U.G. 2nd Semester Examination - 2020

PHYSICS

[GENERIC ELECTIVE]
Course Code : PHSH/GE-P-02
[PRACTICAL]

Full Marks : 20   Time : 2 Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer any **ten** questions: 2×10=20

1. Define 'J'. What is the value of 'J' in CGS and in SI system of units?

2. Draw a suitable circuit diagram to measure 'J' by Callendar and Barnes method.

3. Why the heating coil is taken in the spiral form in Callendar and Barnes method?

4. What is Seebeck effect?

5. Are the neutral temperature and the inversion temperature constant quantities for a particular thermocouple?

6. Draw a suitable circuit diagram to measure the temperature coefficient of resistance by platinum resistance thermometer.

[Turn over]

7. Why is platinum selected to construct a thermometer?

8. Why the terminal leads of a platinum resistance thermometer are termed as (p,p) and (c, c) leads?

9. Write down the basic principle of determination of thermal conductivity of a metal by Searle's method.

10. Define thermal conductivity. Find its dimension.

11. What is Bedford's correction in determining thermal conductivity by Lees and Charlton's method?

12. State Stefan's law of black body radiation. What is the value of Stefan's constant?

13. Write down the basic principle of determination of Stefan's constant.

14. Draw a suitable circuit diagram for determining Planck's constant.

15. Define 'stopping potential'. Draw stopping potential (V_0) venous frequency of incident radiation (ν) graph.

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