

# Question Paper

Exam Date & Time: 11-Jan-2023 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER B.Sc. RADIOTHERAPY TECHNOLOGY DEGREE EXAMINATION - JANUARY 2023  
SUBJECT: RTT1101 - BASIC PHYSICS  
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- |     |                                                                                                    |      |
|-----|----------------------------------------------------------------------------------------------------|------|
| 1)  | Briefly explain Newton laws of motion with example.                                                | (20) |
| 2)  | Elucidate fundamental laws of electricity with principle of semiconductors and wave rectification. | (20) |
| 3)  | Electromagnetic waves and its properties.                                                          | (10) |
| 4)  | Laws of conservation of linear momentum.                                                           | (10) |
| 5A) | Write a short note on Systems of unit.                                                             | (5)  |
| 5B) | Mention the Methods of reducing friction.                                                          | (5)  |
| 5C) | Explain the Errors in measurements.                                                                | (5)  |
| 5D) | Explain the concept of Mutual induction and Self-induction                                         | (5)  |
| 5E) | Briefly explain Transformer energy loss.                                                           | (5)  |
| 5F) | Write a short note on P-N junction diode.                                                          | (5)  |
| 6A) | Define Coulomb's law of electricity.                                                               | (2)  |
| 6B) | Define Radioactivity.                                                                              | (2)  |
| 6C) | Define Friction.                                                                                   | (2)  |
| 6D) | Mention ANY THREE Dimensionless quantities.                                                        | (2)  |
| 6E) | Define Thermionic emission.                                                                        | (2)  |

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