

Question for Internal exam for generic II (Special)

SEM- I Physics (Generic)

Answer any two questions: -

F.M= 2x5= 10

1. Define Scaler and Vector product of two vectors.
2. State and prove work energy theorem.
3. What do you mean by Hook's law? Define different types of elastic constants.
4. What are the postulates of special theory of relativity?

SEM-I (Practical)

Answer any one.

F.M=5

1. Write the theory and working formula for the determination of acceleration due to gravity 'g' by Kater's pendulum.
2. How can you measure the length and diameter of a short cylindrical body using Vernier Caliper apparatus?

Question for internal exam of generic II (Special)

Sem- II Physics (Generic)

A. Answer any two questions: -

F.M= 2x5= 10

1. State and prove Gauss's theorem in electrostatics.
2. What do you mean by Biot-savart's law? Find the expression for a magnetic field intensity at any point near a current carrying conductor.
3. State the laws of Faraday's in electromagnetic induction. Also explain Lenz's law.
4. Find the expression for electric potential at any point due to an electric dipole.

SEM- II PHYSICS (Generic) Practical

Answer any one: -

F.M= 5

1. How you compare the capacitances of two capacitors using De' sauty bridge?
2. What are Thevenin and Norton theorems?
3. What are superposition and maximum power transfer theorems?

SEM-III Subject- Physics (Generic)

Answer any two questions: -

F.M= 2x5= 10

1. State and deduce law of equipartition of energy?
2. Define mean free path and derive Maxwell's expression for it.
3. Define Maxwell's thermodynamic relations.
4. State and prove Stefan Boltzmann law of black body radiation.

SEM- III Subject- Physics (Generic) Practical

F.M= 5

Answer any one: -

1. How we determine the thermal conductivity of copper by Searle's apparatus?
2. How you determine the thermal conductivity of bad conductor by Lee disc method?

SEM-IV (Theory)

Answer any two questions: -

F.M= 2x5= 10

1. Derive Poiseuille's formula for the determination of co-efficient of viscosity of a liquid.
2. What do you mean by group velocity and phase velocities?
3. What are Fresnel's half period zones? Explain the rectilinear propagation of light on the basis of half period zones.
4. Describe the construction and working of a Michelson's interferometer.

SEM-IV (Practical)

Answer any one: -

F.M= 5

1. How you determine the refractive index of material of prism using sodium light?
2. Write the theory for determination of wavelength of sodium light using Newton's Ring.