5. (a) Explain the Faraday's law of electromagnetic induction. 5

   (b) Write short notes on Eddy Current. 5

Or

6. (a) Explain Faraday disc. 6

   (b) Write short notes on self and mutual inductance. 4

7. Derive the expression for the following physical parameters using MB distribution. 2x5=10

   (a) RMS velocity

   (b) Most probable velocity

Or

8. Write short notes on : 5+5=10

   (a) Brownian motion

   (b) Vander Waal's equation of state

9. (a) Derive an expression for the efficiency of a carnot engine. 7

   (b) State the second law of thermodynamics. 3

Or

10. Write short notes on : 2x5=10

   (a) Stefen Bolzmann law

   (b) Plank's Blackbody radiation

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UG (CBCS) EVEN SEMESTER EXAMINATION, 2024

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) Derive an expression for the potential energy of a magnetic dipole placed in uniform magnetic field. 4

   (b) Describe the phenemenon of hysteresis. 6

Or

2. Explain the working mechanism of wheat-stone bridge. 10

3. (a) Evaluate the dimensions of B and H. 3

   (b) Calculate the magnetic field due to current in a straight wire of finite length. 7

Or

4. Explain the working mechanism of Helmnoltz coil. 10