
Total Score

Name: _____

ID No: _____

Republic of Somaliland
AlHuda Secondary School Examination board
Form Four

PHYSICS EXAMINATION

April 2019

Time 2 Hours
Plus 10 minutes for reading through the paper

Instructions to Candidates

This paper consists of 10 printing pages.
Count them now. Inform the invigilator if there are any pages missing.

Part 1: 20 multiple choice Questions	**20 Marks**
Part 2: 7 Structured Questions	**70 Marks**
Part 3: Extended Question	**10 Marks**
TOTAL	**100 Marks**

- **Answer all questions in part 1 and 2 and choose one from part 3**
- **All answers must be written on this paper in the spaces provided**

©ASSEB

Use this page for rough works, it will not be marked.

©ASSEB

PART 1: (20 Questions, Each question is 1 Marks). Answer all questions in this section.

Circle the Correct answer

1. Temperature is a measure of the average kinetic energy of the atoms or Molecules of a substance, which increases.
    a. If the force of the particles increases
    b. If the motion of the particles increases
    c. If the Momentum of the particles increases
    d. A and C
2. Like charges repel and unlike charges attract, is equivalent
    a. Positive charges are repel while negative charges are attract
    b. Positive and negative charges are attracts while negative charges repel
    c. Negative charges are attract while positive charges repel
    d. B and C
3. A Circuit is Called
    a. The wire by which an electric charges flows
    b. The path by which an electric charges flows
    c. The charge by which an electric charge have
    d. A and B
4. The process of adding impurities to the semiconductor in order to conduct electricity is called
    a. Doping process
    b. Popping process
    c. Current flow process
    d. Conducting process
5. Rectifiers are used to convert
    a. Direct current to Alternating current
    b. Alternating current to Direct current
    c. high voltage to low voltage
    d. Low voltage to high voltage
6. The bending of light when it passes from one medium into another of differing density is called
    a. Reflection of light
    b. Bending of light
    c. Refraction of light
    d. None of the above

©ASSEB

7. A two students are going to the school in a morning are walking with a speed of 3km/h in opposite directions, as show on the figure.
    a. They have same velocity of 3km/h, but different speed because they are moving opposite direction.
    b. They have same speed of 3km/h, but different velocities because they are moving opposite direction.
    c. They move in different velocity and speed
    d. A and B



8. Radioactivity is measured by
    a. Parameter
    b. Nucleotides
    c. Becquerel's
    d. None
9. A buss travelling from the Market to the Isha Borama at $30ms^{-1}$ accelerates at $0.7ms^{-2}$ for 40s, how far it will travel in this time.
    a. 1500m
    b. 151m
    c. 1415m
    d. 1760m
10. Suppose you are sitting your chair as usual, why your chair pulls upward or the chair legs penetrated to the earth because of your weight.
    a. The earth is strong
    b. Weight and force are direct proportion
    c. Action and reaction are equal
    d. None of the above
11. Progressive waves
    a. Medium waves
    b. Moving waves
    c. Static waves
    d. A and B
12. The shape and the direction of the reflection waves depend on.
    a. The shape of the incident waves and the shape of the reflecting surface
    b. The shape of the incident surface and the shape of the reflecting waves
    c. The wave length and amplitude energy
    d. None of the above

©ASSEB

13. Two students in AlHuda Secondary School stand 100m from a wall. One bangs two pieces of wood together while the second starts a stop watch and stops it when he hears the echo. If the time shown on the stop watch is 1.2 seconds, the speed of the sound is
    a. 66.6
    b. 166.6
    c. 1666.6
    d. 666.6
14. A boat sends sound wave and receives an echo, the deep of the water is 2240m while the speed of sound in water is 1493m/s. what is the time of sound to and back to the boat.
    a. 5 Seconds
    b. 4 Seconds
    c. 3 Seconds
    d. None
15. Which one of three types of radiation have the same speed of light.
    a. Beta radiation
    b. Gamma radiation
    c. Alpha radiation
    d. None
16. 200g of radioactive nuclide has a half-life of 5Hours. Calculate how many grams will remain, after 15 hours.
    a. 25
    b. 22.2
    c. 66.6
    d. 88.8
17. The atoms of same element which have different mass number because of their neutrons in their nuclei is called
    a. Isobars
    b. Nuclides
    c. Isotopes
    d. None
18. R.F current is produced by an oscillatory circuit. This contains
    a. Amplifier and capacitor
    b. Capacitor and coil
    c. Transistor and capacitor
    d. Capacitor and diode

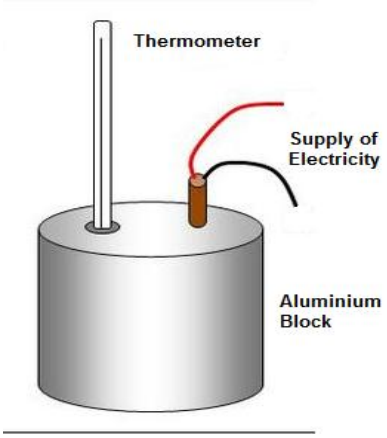
©ASSEB

19. It is easier to roll a stone up a sloping road than to lift it vertical upwards because
    a. work done in rolling is more than in lifting
    b. work done in lifting the stone is equal to rolling it
    c. work done in both is same but the rate of doing work is less in rolling
    d. work done in rolling a stone is less than in lifting it
20. Pa(Pascal) is the unit for
    a. Thrust
    b. Pressure
    c. Frequency
    d. conductivity

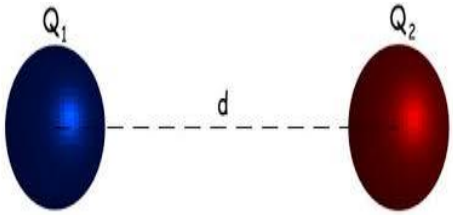
©ASSEB

PART 2: Answer all Questions (70 Marks)

1. A kettle containing 3kg of water (c_w= 4200j/kg^{o}c) placed at top of an electric heater that have quantity of heat 250,000J, it takes 3minute to raise the temperature of water from 10^0C TO 75^0C.
    a. Calculate the power of the electric Heater? (**4Marks)**
    b. Calculate the quantity of heat absorbed by the water?(**3Marks**)
    c. Calculate the amount of heat lost?(**3Marks**)



2. A two charged objects with a +25μC and +35 μC are placed in place away from each other in specific distance and they have 480N Force both of them.
    a. Calculate the distance between two charged objects? (**5Marks**)
    b. State the electric field strength of a q1?(**5Marks**)



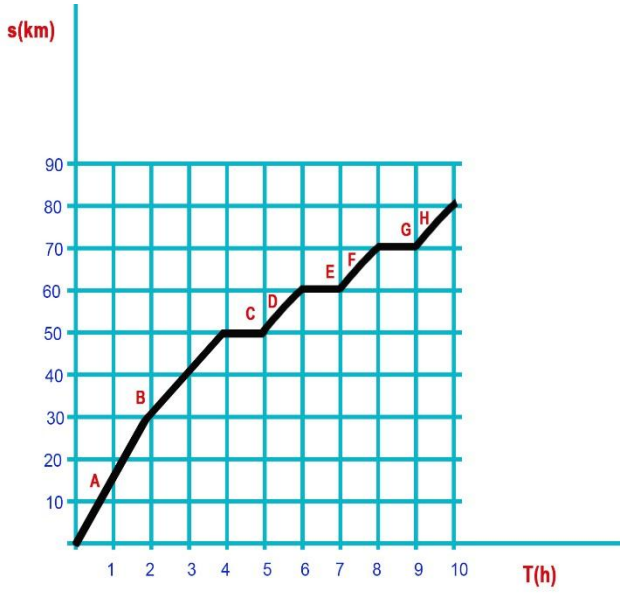
©ASSEB

3. An object is placed 30cm from a convex lens of focal length 15cm.
    a. Calculate the position of the image and magnification?(**5Marks**)
    b. Describe the nature of the image?(**5Marks**)



4. The distance-time graph below represents the journey of a cyclist from Egal international airport to AlHuda Secondary school.

    From the graph:
    a. Determine the distance between the Egal International airport and AlHuda Secondary School? (**1Marks)**
    b. How long did he take to complete his journey? (**2Marks**)
    c. What was his average speed?(**2Marks**)
    d. How many stops did he make? (**2Marks**)
    e. How long did he stops for altogether? (**1Marks)**
    f. What was his average speed excluding stops? (**1Marks)**
    g. From the shape of the graph, which stage did he travel faster? (**1Marks)**

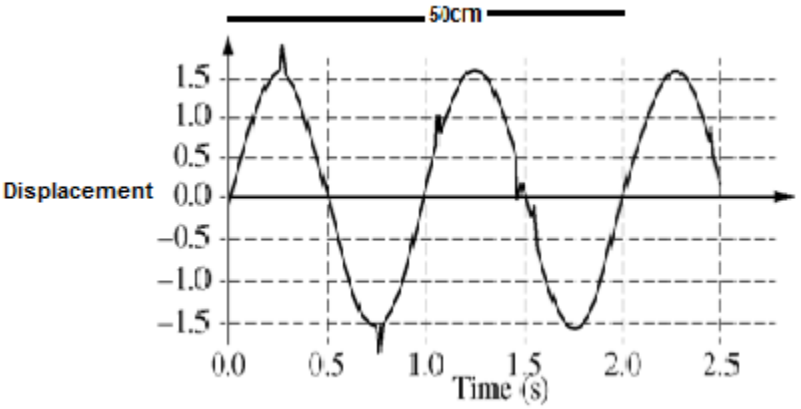


©ASSEB

5. If the distance between the point A and point B is 50cm. as shown the diagram below

From the diagram:

a. Period of the wave?(**2Marks**)
b. Frequency of the wave? (**2Marks**)
c. Wavelength of the wave? (**2Marks**)
d. Speed of the wave? (**2Marks**)
e. Amplitude of the wave? (**2Marks**)



6. Define
   a. Sky waves (**5Marks**)

   b. Space waves (**5Marks**)

©ASSEB

7. List and describe at least 5 applications of radioactivity?

©ASSEB

Part 3: Extended Question (10 Marks)

Answer one of the below two questions

1. Differentiate
   a. Resistor

      ---

   b. Resistance

      ---

2. Compare
   a. X-rays

      ---

   b. Gamma rays

END

©ASSEB