

DEPARTMENT OF PHYSICS, R. S. MORE COLLEGE, GOVINDUR
B.Sc. PHYSICS (GE) SEMESTER-I (2020-23, 2021-24)
ASSIGNMENT FOR INTERNAL EXAMINATION
PHY-G.E.-1. T. MECHANICS

Full Marks: 10

Answer any **TWO** questions of the following

1. State and prove the Kepler's laws of planetary motion.
2. Deduce an expression for kinetic and potential energy for a particle executing simple harmonic motion (S.H.M.). Show that total energy in S.H.M. remains constant.
3. Using Lorentz transformation equations discuss the concept of time dilation and length contraction.

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B.Sc. PHYSICS (GE) SEMESTER-I (2020-23, 2021-24)
ASSIGNMENT FOR INTERNAL EXAMINATION
PHY-G.E.-1. P. (PRACTICAL)

Full Marks: 05

Give the underlying theory, necessary diagram, procedure and relevant precautions of **any one** of the following experiments:

1. Measurements of length (or diameter) using vernier caliper, screw gauge and travelling microscope.
2. Determination of value of acceleration due to gravity g by Bar Pendulum.

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DEPARTMENT OF PHYSICS, R. S. MORE COLLEGE, GOVINDUR
B.Sc. PHYSICS (GE) SEMESTER-II (2020-23, 2021-24, 2022-23, 2023-24, 2024-25)
ASSIGNMENT FOR INTERNAL EXAMINATION
PHY-G.E.-2. T. ELECTRICITY & MAGNETISM

Full Marks: 10

Answer any TWO questions of the following

1. State and prove Gauss's law in electrostatics.
2. State Biot-Savart's law and apply it to find the expression for magnetic field at a point due to a straight current carrying conductor.
3. Establish Maxwell's relations for electromagnetic field and explain their physical meaning.

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B.Sc. PHYSICS (GE) SEMESTER-II (2020-23, 2021-24, 2022-23, 2023-24, 2024-25)
ASSIGNMENT FOR INTERNAL EXAMINATION
PHY-G.E.-2. P. (PRACTICAL)

Full Marks: 05

Give the underlying theory, necessary diagram, procedure and relevant precautions of any one of the following experiments:

1. Determination of a low resistance by Carey Foster's Bridge.
2. Verification of Thevenin's theorem.

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DEPARTMENT OF PHYSICS, R. S. MORE COLLEGE, GOVINDUR
B.Sc. PHYSICS (GE) SEMESTER-III (2020-23, 2021-24)

ASSIGNMENT FOR INTERNAL EXAMINATION
PHY-G.E.-3. T. THERMAL PHYSICS AND STATISTICAL MECHANICS

Full Marks: 10

Answer any **TWO** questions of the following

1. Describe first law of thermodynamics and use it to establish a relation between C_p and C_v .
2. Describe Carnot's cycle and obtain an expression for the efficiency of an ideal heat engine working between two temperatures T_1 and T_2 .
3. Deduce Maxwell-Boltzmann statistical distribution law clearly explaining the underlying assumptions

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DEPARTMENT OF PHYSICS, R. S. MORE COLLEGE, GOVINDUR

B.Sc. PHYSICS (GE) SEMESTER-III (2020-23, 2021-24)

ASSIGNMENT FOR INTERNAL EXAMINATION

PHY-GE-3. P. (PRACTICAL)

Full Marks: 05

Give the underlying theory, necessary diagram, procedure and relevant precautions of any **one** of the following experiments:

1. Measurement of Planck's constant using black body radiation.
2. Determination of the coefficient of thermal conductivity of a bad conductor by Lee and Charlton's disc method.

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(2020-23 & 2021-22)

DEPARTMENT OF PHYSICS, R. S. MORE COLLEGE, GOVINDUR
B.Sc. PHYSICS (GE) SEMESTER-IV (2020-23, 2021-22)

ASSIGNMENT FOR INTERNAL EXAMINATION

PHY-G.E.-4. T. WAVES & OPTICS

Full Marks: 10

Answer any **TWO** questions of the following

1. What are beats? Explain formation of beats analytically.
2. Discuss diffraction pattern produced by a narrow single slit.
3. What is polarization of light? Describe with theory production and detection of plane polarized light.

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(2020-23 & 2021-22)

DEPARTMENT OF PHYSICS, R. S. MORE COLLEGE, GOVINDUR
B.Sc. PHYSICS (GE) SEMESTER-IV (2020-23, 2021-22)

ASSIGNMENT FOR INTERNAL EXAMINATION

PHY-GE-4. P. (Practical)

Full Marks: 05

Give the underlying theory, necessary diagram, procedure and relevant precautions of any one of the following experiments:

1. Determination of the refractive Index of the material of a prism using sodium light.
2. Determination of wavelength of sodium light using Newton's Rings.

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