

KIRKOS SUB-CITY EDUCATION OFFICE
2012/2020 GRADE 8 Physics MODEL EXAMINATIONS

TIME ALLOWED: 1: 00 HOURS

GENERAL DIRECTIONS

THIS BOOKLET CONTAINS **Physics** EXAMINATION THE EXAMINATION CONTAINS **45** ITEMS. ATTEMTE ALL THE ITEMS. FOLLOW THE INSTRUCTIONS ON THE ANSWER SHEET AND THE EXAMINATION PAPER EXACTLY. USE ONLY PENCIL TO MARK YOUR ANSWERS.

THERE IS ONLY ONE BEST ANSWER FOR EACH ITEM. CHOOSE THE BEST ANSWER FROM THE SUGGESTED OPTIONS AND BLACKEN THE LETTER OF YOUR CHOICE ON THE ANSWE SHEET. YOUR ANSWER SHOULD BE HEAVEY AND DARK, COVERING THE ANSWER SPACE COMPLETELY.

YOU WILL BE ALLOWED TO WORK FOR 1:00 HOURS. IF YOU FINISH BEFORE TIME IS CALLED, YOU MUST IMMEDIATELY STOP WORKING, LAY YOUR PENCIL DOWN, AND WAIT FOR FURTHER INSTRUCTIONS.

ANY FORM OF CHEATING OR AN ATTEMPT TO CHEAT IN THE EXAMINATION HALL WILL RESULT IN AN AUTOMATIC DISMISSAL FROM THE EXAMINATION HALL AND CANCE LLATION OF YOUR SCORES (S).

_____ 1. Which of the following sets of physical quantities are derived quantities?

- | | |
|-----------------------------|------------------------------------|
| A. Area, Time ,Volume | C. Pressure, density, Acceleration |
| B. Length , current , Force | D. Temperature, Mass , power |

_____ 2. . Which of the following device is used to measure length?

- | | |
|---------------------|-------------------|
| A. Newton – meter | C. Stroboscope |
| B. Vernier calliper | D. Spring balance |

_____ 3. One of the following is an example of vibratory motion. Identify it?

- A. A falling ball from a certain height
- B. The motion of the wheel of a car
- C. The motion of moon around earth
- D. The motion of object suspended on a spring

_____ 4. A bus is moving in a straight line at a speed of 20m/s. What time does the
Bus take to cover 10Km?

- | | | | |
|------------|------------|------------|------------|
| A. 200 sec | B. 300 sec | C. 400 sec | D. 500 sec |
|------------|------------|------------|------------|

_____ 5. Find the slope of distance against time graph shown in fig. 1

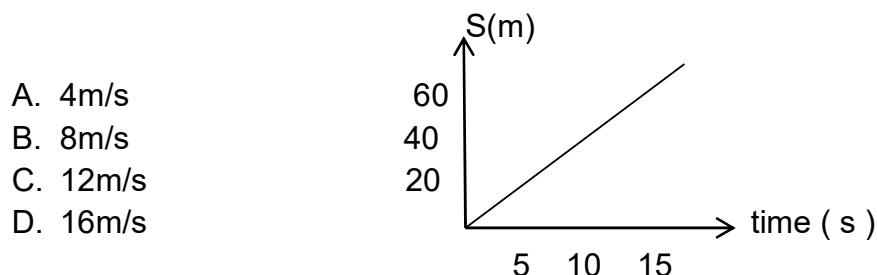


Fig. 1 s-t graph

_____ 6. Which of the following is **NOT** effects of a force?

- A. A stationary body starts to move
- B. Increasing mass of a body
- C. A moving body increases its speed
- D. A moving body changes its direction

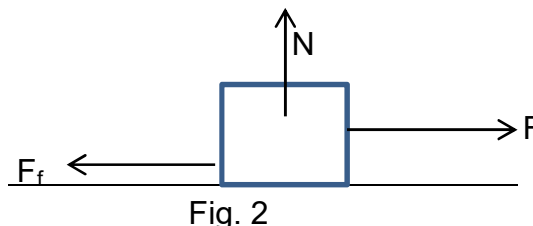
_____ 7. A force is applied on a box of mass 6kg to set it with an acceleration of 5m/s^2 .

What is the acceleration when the same force applied on a 3kg box?

- | | | | |
|---------------------|----------------------|----------------------|----------------------|
| A. 5 m/s^2 | B. 10 m/s^2 | C. 15 m/s^2 | D. 20 m/s^2 |
|---------------------|----------------------|----------------------|----------------------|

- _____ 8. A block of mass 50kg is being pulled along a board horizontally with a constant Velocity. The coefficient of friction between the two surface is 0.25. What is the The frictional force that opposes the motion? (take $g = 10 \text{ m/s}^2$)

- A. 125 N
- B. 250 N
- C. 500 N
- D. 1250 N



- _____ 9. Which of the following can be the unit of work?

- A. Kg m / s
- B. $\text{kg m}^3 / \text{s}^3$
- C. $\text{kg m}^2 / \text{s}^2$
- D. $\text{kg m}^4 / \text{s}^4$

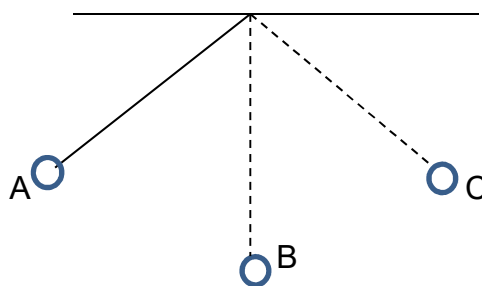
- _____ 10. A 10KJ potential energy required to lift a 50kg object to a building. What is the Height of the building? (take $g = 10\text{m/s}^2$)

- A. 20 m
- B. 25 m
- C. 30 m
- D. 40 m

- _____ 11. A suspended metal bob is released from position A to move across position B To reach position C as shown in fig 3. What energy is possessed by the bob At position B?

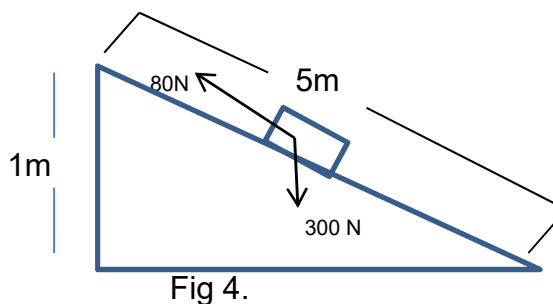
- A. Potential energy
- B. potential and kinetic energy
- C. kinetic energy
- D. Heat energy

Fig. 3



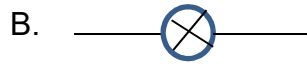
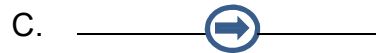
- _____ 12. Find the efficiency of an inclined plane using given information in fig 4.

- A. 25 %
- B. 50 %
- C. 75 %
- D. 100 %



- ____ 13. Which of the following is an example of second order lever?
- A. Crowbar B. Tongs C. Scissors D. Wheelbarrow
- ____ 14. Which one is a measure of the average kinetic energy of the particles
In a substance?
- A. Quantity of heat C. Temperature
B. Specific heat capacity D. Evaporation
- ____ 15. Which effects of heat is observed when you give heat energy to a body?
- A. Temperature decrease C. constant temperature
B. Body contraction D. Change of state
- ____ 16. In which of the following scales of temperature is the value of absolute
Zero equals -273?
- A. Fahrenheit B. Celsius C. Kelvin D. Rankin
- ____ 17. In which of the following media the speed of sound is the least?
- A. Liquids B. Air C. Solids D. Vacuum
- ____ 18. Which one of the following is **NOT** magnetic substance?
- A. Copper B. Steel C. Cobalt D. Nickel
- ____ 19. A branch of physics that studies electric charges at rest is called?
- A. Electricity B. Electronics C. Electrostatics D. Electrons
- ____ 20. Identify the one that is **NOT** the uses of an electroscope?
- A. To test a body is charged or not
B. To detect the sign of charge on a body
C. To determine the magnitude of the charge on a body
D. To determine the strength of magnetic field on a body
- ____ 21. How much charge flows through a conductor if a current of 2A flows for 2 min?
- A. 240 C B. 120 C C. 60 C D. 1C

_____ 22. Which of the following electric symbol represent a bulb?



_____ 23. What is the base area of a box with length 5cm, width 4cm and height 3cm?

A. 12 cm^2

B. 15 cm^2

C. 20 cm^2

D. 60 cm^2

_____ 24. What is the volume of a cube of side 3cm?

A. 27 cm^3

B. 18 cm^3

C. 9 cm^3

D. 3 cm^3

_____ 25. Which of the following quantity measures how heavy a substance is?

A. Volume

B. Density

C. Mass

D. Inertia

_____ 26. . Which of the following is an example of contact force?

A. A ball dropping from air to ground

B. Two bar magnets attracting each other

C. A box sliding over another box

D. Two similar charges repel each other

_____ 27. A car moving at 20m/s comes to rest in 5 seconds. What is the acceleration of

The car?

A. 100 m/s^2

B. 4 m/s^2

C. -100 m/s^2

D. -4 m/s^2

_____ 28. The area under velocity- time graph for motion with constant velocity is?

A. Distance

B. Acceleration

C. Speed

D. Deceleration

_____ 29. Which of the following is the dimension of pressure?

A. $[\text{ML}^{-2} \text{T}^{-2}]$

C. $[\text{MLT}^2]$

B. $[\text{ML}^2 \text{T}^2]$

D. $[\text{ML}^{-1} \text{T}^{-2}]$

_____ 30. Which of the following does **NOT** affect pressure in liquids at rest inside a

Container?

A. Base area of the container

C. Density of the liquid

B. Depth of the container

D. Acceleration due to gravity

____ 31 Which of the following device does **NOT** use atmospheric pressure to operate?

- A. Lift pump
- B. Hydraulic press
- C. Drinking straw
- D. Siphon

____ 32. Which method of heat transfer takes place in solids?

- A. Convection
- B. Radiation
- C. Evaporation
- D. Conduction

____ 33. In which of the following media does convection takes place?

- A. Gases
- B. Vacuum
- C. Solids
- D. Soil

____ 34. What is the specific heat capacity of a 3kg aluminum when 5400J of energy
Is given to raise its temperature by 2°C ?

- A. $385\text{ J/kg}^{\circ}\text{C}$
- B. $480\text{ J/kg}^{\circ}\text{C}$
- C. $900\text{ J/kg}^{\circ}\text{C}$
- D. $4200\text{ J/kg}^{\circ}\text{C}$

____ 35. Which of the following device makes a circuit open in a high flow of current?

- A. Filament
- B. Fuse
- C. Screw base
- D. Support post

____ 36. What is the resistance of a bulb that draws 0.5A current when connected
To 4.5v battery?

- A. 2Ω
- B. 3Ω
- C. 6Ω
- D. 9Ω

____ 37. Which of the following is correct about the connection of ammeter and
Voltmeter in a simple circuit?

- A. Connect ammeter in parallel to a resistor
- B. Connect voltmeter in series to a resistor
- C. Connect ammeter in parallel to a bulb
- D. Connect voltmeter in parallel to a bulb

____ 38. What is the total resistance of two resistors of 12Ω and 24Ω are connected in
Parallel across a 48 v battery?

- A. 2Ω
- B. 4Ω
- C. 8Ω
- D. 36Ω

____ 39. Which of the following does **NOT** affect the strength of an electromagnet?

- A. Direction of current
- B. Strength of current
- C. Number of turns of the coil
- D. The type of core material used

_____ 40. What is the energy conversion in the process of electromagnetic induction?

- A. Electrical to mechanical
- B. Mechanical to electrical
- C. Chemical to mechanical
- D. Mechanical to electrical

_____ 41. Which of the following is **TRUE** for a step-up transformer? Where

N_p = primary turns I_p = primary current V_p = primary voltage
 N_s = secondary tur I_s = secondary current V_s = secondary voltage

- A. $N_s < N_p$
- B. $N_s > N_p$
- C. $V_s < V_p$
- D. $I_s > I_p$

_____ 42. Referring fig 5, Which of the following terms of reflection is correct?

- A. AO= reflected ray
- B. AON= angle of incident
- C. BON= angle of refraction
- D. OB=Normal

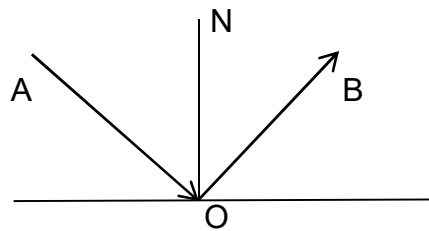


fig 5.

_____ 43. Which of the following is **NOT** the property of image formed by convex

Mirror? The image is :

- A. Real
- B. Virtual
- C. Erect
- D. Diminished

_____ 44. The bending of light ray as it passes from one medium to another is called?

- A. Reflection
- B. Interference
- C. Refraction
- D. Dispersion

_____ 45. Which of the following is NOT a property of image formed by diverging lens?

The image is:

- A. Real
- B. Inverted
- C. Magnified
- D. Virtual