REPUBLIC OF RWANDA

GATSIBO DISTRICT

SENIOR FOUR END OF 2nd TERM EXAMINATIONS, 2024

SUBJECT: ALTERNATIVE TO PHYSICS PRACTICAL EXAM (20 MARKS)

COMBINATIONS:

PHYSICS-CHEMISTRY-MATHEMATICS	**(PCM)**
MATHEMATICS- PHYSICS- COMPUTER SCIENCE	**(MPC)**
PHYSICS –CHEMISTRY- BIOLOGY	**(PCB)**
MATHEMATICS –PHYSICS- GEOGRAPHY	**(MPG)**

DURATION: 1 HOUR 30 MINUTES

INSTRUCTIONS:

1) Do not open this question paper until you are told to do so.
2) Answer all questions: **20 marks**
3) Use only a **blue** or **black** pen.

The SENIOR FOUR class is comparing the combined resistance of lamps arranged either in series or in parallel. The circuit shown in Fig.1 is used.

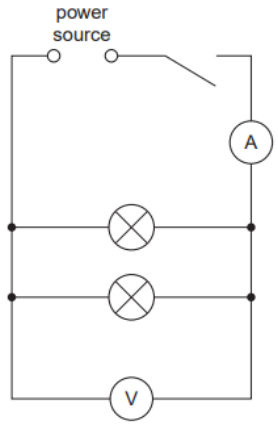


fig.1

A student measures and records the current I in the circuit and the p.d. V across the two lamps. Fig.2 shows the readings on the two meters.

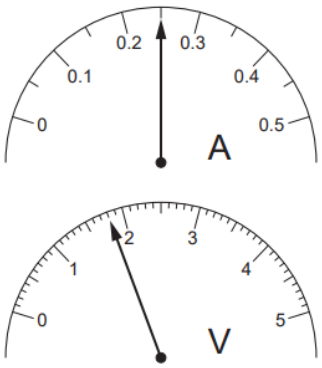


fig.2

(a) Define

i) Ammeter **/1mark**

ii) Voltmeter/**1mark**

(b) Write the voltage and current readings in fig 2. **/2marks**

(c) States Ohm's law. **/2marks**

(d) The student then sets up the circuit shown in Fig. 3 and records the readings.

Complete the column in table below

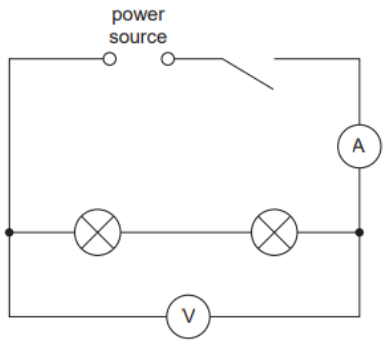


fig.3

	V/	I/	R/
Circuit of Fig. 3.1			
Circuit of Fig. 3.3	1.8	0.52	

/8marks

(e) Using the values of resistance you have obtained, calculate the ratio y of the resistances using the equation

$$y = \frac{\text{resistance of lamps in series}}{\text{resistance of lamps in parallel}}.$$

y = ... **/4marks**