

CITY COLLEGE
PHYSICS HONOURS PRACTICAL EXAMINATION—2021
CBCS Semester 3
Paper: PHS-A-CC-3-6-P
Topic: Thermal Physics (Practical)

Full Marks: 30

*The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words
as far as practicable.*

Group-A

1. Answer any **five** questions: [2×5]
- (a) Define thermal conductivity?
 - (b) State Newton's law of cooling.
 - (c) Why the name 'Optical Lever' is used?
 - (d) What are the differences between a meter bridge and a Carey-Foster's bridge?
 - (e) What do you mean by thermo-emf?
 - (f) What are the differences between a bad conductor and an insulator?
 - (g) What is a 'null point' in a Carey-Foster's bridge?

Group-B

Answer any five questions

- 2. (a) What is Bedford's correction? (b) Write S.I. unit of thermal conductivity? [3+1]
 - 3. You are given two optical levers – one with a long arm and other with a short arm. Which one is better and why? [1+3]
 - 4. (a) What is the coefficient of thermal expansion? (b) Write the relation between thermal conductivity and thermometric conductivity? [2+2]
 - 5. (a) What is a thermocouple? (b) How does a thermocouple work? [1+3]
 - 6. (a) What is a potentiometer? (b) What is Seebeck effect? [2+2]
 - 7. (a) Write two advantages of Platinum Resistance Thermometer. (b) How does a Platinum Resistance Thermometer work? [2+2]
 - 8. Write briefly the principle of operation of the bridge. [4]
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