



AJ-16049

Seat No. _____

Second Year B. Sc. (Sem. III) (Non CBCS) Examination

March / April – 2016

P-301 : Physics : Paper - III

Time : 3 Hours]

[Total Marks : 75

- Instructions :** (1) All questions are compulsory.
(2) Symbols have their usual meaning.
(3) Right side figures indicates marks.

- 1 (a) Derive the Poiseuille formula for the rate of flow of liquid through a capillary tube. 10
(b) Explain : Reynold's Number 5

OR

- 1 (a) Derive a different expressions for change in entropy of an ideal gas. 10
(b) Explain : Entropy. 5
- 2 (a) Derive the Plank's distribution law for the radiant energy and explain all the aspects of black body radiation. 10
(b) Explain : Important properties of radiant heat. 5

OR

- 2 (a) Derive an expression for the potential and electric field due to electric dipole. 10
(b) Explain : The potential of charge sphere. 5
- 3 (a) Explain the characteristic and behavior of Paramagnetic, Diamagnetic and Ferromagnetic substance. 10
(b) Explain : Magnetic field due to solenoid. 5

OR

- 3 (a) Describe Michelson-Morley experiment and discuss its results. 10
(b) Explain : Mass energy relationship. 5

4 (a) What is biasing? Explain the voltage divider biasing method and its merits. 10

(b) Explain : "Stability factor". 5

OR

4 (a) Describe the Phase reversal in CE transistor amplifier, give its graphical representation. 10

(b) Explain : Classification of amplifiers. 5

5 Write notes : (any three) 15

(1) Hall effect.

(2) Preparation of Radio elements.

(3) Frequency response of RC coupled transistor amplifier.

(4) Electric field around a charge sphere.

(5) Applications of Radioisotopes.
