QP CODE:103018 **Reg. No: ……..**

First Year B.Sc (MRT) Degree Supplementary Examinations September 2023
General Physics and Electronics

Time: 3 Hours **Total Marks: 100**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw table/diagrams/flow charts wherever necessary***

Essays **(2x20=40)**

1. Discuss in detail the Fraunhofer diffraction due to a single slit
2. Define rectification and Explain full wave rectifiers in detail.

Short notes: **(8x5=40)**

3. Explain the action of p-n junction when it is reverse biased
4. With B-H diagram explain hysteresis
5. Distinguish between inductive reactance and capacitive reactance
6. High strength magnets using semiconductors and their applications
7. Explain the working of MOSFET
8. Stokes and anti-stokes lines
9. Different modes of radioactive decay
10. Difference between fluorescence and phosphorescence

Answer briefly: **(10x2=20)**

11. What are diffraction gratings
12. What is Brewster's law
13. Distinguish between voltmeter and ammeter
14. What is Rayleigh's scattering
15. What is radioactive decay
16. Name four basic forces of nature
17. How metals and non-metals are classified based on their band gap
18. Write four uses of optic fibres
19. Write four applications of radio waves
20. What are Eddy currents

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