 \times 10^5$

A.	$18 \times 10^{13}$	B.	$0.6 \times 10^9$
C.	$5 \times 10^{12}$	D.	$9 \times 10^{11}$
Correct Answer		[*]	Velocity = Distance/Time

### 9. Acceleration is:

A.	Change of displacement over time	B.	Change of distance in a specific direction
C.	Change of velocity over change of time	D.	Change of displacement over change of time

Correct Answer [C]  $A = \Delta V / \Delta T$

### 10. A body is accelerating if:

A.	Has a constant velocity	B.	Changed its direction only
C.	Decreased its speed only	D.	Has an inconstant velocity

Correct Answer [D] Acceleration = change of velocity over change of time

### 11. A rocket is ejecting 0.08kg of gases per second at an acceleration of 500m/sec<sup>2</sup> the force on the rocket is:

A.	0 N	B.	500 N
C.	40 N	D.	None of the above

Correct Answer [C]  $F = ma$

### 12. A car with a mass of 1000 kg enters a circular route with a radius of 80 m, if the car's velocity is 20 m/s find the central force

A.	$5 \times 10^3$ N	B.	5 N
C.	$1 \times 10^3$ N	D.	$2.5 \times 10^2$ N

Correct Answer [A]  $A_c = V^2 / r, F = ma$

### 13. A body has a mass of 2 kg with a velocity of 1 m/s find it's kinetic energy

A.	0.5 J	B.	1 J
C.	0.25 J	D.	0.75 J

Correct Answer [B]  $KE = \frac{1}{2} mv^2$

**14. A motor is pulling an elevator a distance of 5 m in 10 s with a vertical force 20000 N find the power in kW**

A.	100	B.	10
C.	200	D.	20

Correct Answer	[B]	$P = Fd/t$
----------------	-----	------------

**15. A player raises a trophy with a mass of 10 Kg to a height of 10 m, find the potential energy in joules**

A.	10	B.	20
C.	980	D.	196

Correct Answer	[D]	$PE = mgh$
----------------	-----	------------

**16. If the maximum weight a room can hold is  $9.8 \times 10^3$  for every  $1 \text{ m}^2$  find the max weight the room can hold**

A.	$9.8 \times 10^6$	B.	$9.8 \times 10^3$
C.	9.8	D.	$10^3$

Correct Answer	[B]	$P = F/A$
----------------	-----	-----------

**17. A spring vibrated 60 times in 20 seconds, find the frequency**

A.	1/3	B.	1/6
C.	12	D.	3

Correct Answer	[D]	Frequency = Vibrations/Time
----------------	-----	-----------------------------

**18. A wave with a velocity of 165 m/s and a frequency of 0.5 Hz, find the wavelength in meters**

A.	82.5	B.	330
C.	20.62	D.	41.25

Correct Answer	[B]	Wavelength = velocity/frequency
----------------	-----	---------------------------------

**19. If the temperature increases 5 ° Celsius, velocity of sound increases by**

A. 2 m/s

B. 5 m/s

C. 3 m/s

D. 1 m/s

Correct Answer

[C]

For every degree the temperature increases the velocity of sound increases by 0.6 m/s

**20. A body is placed 4 cm away from a convex lens thus a real image was shaped on a distance of 4 cm find the focal length for the lens**

A.  $\frac{1}{2}$  cm

B.  $\frac{1}{8}$  cm

C. 4 cm

D. 2 cm

Correct Answer

[B]

$\frac{1}{f} = \frac{1}{d_i} + \frac{1}{d_o}$

**21. A positive charge of 5  $\mu$ C placed 30 cm from a negative charge of -4  $\mu$ C, find the electric force between them ( $K = 9 \times 10^9$ )**

A. 20 N

B. 30 N

C. 2 N

D. 3N

Correct Answer

[C]

$F = K (Q_a \times Q_b) / r^2$

**22. A battery with a difference of voltage between its nodes equal to 30 V and a resistance of 10 ohm find the electric current**

A. 300 A

B. 3 A

C. 0.33 A

D. 30 A

Correct Answer

[B]

$R = V/I$

**23. A lamp with a label of 5.5 W, if the difference of voltage between its nodes is 220 V, find the electric current**

A. 0.025

B. 100

C. 0.25

D. 1000

Correct Answer

[A]

$P = IV$

<b>24. When an electric current of 5 mA passes through a resistance of 50 ohm find the power being lost due to the resistance in watts</b>		
A.	$1.25 \times 10^{-3}$	B. $2 \times 10^{-3}$
C.	$2.5 \times 10^{-3}$	D. $1 \times 10^{-3}$
Correct Answer	[A]	$P = I^2 R$
<b>25. If a lamp is powered with 60 W for 2.5 h find the amount of power used</b>		
A.	$1.5 \times 10^2 \text{ J}$	B. $4.2 \times 10^{-2}$
C.	$5.4 \times 10^5$	D. $4.2 \times 10$
Correct Answer	[C]	$E = Pt$
<b>26. How much is the energy of a photon <math>1.14 \times 10^{15} \text{ Hz}</math> (<math>h = 6.63 \times 10^{-34}</math>)</b>		
A.	$8.77 \times 10^{-16}$	B. $7.55 \times 10^{-19}$
C.	$5.82 \times 10^{-49}$	D. $1.09 \times 10^{-12}$
Correct Answer	[B]	$E = hf$
<b>27. Find the voltage needed for a battery to produce a 0.003 A electric current in a diode with a resistance of 500 ohm, dip in voltage equals 0.5 V</b>		
A.	1.5	B. 1
C.	3	D. 2
Correct Answer	[D]	$V_b = I R + V_d$
<b>28. number of protons is</b>		
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>^{82}_{\text{Pb}}_{207.2}</math> </div>		
A.	128	B. 82
C.	292	D. 210
Correct Answer	[B]	Atomic number = number of protons

<b>29. Find the gauge pressure on point A in a liquid with a density of <math>1000 \text{ kg/m}^3</math>, <math>g = 10 \text{ m/s}^2</math>, height = 5 m</b>		
A. $98 \times 10^3$	B. $5 \times 10^3$	
C. $9.8 \times 10^3$	D. $50 \times 10^3$	
Correct Answer	[D]	$P = \rho gh$
<b>30. Number of vibrations in 1 second</b>		
A. Frequency	B. wavelength	
C. Periodic time	D. time	
Correct Answer	[A]	Definition of frequency
<b>31. Farsightedness is caused because of the picture</b>		
A. Forming after the retina	B. Forming before the retina	
C. Forming at the retina	D. Not forming at all	
Correct Answer	[A]	Farsightedness is the image being formed after the retina
<b>32. The power between protons and neutrons in the nucleus is</b>		
A. mechanical	B. electric	
C. magnetic	D. Nuclear	
Correct Answer	[D]	Nuclear power is the power found in the nucleus
<b>33. Power of nucleus is measured by the law</b>		
A. $m/c$	B. $mc^2$	
C. $m/c^2$	D. $mc$	
Correct Answer	[B]	$E = mc^2$

#### 34. Atomic mass for an atom is

A.	Average of all its isotopes	B.	Largest mass of an isotope
C.	Fixed number	D.	smallest mass of an isotope
Correct Answer		[A]	Atomic mass is the average mass of all isotopes

#### 35. Which material has destructive properties on humans

A.	radon	B.	radium
C.	thallium	D.	uranium
Correct Answer		[D]	Uranium has a high radio-active energy

#### 36. Positive particles that launch quickly from a radio-active element

A.	alpha	B.	beta
C.	gamma	D.	delta
Correct Answer		[A]	Positive particles are alpha (+2)

#### 37. Beta decay results in

A.	Decrease the atomic number	B.	Increase the atomic number
C.	Increase the atomic mass	D.	Decrease the atomic mass
Correct Answer		[B]	Results in increasing the atomic number by +1

#### 38. The formula for atomic vibration

A.	$nhc$	B.	$Nhe$
C.	$nhf$	D.	$nhv$
Correct Answer		[C]	$E = nhf$

### 39. Lowest value for atomic vibration

A.	$1/2 hf$	B.	$hf$
C.	$2hf$	D.	$1/4hf$
Correct Answer		[B]	It is the duplication of $hf$

### 40. The one who discovered the nucleus

A.	Bohr	B.	Rutherford
C.	Thomson	D.	Ratigen
Correct Answer		[B]	Rutherford was the first to discover the nucleus

### 41. Amount of heat needed to vapor 1 kg of liquid to gas is called

A.	Latent degree of evaporation	B.	Specific heat
C.	Boiling degree	D.	Freezing degree
Correct Answer		[A]	Definition

### 42. A body is pulled upward with a force of 4 N and downward with a force of 3 N what is the direction and net force on the body

A.	7 N upward	B.	1 N upward
C.	7 N downward	D.	1 N downward
Correct Answer		[B]	$4 - 3 = 1 \text{ N}$ (4 is going upward)

### 43. Someone did 210 J of work to raise a box to a height of 3 m find the mass of the box ( $g = 10 \text{ m/s}^2$ )

A.	21	B.	30
C.	10	D.	7
Correct Answer		[D]	$W = mgd$

**44. The momentum of a body is the multiplication of its mass and**

- |                     |                         |
|---------------------|-------------------------|
| A. velocity         | B. Angular acceleration |
| C. Angular velocity | D. Acceleration         |

Correct Answer [A]  $P = mv$

**45. Find the fore of a body with a mass of 50 kg if ( $g = 10 \text{ m/s}^2$ )**

- |           |          |
|-----------|----------|
| A. 5000 N | B. 500 N |
| C. 50 N   | D. 5 N   |

Correct Answer [B]  $F = mg$

**46. A car crashes into a wall if the average force applied to the car was  $5 \times 10^3$  find the time needed to stop the car ( $m = 1000$  ,  $v = 30$ )**

- |      |                  |
|------|------------------|
| A. 3 | B. $\frac{1}{2}$ |
| C. 2 | D. 6             |

Correct Answer [D]  $F = ma \rightarrow 5 \times 10^3 = 1000 \times a$   
 $a = 5$   
 $v/a = t \rightarrow 30/5 = 6$

**47. A body with a mass of 1 kg accelerates by  $1 \text{ m/s}^2$  find the force applied on the body**

- |       |        |
|-------|--------|
| A. 2  | B. 1   |
| C. 10 | D. 9.8 |

Correct Answer [B]  $F = ma$

**48. 'For every action (force) in nature there is an equal and opposite reaction' is**

- |                        |                       |
|------------------------|-----------------------|
| A. Newton's first law  | B. Newton's third law |
| C. Newton's second law | D. Other law          |

Correct Answer [B] Definition

<b>49. If a body is launched upward then its velocity before reaching its max height by 2 seconds</b>		
A. 0.5x9.8 m/s	B. 2x9.8 m/s	
C. $V_i - V_f$	D. $V_f - V_i$	
Correct Answer	[B]	$V_f = V_i + gt$
<b>50. If a car accelerates from stillness at a rate of <math>4 \text{ m/s}^2</math> find its velocity after 15 s</b>		
A. 11 m/s	B. 19 m/s	
C. 7.5 m/s	D. 60 m/s	
Correct Answer	[D]	$V_f = V_i + a \times T_f$
<b>51. A ball rolls down a hill with a constant acceleration rate of <math>2 \text{ m/s}^2</math> if it took 4 seconds find the distance the ball passed</b>		
A. 8 m	B. 16 m	
C. 12 m	D. 20 m	
Correct Answer	[A]	$D_f = D_i + V_i \times T_f + \frac{1}{2} a \times T_f^2$
<b>52. What device is used to study isotopes and measure ions charge and mass</b>		
A. galvanometer	B. Geiger counter	
C. Mass spectrometer	D. transistor	
Correct Answer	[C]	Explanation
<b>53. Isotopes are atoms of one element with the same</b>		
A. Atomic number	B. size	
C. Atomic mass	D. Number of neutrons	
Correct Answer	[A]	Isotopes have the same number of protons

#### 54. Avogadro number equals

A.	$6.02 \times 10^{23}$	B.	$6.02 \times 10^{15}$
C.	$6.02 \times 10^{19}$	D.	$6.02 \times 10^{22}$
Correct Answer		[A]	Avogadro equals $6.02 \times 10^{23}$

#### 55. A passenger moves inside a train to the front with a velocity of 5 m/s if the train is moving with a velocity of 50 m/s what is the passenger's velocity

A.	50	B.	55
C.	45	D.	60
Correct Answer		[B]	$50 + 5 = 55$

#### 56. 'The strain of the material is proportional to the applied stress within the elastic limit of that material' is which law

A.	Newton's first law	B.	Hooke's law
C.	Maxwell equations	D.	Pascal's principle
Correct Answer		[B]	Definition

#### 57. Example for simple harmonic motions

A.	Racing car	B.	Movement of the moon
C.	Ball falling	D.	Simple pendulum
Correct Answer		[D]	Simple pendulum is an example of a simple harmonic motion

#### 58. You can't know the speed and position of an electron at the same time and point accurately is which principle

A.	Aufbau	B.	Huygens
C.	Heisenberg uncertainty	D.	Hund
Correct Answer		[C]	Explanation

<b>59. Find the wavelength of a wave with a frequency of 200 Hz and a distance of 100 m in 0.5 s</b>		
A.	1	B. 2
C.	3	D. 4
Correct Answer	[A]	Velocity = distance/time wavelength = velocity/frequency
<b>60. The bandgap of germanium 0.7 EV and 1.1 EV for silicon what is true</b>		
A.	Silicon is more conductive	B. They have the same conductive capabilities
C.	Germanium is more conductive	D. Germanium is an insulator
Correct Answer	[C]	The lower the EV the more the material conducts electrons
<b>61. Who discovered the X-ray</b>		
A.	Maxwell	B. Faraday
C.	Roentgen	D. newton
Correct Answer	[C]	Roentgen was the first to discover x rays
<b>62. When the frequency of electromagnetic waves increases then its wavelength:</b>		
A.	Decreases	B. Increases
C.	Doesn't change	D. Depends on the wave
Correct Answer	[A]	When frequency increases wavelength decreases
<b>63. A device used to measure electric current</b>		
A.	Voltmeter	B. Ammeter
C.	Diode	D. Ampere
Correct Answer	[B]	Ammeter is used to measure electric current

**64. What is the common law of gases**

A.	$\frac{{}_1V_1P}{{}_1T}$	B.	$\frac{{}_2V_2P}{{}_2T} = \frac{{}_1V_1P}{{}_1T}$
C.	${}_1V_1P$	D.	$Pv = p_2v_2$

Correct Answer	[A]	Common gas law formula
----------------	-----	------------------------

**65. When a body completes a circle then its displacement in radian equals**

A.	$2\pi$	B.	$\pi$
C.	$3\pi$	D.	$4\pi$

Correct Answer	[A]	Every 180 degrees is $1\pi$
----------------	-----	-----------------------------

**66. A person drank 3 dl of milk how many liters is that**

A.	0.3	B.	0.003
C.	3	D.	0.0003

Correct Answer	[A]	DL $\rightarrow$ L ( $1 \times 10^{-1}$ )
----------------	-----	---

**67. 4.5 MHz is equal to**

A.	$4.5 \times 10^9$	B.	$4.5 \times 10^3$
C.	$4.5 \times 10^4$	D.	$4.5 \times 10^6$

Correct Answer	[D]	MHz $\rightarrow 1 \times 10^6$
----------------	-----	---------------------------------

**68. Conduction is faster in:**

A.	Gases	B.	Solids
C.	Liquids	D.	Metals

Correct Answer	[D]	Not all solids are conductors
----------------	-----	-------------------------------

**69. In which system will 3 boxes not gain or lose mass and heat**

A.	Closed insulated systems	B.	Open insulated systems
C.	Neither	D.	Isolated systems
Correct Answer		[D]	Isolated systems don't lose or gain heat or mass unlike closed insulated systems that can exchange heat

**70. Table salt is a:**

A.	Solution	B.	Element
C.	Compound	D.	Mixture
Correct Answer		[C]	A compound is a substance made of identical molecules

**71. When a neutron splits into a proton and an electron that emits**

A.	Alpha rays	B.	Beta rays
C.	Gamma rays	D.	Nothing
Correct Answer		[B]	Neutron to proton & electron happens in beta rays only

**72. When you stand on one leg what happens**

A.	Pressure and weight decrease	B.	Pressure and weight increase
C.	Weight increases and pressure stays the same	D.	Pressure increases and weight stays the same
Correct Answer		[D]	The smaller the surface area the more the pressure

**73. Amount of energy needed to increase a unit of mass of material by one degree**

A.	Heat capacity	B.	Latent heat
C.	Specific heat	D.	Conductibility

Correct Answer	[B]	Definition
----------------	-----	------------

**74. "Energy is neither created or destroyed" is an example of a**

A.	Law	B.	Principle
C.	Theory	D.	Hypothesis

Correct Answer	[A]	A law is a given fact that humanity lives by
----------------	-----	--

**75. Sound level measured by**

A.	Joules	B.	Candela
C.	Hertz	D.	Decibel

Correct Answer	[D]	Sound is measured by decibel
----------------	-----	------------------------------

**76. Lasers appear when**

A.	Photons have the same phase with different frequency	B.	Photons have the same phase and frequency
C.	Photons have the same frequency and different phase	D.	Photons don't have the same phase or frequency

Correct Answer	[B]	Lasers need photons to have a constant frequency and phase
----------------	-----	--

**77. An object at a height of 10 m and a mass of 10 kg, find its potential energy if  $g = 9.8 \text{ m/s}^2$**

A.	490	B.	980
C.	500	D.	300

Correct Answer	[B]	PE = mgh
----------------	-----	----------

### 78. Solid to liquid is called

A. Freezing	B. Boiling
C. Melting	D. Vaporizing
Correct Answer	[C] Melting is solid to liquid

### 79. An example of a gas-gas solution

A. Water	B. Milk
C. Zinc	D. Air
Correct Answer	[D] Air is a solution of many gases (nitrogen, oxygen, etc.)

### 80. If a machine produces electricity, it is called a

A. Electric Generator	B. Electric engine
C. Battery	D. None of the above
Correct Answer	[A] A generator produces electricity

### 81. Stars and galaxies are in which state of matter

A. Liquid	B. Gas
C. Plasma	D. Solid
Correct Answer	[C] Stars and galaxies are all in a state of plasma

### 82. The maximum number of electrons in the second energy level is

A. 2	B. 10
C. 6	D. 8
Correct Answer	[D] Second energy level has S & P s holds 2 electrons and P holds 6 totaling to 8

**83. An atom has a neutral charge only if**

A.	Protons = neutrons	B.	Electrons > protons
C.	Protons = electrons	D.	Protons > electrons
Correct Answer		[C]	Protons = +1 , Electrons = -1

**84. Charging an object without touching it**

A.	Induction	B.	Grounding
C.	Conduction	D.	Insulation
Correct Answer		[A]	Induction is when you charge an object without touching it

**85. If the kinetic energy for a body is 100 J with a speed of 10 m/s <sup>2</sup> find its mass**

A.	10	B.	100
C.	5	D.	1
Correct Answer		[D]	KE = $\frac{1}{2} mv^2$

**86. Which of the following is a physical property of matter**

A.	Burning paper	B.	Rusting iron
C.	Copper conducting heat	D.	Vitamin c capsule melting in water
Correct Answer		[C]	Copper conducting heat is a physical property while the rest are all chemical

**87. Energy that objects store are called**

A.	Kinetic energy	B.	Electricity
C.	Potential	D.	Heat
Correct Answer		[C]	Definition of potential energy

**88. 50° C to kelvin is**

A.	273	B.	323
C.	300	D.	299
Correct Answer		[B]	$C + 273 = K$

**89. Longest wavelength is**

A.	Radio waves	B.	Microwave radiations
C.	UV waves	D.	Gamma rays
Correct Answer		[A]	Radio waves have the longest wavelengths

**90. When we go further away from the center of the earth what happens to the attraction force**

A.	Decreases	B.	Increases
C.	Stays the same	D.	Fluctuates
Correct Answer		[A]	The further we go away from the center of the earth the weaker the attraction force becomes

**91. Density is**

A.	Volume over mass	B.	Mass x volume
C.	Volume over area	D.	Mass over volume
Correct Answer		[D]	$P = M/V$

**92. If a worker does his work in 150 min and another does his in 75 min what does that indicate to**

A.	Power of B > A	B.	They have equal powers
C.	Power of A is twice as much as B	D.	Power of B is twice as much as A
Correct Answer		[D]	B finished his work in the half time that A took resulting in using twice the work

**93. Which of the following is a SI unit**

A. Km	B. Mm
C. M	D. Tm
Correct Answer	[C] Meter is an SI unit the rest are deprived from it

**94. If the acceleration of a biker is 0 that means his speed is**

A. Decreasing	B. Constant
C. Increasing	D. Fluctuating
Correct Answer	[B] When the acceleration is 0 the speed is constant at one rate

**95. An object dropped its speed from 7.5 m/s to 4 m/s in one second find its acceleration**

A. 3.5	B. 7.5
C. -3.5	D. -7.5
Correct Answer	[C] $(V_f - V_i)/T = A$

**96. If earth's mass doubles what happens to its gravity**

A. Doubles	B. Becomes half
C. Doesn't change	D. Fluctuates
Correct Answer	[A] Mass and gravitational force are proportional

**97. Mechanical transfer of energy is**

A. Torque	B. Work
C. Push	D. Kinetic energy
Correct Answer	[B] Definition of work

**98. Find the power of a device that uses 70 J in 3.5s**

A.	20 W	B.	245 W
C.	50 W	D.	35 W
Correct Answer		[A]	$P = W/T$

**99. What is the unit for measuring power**

A.	Volt	B.	Ampere
C.	Joule	D.	Watt
Correct Answer		[D]	Watt = J/S

**100. The quantity that describes a fluid's resistance to flow or change in shape is called**

A.	Pascal's principle	B.	Gravity
C.	Viscosity	D.	Fluidity
Correct Answer		[C]	Definition of viscosity

**101. The hydraulic press uses which principle**

A.	Bernoulli	B.	Pascal
C.	Bohr	D.	Archimedes
Correct Answer		[B]	Pascal principle: "if a fluid at rest in a closed container, a pressure change in one part is transmitted without loss to every portion of the fluid"

**102. A type of 2 dimensional waves**

A.	Rope	B.	Spring
C.	Sound	D.	Water
Correct Answer		[D]	A disturbance in water goes vertical and horizontal at the same time

**103. The pitch of a sound depends on its**

A.	Frequency	B.	Speed of sound
C.	Level of sound	D.	Loudness of the sound
Correct Answer		[A]	Different pitches come in different frequencies

**104. An example of a mechanical wave**

A.	Light	B.	Sound
C.	Radio	D.	UV
Correct Answer		[B]	Sound is a mechanical wave

**105. A person diagnosed in shortsightedness suffers from**

A.	Image forming after the retina	B.	Image not forming
C.	Image forming before the retina	D.	Image forming at the lens
Correct Answer		[C]	Shortsightedness is having the image forming before the retina

**106. Farad is equivalent to**

A.	CV	B.	C/V
C.	CV <sup>2</sup>	D.	C/V <sup>2</sup>
Correct Answer		[B]	Farad = coulomb/volt

**107. A person used a device with a power of 0.1 kW for 12 hours find the amount of power used in kWh**

- |         |        |
|---------|--------|
| A. 12   | B. 120 |
| C. 0.12 | D. 1.2 |

Correct Answer [D]  $12 \times 0.1 = 1.2$

**108. Who discovered magnetic reduction**

- |             |            |
|-------------|------------|
| A. Faraday  | B. Thomson |
| C. Roentgen | D. Bohr    |

Correct Answer [A] Faraday discovered magnetic reduction

**109. Which of the following can be a transistor**

- |        |        |
|--------|--------|
| A. Nnp | B. Pnp |
| C. Pnn | D. pnn |

Correct Answer [B] Transistor are either pnp or npn

**110. A particle with no mass**

- |             |            |
|-------------|------------|
| A. Electron | B. Proton  |
| C. Photon   | D. Neutron |

Correct Answer [C] Photons have no mass

**111. Atomic mass is the masses of**

- |                        |                         |
|------------------------|-------------------------|
| A. Protons + electrons | B. Electrons + neutrons |
| C. Neutrons only       | D. Protons + neutrons   |

Correct Answer [D] Atomic mass is the mass of protons and neutrons

**112. Rays with high energy but no mass**

A. Gamma	B. Alpha
C. Beta	D. Earthquakes
Correct Answer	[A] Gamma rays have a high radiational power but no mass

**113. Who said energy levels are quantized**

A. Thomson	B. Heisenberg
C. Bohr	D. Einstein
Correct Answer	[C] Bohr said that energy levels are quantized

**114. Which rays affect the ozone layer the most**

A. Gamma rays	B. UV
C. X-ray	D. Alpha rays
Correct Answer	[B] UV light affects the ozone particles the most

**115. The study of energy and its forms**

A. Power	B. Kinetic energy
C. Mechanical power	D. Thermodynamics
Correct Answer	[D] Definition of thermodynamics

**116. If the power of an object is 200 J and has a speed of 10 m/s find its mass**

A. 40	B. 45
C. 50	D. 55
Correct Answer	[A] $KE = \frac{1}{2} mv^2$

**117. 300 degrees in kelvin is how many in Celsius**

A. 24	B. 25
C. 23	D. 27
Correct Answer	[D] 300 – 273 = 27

**118. Kinetic energy is proportional to**

A. Its speed squared	B. Its mass squared
C. Not proportional to both	D. Its speed
Correct Answer	[A] $KE = \frac{1}{2} mv^2$

**119. An object is 20m in the sky find its potential energy if it has 4kg of mass**

A. 783	B. 784
C. 782	D. 785
Correct Answer	[B] $PE = mgh$

**120. Water freezes at**

A. 0 C	B. 273 K
C. A,B	D. None of the above
Correct Answer	[C] 0 C = 273 K

**121. Shooting a bow is an example of**

A. Potential energy	B. Kinetic energy
C. Electrostatic potential energy	D. None of the above
Correct Answer	[C] Shooting a bow is an example of electrostatic energy

**122. What is the kinetic energy for an object with 2kg and a speed of 8m/s**

A. 64 B. 12

C. 24 D. 16

Correct Answer [A]  $KE = \frac{1}{2} mv^2$

**123. If we go 4 units to the west and 3 to the south then the displacement is**

A. 6 B. 3

C. 7 D. 5

Correct Answer [D]  $R = \sqrt{(4)^2 + (3)^2} = \sqrt{25} = 5$

**124. Net force on an object if 200 N and 135 N applied in the same direction**

A. 250 B. 200

C. 335 D. 135

Correct Answer [C]  $200 + 135 = 335$

**125. The smallest particle that contains the characteristics of an element is called**

A. Proton B. Atom

C. Electron D. neutron

Correct Answer [B] Definition of atom