**TMA: TMA3**

PHY192 – Physics Practical II

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1 The potentiometer wire plays equivalent role of which of these devices in a circuit?

**A. rheostat**

B. thermostat

C. galvanometer

D. ammeter

2 The advantage of potentiometer over voltmetr in measurements of emf is that

A. the potentiometer wire is assumed to be uniform

B. it **does not draw current from the circuit under test**

C. the temperatue of the wire must remain constant

D. faults may arise due to breaks or wrong connections in the circuit

3 Which of these is not a useful precaution in an electrical experiment?

A. key should be removed between readings to avoid battery run-down

**B. jockeys should be dragged on resistance wires**

C. the connections in the circuit should be tight

D. readings should be recorded as soon as they are obtained

4 Which of the following is NOT true about a rheostat?

**A. It is a constant current instrument**

B. It is a resistor with moving contact

C. It is used for varying the current in a circuit

D. It is used for varying the resistance in a circuit

5 In an experiment, potential difference is plotted on the vertical axis and current on the horizontal axis. The slope of the graph represents

A. resistivity

B. conductivity

**C. resistance**

D. conductance

6 For a metallic conductor, Ohm’s law holds provided

A. potential difference varies

B. current remains constant

**C. temperature remains constant**

D. potential difference remains constant

7 The lens of the human eye is

A. concave

**B. converging**

C. planconcave

D. diverging

8 Which of the following precautions is NOT applicable to experiment involving planoconvex lens?

**A. planoconvex lens should have small focal length**

B. parallax error should be avoided

C. the surface of the lens should be cleaned properly

D. the tip of the optical pin should be at the same level with the principal axis of the lens

9 A glass prism of refracting angle 60 degrees gives a minimum deviation of 47degrees. What is the refractive index of the glass?

**A. 1.61**

B. 1.20

C. 1.52

D. 1.41

10 Which of the following is not true about diverging lens

**A. the principal focus is positive**

B. the principal focus is ngative

C. they poduce virtual images only

D. they form virtual, erect and smaller images of real object

11 In an experiment to determine the focal length of a convex lens, 1/u

(cm−1)

(cm−1)

was plotted on horizontal and 1/v

(cm−1)

(cm−1)

on the vertical axis, where u and v have their usual meaning. What is the physical significance of the reciprocal of the intercept on the horizontal axis?

A. linear magnification

**B. focal length**

C. object distance

D. image distance

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D. image distance

13 In practical experiment inloving the use of optical pins, parallax is reduced or removed if on slightly displacing one’s eye from side to side

A. the object and image are not coincident but move together in same directions

B. the object and image move in opposite directions relative to each other

**C. the object and image are coincident and move together in the same direction**

D. the object and image are coincident and remain stationary

14 In an experiment with a concave mirror, the image of an optical pin which is 4 times its size was cast on on a screen 6m from the object pin. How far from the object pin should the mirror be placed?

A. 8m

B. 6m

C. 3m

**D. 2m**

15 The image of an object which is between the concave mirror’s reflecting surface and its principal focus is

A. in front of the mirror erect real and diminished

B. behind the mirror inverted real and diminished

C. in front of the mirror erect virtual and enlarged

**B. behind the mirror erect virtual and enlarged**

16 In the circuit diagram shown, the device marked X is a —————–

Click here to see exhibit

A. rheostat

B. voltmeter

C. jockey

**D. galvanometer**

17 The null condition in potentiometer experiment shows that

A. the potential difference under test is zero

B. current is varying in the circuit

C. potential differences are varying in the circuit

**D. potential difference are balanced**

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