### Assignment 1

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. Due on 2019-02-13, 23:59 IST.

1) What is the reason of using rosin flux during soldering?

(a) Rosin flux is used to keep metal from oxidizing when heated.

(b) Rosin flux helps to heat the body quickly.

(c) Rosin flux helps to melt soldering wire quickly

(d) All of (a), (b) and (c) are true.

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

2) Make average of 11.32, 9.90, and 10.5, and then multiply that by 4.21 and write the result in significant figure.

(a) 44.06

(b) 44.6

(c) 44.5

(d) 44.56

- (a)
- (b)
3) Two complete rotations of the circular scale of a screw gauge cover a distance of 1 mm on the scale. The total number of divisions on the circular scale is 50. The screw gauge has a zero error of mm. In measurement of diameter of a wire, it is found that the main scale reading is 2 mm an number of circular scale divisions in line with the main scale is 33. The diameter of the wire is

(a) 2.31 mm
(b) 2.35 mm
(c) 2.29 mm
(d) 2.33 mm

No, the answer is incorrect.
Score: 0
Accepted Answers: (b)

4) The torque acting on a rectangular loop of N no of turns, carrying a current of i ampere, placed in uniform magnetic field B is given by (A = area of the loop)

(a) BNA/i
(b) NAI/B
(c) BI\(\pi\)A
(d) IBA

No, the answer is incorrect.
Score: 0
Accepted Answers: (c)

5) A galvanometer may be converted into ammeter by connecting

(a) a small resistance in series with galvanometer coil
(b) a high resistance in parallel with galvanometer coil
(c) a small resistance in parallel with galvanometer coil
(d) a high resistance in series with galvanometer coil
6) For a coil of given number of turns and area placed in a given uniform field and passing constant current, the torque will be maximum when the loop is in the shape of

(a) Rectangle
(b) Square
(c) Circular
(d) Independent of the shape of the coil

No, the answer is incorrect.
Score: 0
Accepted Answers: (c)

7) The soldering wire is in general composed of the alloy of

(a) 63% tin and 37% lead
(b) 37% tin and 63% lead
(c) 37% nickel and 63% tin
(d) 67% Zinc and 33% lead

No, the answer is incorrect.
Score: 0
Accepted Answers: (d)
A screw gauge having pitch of 0.5 mm and circular division of 50 is used to measure the diameter of a wire. It is found that when two jaws are in contact, the 47th division of circular scale coincides with the main scale line. Find the diameter of the wire if main scale reading is 1 mm and 27th division of circular scale coincide with main scale.

(a) 1.47 mm
(b) 1.27 mm
(c) 1.24 mm
(d) 1.30 mm

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d)

9)

In a vernier callipers, one main scale division is x cm and n divisions of the vernier scale coincide with (n-1) divisions of the main scale. Then the least count (in cm) of the callipers is

(a) \( \left( \frac{n-1}{n} \right) \times x \)
(b) \( \left( \frac{n}{n-1} \right) \times x \)
(c) \( \frac{x}{n} \)
(d) \( \frac{x}{n-1} \)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)
The diameter of a cylinder is measured using Vernier callipers with no zero error. It is found that the zero of the Vernier scale lies between 5.10 cm and 5.15 cm of the main scale. The Vernier scale has divisions equivalent to 2.45 cm. The 24th division of the Vernier scale exactly coincides with one of the main scale divisions. The diameter of the cylinder is

(a) 5.112 cm
(b) 5.124 cm
(c) 5.136 cm
(d) 5.148 cm

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)

A student measured the length of a rod and wrote it as 3.50 cm. Which instrument did he use to measure it?

(a) A meter scale
(b) A vernier callipers where the 10 divisions in vernier scale match with 9 division in main scale and main scale has 10 divisions in 1 cm
(c) A screw gauge having 100 divisions in the circular scale and pitch as 1 mm
(d) A screw gauge having 50 divisions in the circular scale and pitch as 1 mm

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)

If in a moving coil galvanometer, a current I produces a deflection \( \theta \), then

(a) \( I \propto \tan \theta \)
(b) \( I \propto \theta^2 \)
(c) \( I \propto \theta \)
(d) \( I \propto \sqrt{\theta} \)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)