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Roll No

PH-110-CBCS
B.E. I & II Semester
Examination, June 2020
Choice Based Credit System (CBCS)
Physics
Time : Three Hours
Maximum Marks : 60

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Define the gradient of a Scalar field.
b) State and prove the Gauss's Divergence theorem.
2. a) Define black body radiation.
b) Explain the formation of discrete energy levels by analysing particle in a box.
3. a) Establish relation between Einstein A and B coefficients.
Also give the importance.
b) Explain Ruby laser in details.
4. a) Explain 'hall effect'. Derive the expression for hall coefficient.
b) Draw the V-I characteristics of photodiode in forward and reverse bias.
5. a) Explain working of a He-Ne laser.
b) Discuss Maxwell's equations.

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6. Discuss Compton Effect.

OR

Explain Young's double slit experiment.

7. a) Define Numerical aperture.

b) Explain the fiber optic communication system with block diagram.

8. Write short notes on : (Any two)

a) Nuclear fission

b) Photovoltaic cell

c) Uncertainty principle.
