B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
III Year V Semester
Electromagnetism

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Define average value of Alternating Current.
2. Why parallel resonance circuit is called as rejector circuit?
3. Define coefficient of coupling
4. How eddy currents are formed?
5. Write the expression for force acting on a conductor in uniform magnetic field.
6. Give the principle of an AC induction motor.
7. How the flux leakage loss in dynamo is reduced?
8. What are the uses of three phase AC generator?
9. Define displacement current.
10. Define Poynting Vector.
11. State Faraday's law of electromagnetic induction.
12. What in the principle of a DC Motor?

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Derive the expression for RMS value of AC.
14. Describe self-induction and mutual induction.
15. Obtain the expression for self-inductance of a coaxial cylinder.
16. Explain the working of series wound dynamo.
17. Describe Hertz experiment for the production and detection of electromagnetic waves.
18. Derive the plane electromagnetic wave equation in free space.
19. Explain the working of choke coil.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Derive the expression for impedance and frequency of a series resonant circuit
21. Explain the determination of self-inductance by Raleigh method with neat circuit diagram.
22. Describe the principle, construction and working of a single phase induction motor.
23. Discuss the working of DC motor with neat diagram.
24. Derive the Maxwell's equation for material medium

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