

**ADDIS ABABA CITY ADMINISTRATION YEKA SUB-CITY
EDUCATION BUREAU GRADE EIGHT PHYSICS MODEL
EXAMINATION**

2012/ 2020

Number of Items: 45

Time Allowed: 1 Hour

Choose the correct answer from the given alternatives and write the letter of your choice on the space provided.

1. Which of the following units of measurement is a vector and derived unit?
A. Kilogram B. joule C. Newton D. second
2. Which of the following groups are fundamental physical quantities only?
A. Velocity, length, volume and mass.
B. Time, density, length and speed.
C. Time, mass, current and temperature.
D. Volume, length, speed and temperature.
3. A bird flies by pushing air downward the air in turn pushes the bird upward. This phenomenon is
A. The law of acceleration
B. The law of action and reaction
C. The law of inertia
D. Newton's second law
4. Which one of the following example represents a vibratory motion?
A. A freely falling fruit from a tree.
B. Motion of wheel of a car.
C. Motion of a pendulum bob.
D. Motion of earth around the sun.

5. If the speed of a car is 35m/s, then what is the speed of a car in km/hr ?
 A. 126 km/hr B. 144 km/hr C. 68 km/hr D. 12.6 km/hr
6. A bus moving along a straight line with constant velocity of 30m/s for 4 seconds.
 What is the acceleration of the bus?
 A. 120m/s² B. zero C. 7.5m/s² D. 0.25m/s²
7. The tendency for an object to resist any change in its motion is called -----
 A. Balance force B. net force C. acceleration D. inertia
8. Which of the following is method of reducing friction?
 A. Lubrication C. rolling bodies
 B. removing of roughness D. all are correct
9. Which one of the following is not equal to the unit of power?
 A. N. m C. J/S
 B. watt D. kg.m² /s³
10. An object thrown up ward goes until
 A. Kinetic energy becomes zero
 B. Potential energy becomes zero
 C. K.E becomes maximum
 D. K.E & P.E becomes larger
11. Which one of the following statement is correct about mass and weight?
 A. Mass is constant everywhere, but weight varies on its location
 B. Mass is a scalar quantity ,while weight is a vector quantity
 C. SI unit of mass is kg ,while SI unit of weight is Newton
 D. All are correct
- 12 . The motion of an object along a straight line with constant increase in velocity is:-
 A. Curvilinear motion C. uniform motion
 B. Rotary motion D. uniformly accelerated motion
13. The slope of *velocity* against *time* graph is
 A. Displacement B. Acceleration C. Speed D. Force

14. The kinetic of a body of mass 60kg is 12kJ. What is the speed of the body?

A. 20m/s

B. 5m/s

C. 400m/s

D. 720m/s

15. A machine lifts a 200 kg object to the top of 30m building within 10 seconds , what will be the potential energy of the object? (use $g=10\text{m/s}^2$)

A. $60 \times 10^4 \text{J}$

B. 60kJ

C. 600,000J

D. $6 \times 10^4 \text{J}$

16. which one of the following is not the use of simple machine?

A. Multiplying speed

C. multiplying energy

B. changing direction of force

D. multiplying force

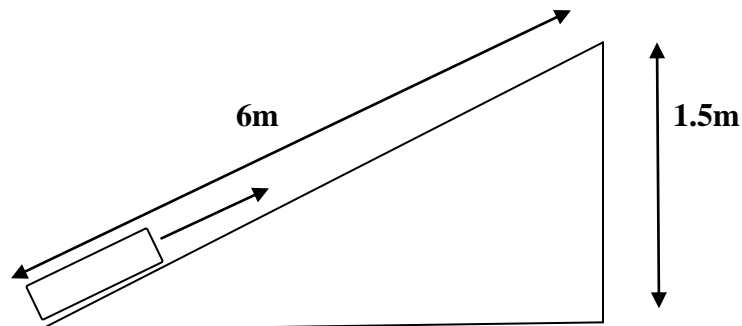
17. A load of 240 N is placed at the bottom of an inclined plane of height 1.5 m and pushed through a distance of 6 m to the top by applying a force of 80 N. What is the efficiency?

A. 75%

B. 62.5%

C. 80%

D. 65%



18. Which of the following definition is incorrect?

A. mechanical advantage is ratio of load to effort.

B. V.R. is ratio of distance moved by effort to distance moved by load.

C. Efficiency is M.A. divided by V.R.

D. work output is product of load and effort.

19. Temperature of a body is 50°C what is the temperature in $^{\circ}\text{F}$?

A. 323

B. 122

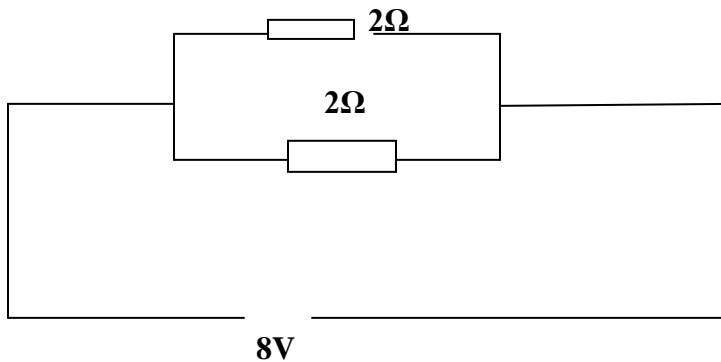
C. 95

D. 100

20. Which one of the following determines the direction of heat flow?
- A. Quantity of heat
B. Specific heat capacity
C. Temperature
D. Heat capacity
21. A way of heat transfer from one body to another by means of successive collisions between neighboring particle is called -----
- A. Radiation
B. convection
C. conduction
D. sublimation
22. Which of the following substance is attracted by a magnet?
- A. Aluminum
B. Gold
C. Copper
D. Cobalt
23. How heat is required to raise the temperature of 600g of iron from 175°C to 200°C ? ($c = 480 \text{ J/kg}^{\circ}\text{C}$)
- A. 7200J
B. 720J
C. 72KJ
D. $7.2 \times 10^6 \text{ J}$
24. Which of the following is dimension of force ?
- A. $[\text{MLT}^3]$
B. $[\text{ML}^{-1}\text{T}^{-2}]$
C. $[\text{MLT}^{-2}]$
D. $[\text{ML}^2\text{T}^{-3}]$
25. If volume of a cube is 216m^3 , what is the base area of the cube?
- A. 81m^2
B. 36m^2
C. 432m^2
D. 625m^2
26. Sound propagates in all of the following EXCEPT.
- A. Liquid
B. Gas
C. Solid
D. Vacuum
27. A man shouts & hears the echo 4 seconds later from a valley 400m away. What is the speed of sound at that time?
- A. 200m/s
B. 1600m/s
C. 100m/s
D. 150m/s
28. In a hydraulic press the small piston has an area of 40cm^2 . while the large piston has an area of 800 cm^2 . If a force of 200 N is applied on the small piston what is the force on larger piston?
- A. 8000N
B. 4000N
C. 1000 N
D. 2400N

29. A swimming pool has 600cm length, 4 m width and 200 cm deep. What is its volume?
- A. 480000 m³ B. 48 m³ C. 48000 cm³ D. 48cm³
30. What would be the height of a column of water in a container that exerts a pressure of 1.2×10^5 pa on the base of container? ($\rho_w = 1\text{g/cm}^3$ & $g = 10\text{m/s}^2$)
- A. 12×10^3 m B. 12m C. 1.5m D. 12×10^2 m
31. A device used to measure an electric current is called -----
- A. Ammeter B. ampere C. voltmeter D. ohmmeter
32. A force of 20 N applied over an area of 4000 cm². What pressure is exerted on an surface?
- A. 5pa B. 80 pa C. 100pa D. 50pa
33. Two resistors having a resistance of 12 Ω and 6 Ω are connected in parallel with 6V main source. What is the total current?
- A. 5A B. 12A C. 1.5 A D. 3A
34. Three identical resistors of resistance gives a total resistance of 5 Ω when they are connected in parallel. What is the total resistance when they are connected in series.
- A. 15 Ω B. 80 Ω C. 45 Ω D. 5/3 Ω
35. Which one of the following is correct about atmospheric pressure?
- A. It is the same at any altitude.
 B. It decreases with altitude increases
 C. It increases with altitude increases D. All are correct
36. An instrument used to measure atmospheric pressure is called _____
- A) Hydrometer
 B) Barometer
 C) Thermometer
 D) Manometer
37. Liquid pressure does not depend on:
- A. The height of liquid from the base C. The density of the liquid
 B. The depth of a liquid D. The base area of the container

38. Two resistors are connected as shown in the circuit below, then what is the total current?



- A. 2A B. 1A C. 16A D. 8A

39. A resistor of 10Ω connected with 20V battery supply for 2minutes .what amount of charge flow through the circuit?

- A/ 120c B. 400c C. 240c D. 30c

40. If 7200J of energy is supplied to 2kg of aluminum, by how much will the temperature rise? (C of aluminum is $900 \text{ J/kg } ^\circ\text{C}$)

- A. 2°C B. 8°C C. 4°C D. 6°C

41. what is the density of 25g object having a volume of 10cm^3 ?

- A. 2500kg/m^3 B. 250g/cm^3 C. 2.5kg/m^3 D. 250kg/m^3

42. Which one of the following is a contact force ?

- A. Gravitational force C. Frictional force
 B. Magnetic force D. Electrical force

43. Calculate the potential difference applied between the ends of a resistor of resistance 24Ω , when a current of 4A is on it?

- A. 16V B. 96V C. 6V D. 12V

44. A force of 100 N acts on a mass of 20Kg objects for 4 sec. if the final velocity is 30m/s, what is the initial velocity?

A. 5m/s

B. 20m/s

C. zero

D. 10m/s

45. If a current of 5A flows through a lamp of resistance 10Ω for 2minutes .what amount of electric power is developed?

A.250w

B. 100w

C.600w

D. 6kw

GOOD LUCK!!