UG (CBCS) Even Semester Examination, May 2025

EDUCATION
(B.Sc. B.Ed.)

4th Semester

Course No. : BSPP - 402

(Magnetism, Heat & Thermodynamics)

Full Marks : 50

Pass Marks : 20

Time : 2 hours

The figures in the margin indicate full marks for the questions

(*Answer five questions*)

1. (a) Evaluate the dimension of magnetic susceptibility. 3+7=10

   (b) Explain the Langevin's theory of diamagnetism.

Or

2. Explain the paramagnetic theory of Langevin. 10

3. Derive an expression for axial magnetic field of a solenoid. 10

Or

4. Explain the working mechanism of Helmholtz coil. 10

5. Derive an expression for self inductance of a solenoid. 10

Or

(Turn Over)

6. (a) Explain Neumann's formula. 5+5=10

   (b) What is Eddy current?

7. Establish the principal of classical equiportion of energy. 10

Or

8. Derive the pressure equation from the concept of mean free path. 10

9. Calculate the entropy change for an ideal gas in 10

   (i) isothermal (ii) isobaric (iii) isochoric process

Or

10. Establish the four thermodynamic relations of Maxwell. 10

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