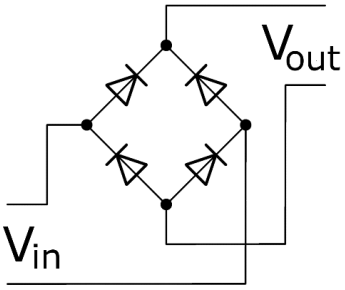
Illustration lab.	2016-2017	Collage of Education / Shaqlawa
4th stage	First trail	Department of Physics

Choose the right answer: **Notice:** 5 marks for each question**.**

1. **The transistor is:**
   a) Light diode
   b) Two diode
   c) Photo cell
   d) Switch
   e) None of above

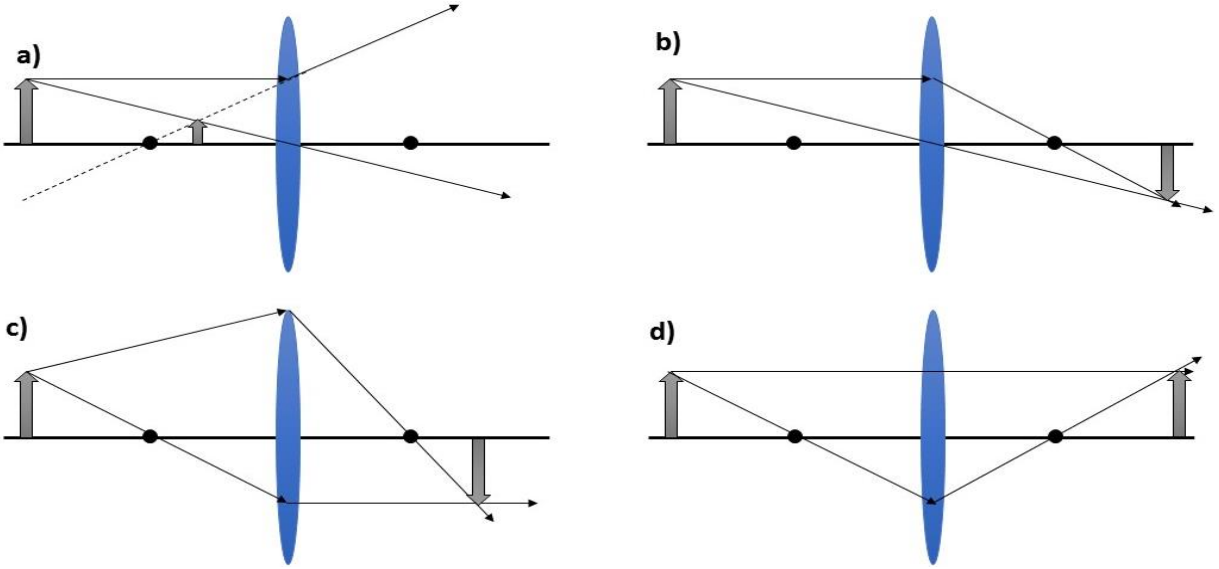
2. **The following circuit is a:**
   a) Rectifier
   b) IC circuit
   c) Galvanometer
   d) Ammeter
   e) Voltmeter



3. **The speed of sound at (-300)^{o}C is about:**
   a) 1458m/sec
   b) 4.4m/sec^2
   c) 4.4m/sec
   d) 1458km/sec
   e) Wrong question

4. **If the density of 1kg of water is 1000Kg/m^3, then the density of 1000kg of water will be:**
   a) 1000000kg/m^3
   b) 1000kg/m^3
   c) 1kg/m^3
   d) 0.001kg/m^3
   e) 0.000001kg/m^3

5. **The right image of the object is:**



6. **According to the pendulum principles, the value of (g) will increases with:**
   a) Increasing of (l)
   b) Increasing of (T)
   c) Increasing of (T^2)
   d) High from the sea level
   e) Increasing of ground density

30

GOOD LUCK

Mr.Kasim Fawzy Ahmed & Mr.Hersh Ahmed Khizir

……

My name is ……..

ناوی سیانی(به کوردی):

ژمارەی نهێنی ( )

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Illustration lab. 2017-2018 Collage of Education / Shaqlawa
4th stage Second Attempt Department of Physics

Choose the right answer: **Notice:** 3 marks for each question**.**

1. **The Rainbow is a:**
   a) Colors phenomenon that is caused by reflection, refraction and dispersion of light in the sky.
   b) Electromagnetically phenomenon that is caused by reflection, refraction and dispersion of light in water droplets resulting in a spectrum of light appearing in the sky.
   c) Meteorological phenomenon that is caused by reflection, refraction and dispersion of light in water droplets resulting in a spectrum of light appearing in the sky.
   d) Meteorological phenomenon that is caused by reflection, refraction and dispersion of heat in water droplets resulting in a spectrum of light appearing in the sky.

2. **The speed of sound at (-20)^{o}C is about:**
   a) 1197km/sec
   b) 1235.578km/hr
   c) 332.512m/sec^2
   d) 343.216m/sec
   e) Wrong question

3. **If the density of 1kg of water is 1000Kg/m^3, then the density of 1000kg of water will be:**
   a) 0.000001kg/m^3
   b) 0.001kg/m^3
   c) 1kg/m^3
   d) 1000kg/m^3
   e) 1000000kg/m^3

4. **According to the pendulum principles, the value of (g) will increases with:**
   a) High from the sea level
   b) Increasing of (T)
   c) Increasing of ground density
   d) Increasing of (T^2)
   e) Increasing of (l)

5. **This physics instrument is called:**
   a) Spectrometer
   b) Travelling Microscope
   c) Fixed Microscope
   d) Spectroscope

6. **A wire made of a copper alloy is 5 m in length and has a cross-sectional area 1 mm^2. Its resistance is 0.15 Ω., The resistivity of this alloy is:**
   a) 3.0×10^{-8} Ω. m
   b) 30×10^{-8} Ω. m
   c) 300×10^{-8} Ω
   d) 3.0×10^{-8} Ω

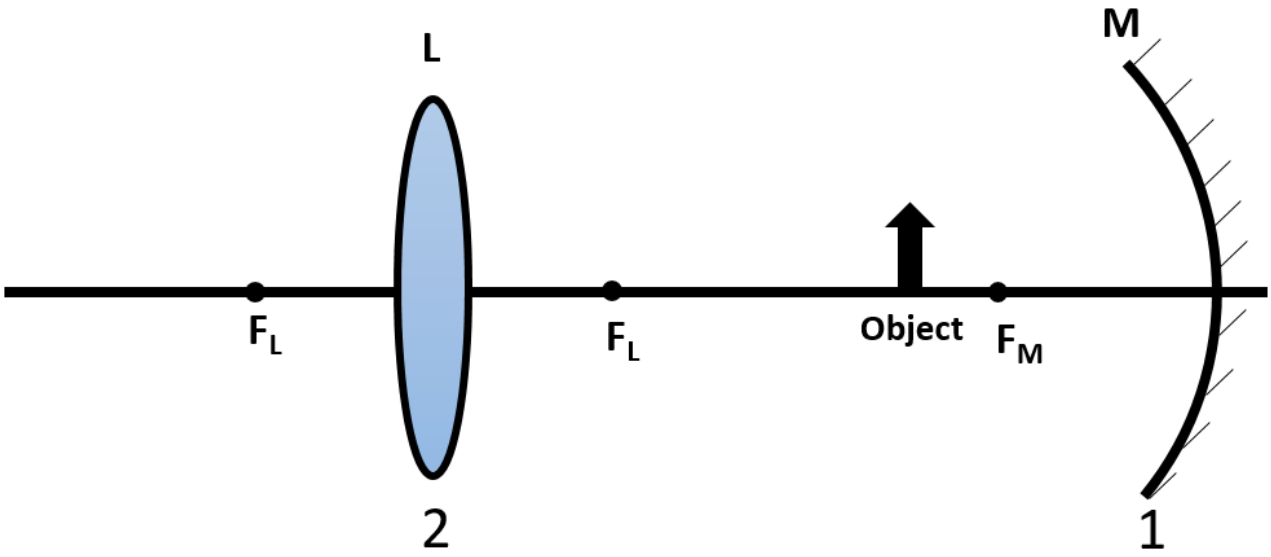
7. **Light has the lowest velocity in which medium?**

flint glass n=1.70, barium glass n=1.60, crown glass n=1.523, diamond n=2.45

   a) *Diamond*
   b) *crown glass*
   c) *flint glass*
   d) *barium glass*

8. **The (en.wikipedia.org) is a:**
   a) largest and most-popular web-based general books on the Internet
   b) Web-based, physics-content only that is based on a model of openly editable content. It is the largest and most-popular general reference work on the Internet
   c) Web-based, free-content encyclopedia that is based on a model of openly editable content. It is the largest and most-popular general reference work on the Internet.
   d) largest and most-popular web-based university on the Internet

9. Find the second image:



10.My best physics' Android/IOS Apps on Google Play/apple is:

( )

GOOD LUCK

Mr.Kasim Fawzy Ahmed & Mr.Hersh Ahmed Khizir

Salahaddin University – Erbil
College of Education
Department of Physics

Subject: Inst.Physics Lab.
Stage: Fourth
Time: 1 hour
Date: 29/04/2024

Final (Theoretical/Practical) Exam – 2nd Semester (2023-2024)

(ناوت بە زمانی کوردی)

Q1/Choose the right answer: **(4 marks)**

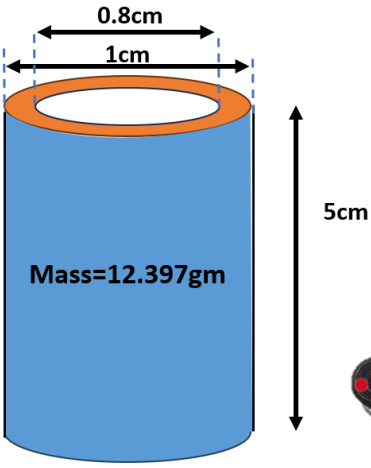
A) The density of this cylinder is:

a) 7.78g/cm^3

b) 8.77 g/cm^3

c) 43.84 g/cm^3

d) 34.84g/cm^3



B) This physics instrument is called:

a) Fixed Microscope
b) Travelling Microscope
c) Spectrometer
d) Spectroscope

C) A wire is 1.0 m long and its cross-sectional area is 0.0314 mm^2 with a resistance of 10 Ω. The resistivity of this material is:

a) 3.0 × 10^{-8} Ω.m b) 3.14 × 10^{-7} Ω.m c) 30 × 10^{-8} Ω. m d) 314 × 10^{-7} Ω.m

D) A sample of oxygen gas has a volume of 225 mL when its pressure is 1.12 atm. What will the volume of the gas be at a pressure of 0.98 atm if the temperature remains constant?

a)25.71 mL b) 257.1 mL c) 19.68 mL d)196.8 mL

Q2/ Write the Ohms law statement, and find the equivalent resistance of circuit consists of R_1=100Ω, R_2=100Ω and R_3=50Ω connected in parallel. **(5 marks)**

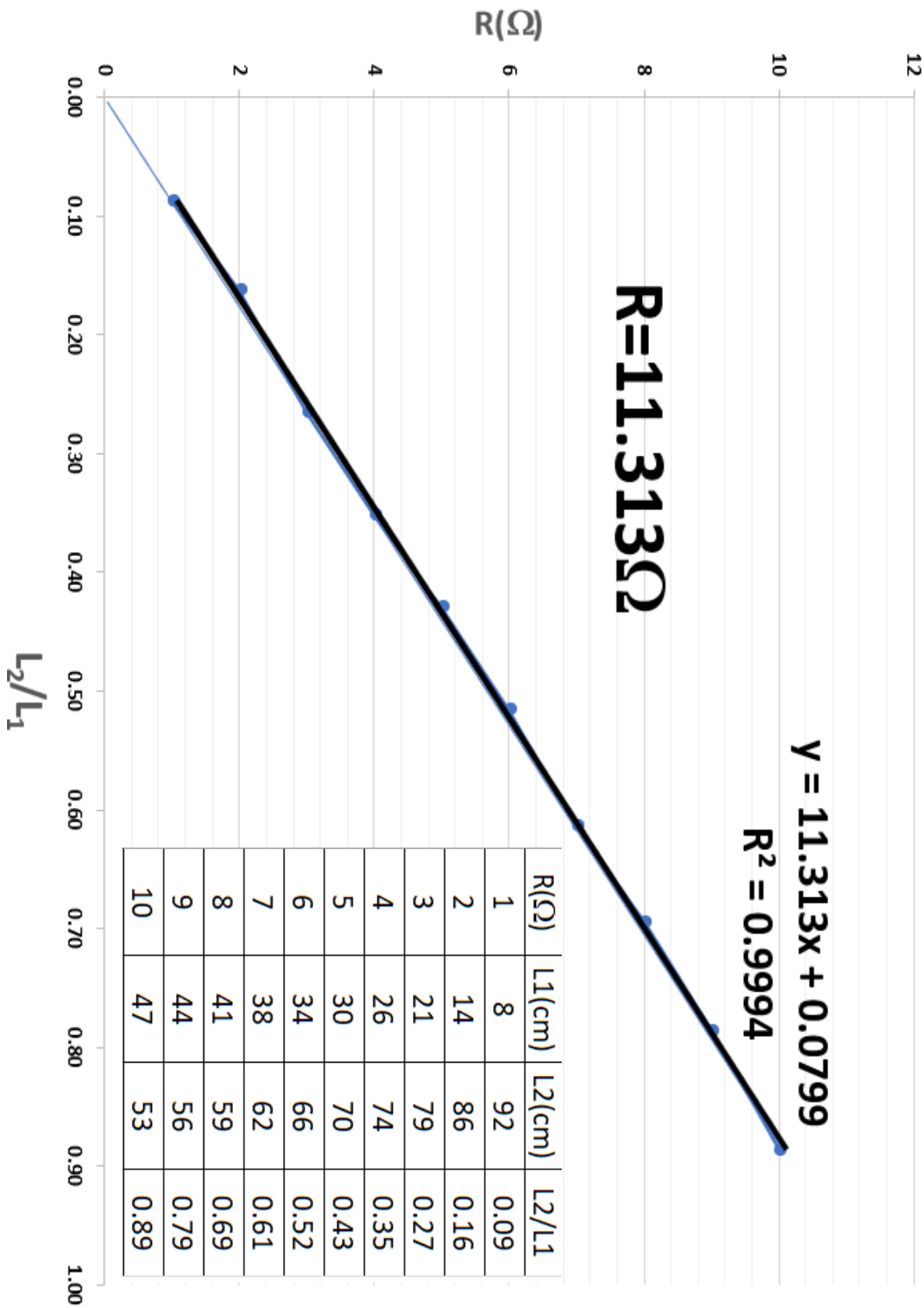
Ohms law: At constant temperature, the electric current flowing in a conducting material is directly proportional to the applied voltage.

R_{eq} (write the solution): $\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} =$

$\therefore R_{eq} =$ Ω

$R_1(\Omega)$	$R_2(\Omega)$	$R_3(\Omega)$	$R_{eq}(\Omega)$
100	100	50	25
200	200	100	50
100	50	50	20

Q3/ From **Wheatstone bridge**, use the following data to determine the value of the unknown resistance: **(6 marks)**



R(Ω)	L1(cm)	L2(cm)	L2/L1
1	8	92	0.09
2	14	86	0.16
3	21	79	0.27
4	26	74	0.35
5	30	70	0.43
6	34	66	0.52
7	38	62	0.61
8	41	59	0.69
9	44	56	0.79
10	47	53	0.89

Stuff of the Instrumentation Physics Lab.: 1. Dr. Kasim Fawzy Ahmed 2. Dr. Diyar Ali Rasool

3. Dr. Kadhim Qasim Jabbar 4.Mrs. Khadija Najmdeen Abdulla

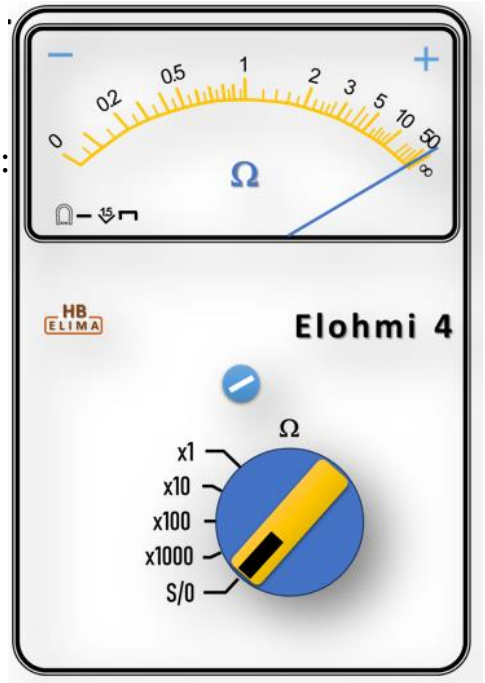
ناو: .....

1) The galvanometer has following applications:

A- It is used for detecting the …… of current flows in the circuit.

B- It is used for measuring the ……..

2) Write the electrical circuit of the following Ohmmeter:



ناو: .....

1) The galvanometer has following applications:

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