

QP CODE:103018

Reg.No:

First Year B.Sc (MRT) Degree Examinations August 2018

General Physics and Electronics

Time: 3 Hours

Total Marks: 100

- Answer all Questions.
- Draw Diagrams wherever necessary.

Essays

(2x20=40)

1. Explain Fraunhofer diffraction due to single slit. Explain the basic difference between the diffraction spectrum of a single slit plane transmission grating.
2. Define radioactivity. Explain production of artificial radioactivity and its different modes of decay with example

Short notes:

(8x5=40)

3. Give the statement of Rayleigh criterion
4. State and explain Brewster's law of polarization
5. What is multi vibrator explain mono stable multi vibrator
6. Explain the working of Bridge Rectifier with suitable diagram.
7. Explain about He-Ne laser its production and its application
8. Explain about the transformer losses
9. Distinguish between self -induction and mutual induction
10. Distinguish between fluorescence and phosphorescence.

Answer briefly:

(10x2=20)

11. Difference between e.m.f and potential difference.
12. Distinguish between diffraction and interference.
13. Define magnetic susceptibility. Give an expression.
14. The principal of optical fiber and its two applications.
15. Why AC current is preferred for long distance transmission.
16. Distinguish between conductor and insulator on the band theory of solids
17. Define single and three phase circuit with diagram
18. What are eddy currents and its demerits.
19. State the condition that must be satisfied for the light sources to be coherent
20. Derive the expression when three resistance are connected in parallel
