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PG CBCS
M.Sc. Semester-II Examination, 2021
PHYSICS
 PAPER: C-PHS 204
CONCEPTS OF PHYSICS: INVENTIONS AND APPLICATION (CBCS)

Full Marks: 40

Time: 2 Hour

Answer any FOUR questions from the following:

4×10=40

1. What do you mean by inertia of a system? What is Newtons law of gravity? What is the *gravitational force* that the sun exerts on the earth? ($M_e = 5.98 \times 10^{24}$ and $M_s = 1.99 \times 10^{30}$ and the earth-sun distance is 1.5×10^{11} meters) 3+3+4
2. Describe Kepler's laws of planetary motion. Explain Archimedes' principle. Explain Atomic theory of matter by Dalton. 4+3+3
3. What is Photoelectric effect described by Einstein? What do you mean by half life of a radio active material? What is the basic difference between alpha, beta and gamma decay. 3+3+4
4. Why sky looks blue? What is the reason of redish colour of Sun at the time of sun rise and Sun set? Write down basic laws of refraction of light. 3+3+4
5. What do you mean by a super conductor? What is the difference between a perfect conductor and a superconductor? What do you mean by magnetic levitation? 3+3+4
6. Describe the working principal of a microwave oven. Draw a diagram showing transparency in different region of electromagnetic spectrum from radio to gammay-rays. 5+5
7. Describe working principal of a Generator. With a block diagram, describe all stages of a typical FM transmitter. 4+6
8. Describe the basic idea of Magneto Resonance Imaging (MRI). Describe Photo dynamical Therapy (PDT). 5+5