

Internal questions of physics (Hm)

Modimate

Date

Page

Semester (6) (2019-2022)

Core paper (13)

Answer any two questions

2x5=10

1. Define 'displacement current' and discuss Maxwell's modification to Ampere's Law.
2. Define specific rotation and molecular rotation and also state Biot's Law of rotatory Polarisation.
3. Obtain the boundary conditions satisfied by electromagnetic field vectors \vec{E} , \vec{V} , \vec{B} and \vec{H} on the plane interface between two media.
4. What do you mean by Double refraction? What are ordinary and extra ordinary rays?

Internal Questions for physics (Hem)

Modimate

Date _____

Page _____

Semester VI (2017-2022)

Core paper (14)

Answer any two questions

2x5 = (10)

- (1) What is a Black body? Write short notes on the distribution of energy in the spectrum of a Black body.
- (2) Define and explain the term macrostate and microstate. Illustrate the distribution of four particles in two compartments.
- (3) Assuming Planck's Law derive (i) Rayleigh-Jeans Law (ii) Wien-displacement law.
- (4) State Stephen Boltzmann's Law of black body radiation and establish Newton's Law of cooling.

Questions for Internal exam

Modimate

Date _____

Page _____

B. Sc. Sem VI (2020-2023)

Phys (Hons.) DSE-3

Answer any two questions

2X5 = (10)

- (1) State and explain Hamiltonian's principle.
- (2) What are generalised coordinates? What is the advantage of using them?
- (3) What is meant by relativistic 'length contraction'?
- (4) What is meant by time dilatation in theory of relativity.
- (5) State two postulates of special theory of relativity.

Questions for Internal Exam

Modimate

Date _____

Page _____

B.Sc. sem VI physics (Hons)
(2019-2022)

DSE - (4)

Answer any two questions

- ① Describe the construction and working of a Van de Graaff generator.
- ② Describe the theory of α -decay from inside a nucleus.
- ③ Describe the Fermi gas model of the nucleus.
- ④ Explain the term mass defect, packing fraction and binding energy of nucleus and binding energy per nucleon.