S.B. Roll No.......................................

APPLIED PHYSICS-II
2nd Exam/Common/2753/Jan'2022
(For 2018 Batch Onwards)

Duration: 1.15Hrs.   **M.Marks:25**

SECTION-A

Q1. Attempt any three questions.   **3x5=15**

    a. Define refraction of light waves. Give laws of refraction.
    b. Differentiate between progressive and stationery waves.
    c. State and explain Kirchhoff's laws of electricity.
    d. Differentiate between e m f and potential difference.
    e. Write properties of electric lines of force.
    f. Differentiate between intrinsic and extrinsic semiconductors
    g. Define electromagnetic induction. Also state and explain Faraday's laws of electromagnetic induction.
    h. Describe construction and working of Ruby laser.

SECTION-B

Attempt any one question.   **1x10=10**

Q2. a) Define Wave Motion. Write difference between Mechanical and Non-Mechanical Waves
                                                    7

    b) A tunning fork makes one complete vibration in 1/200 second and the velocity of sound waves is 340 m/s. Find the wave length of the sound given out by the tuning fork.   **3**

Q3. a) Explain Simple Microscope by drawing a ray diagram for it. Also write its construction, working and derive formula for its magnifying power.   **7**

    b) Refractive index of glass is 1.5. If the speed of light in vacuum is 3×10^8 m/s, then find speed of light in glass?   **3**

Q4. Explain how will you convert a galvanometer into voltmeter of given range.   **10**

Q5. a) Derive the expression for capacity of a parallel plate capacitor.   **5**

    b) Write Coulomb's Laws of electrostatics.   **5**