



60965

Reg.No.

--	--	--	--	--	--	--	--

II Semester M.Sc. Degree Examination, November - 2022

PHYSICS

EXPERIMENTAL TECHNIQUES IN PHYSICS

(CBCS -2018 Scheme)

Paper : 205

Time : 3 Hours

Maximum Marks : 70

Instruction : All Parts are Compulsory.

PART - A

Answer any Six of the following.

(6×5=30)

1. What precaution should be taken in radiation zone for the health and safety aspects?
2. Explain types of experimental errors.
3. Explain Chi-square test.
4. Explain the working of Penning gauge with a neat diagram.
5. Describe the experimental procedure for any one technique of thin film preparation.
6. Define vacuum pump, classify the vacuum pumps based on degree of vacuum.
7. What are Josephson junctions? How do they work?
8. Explain the Doppler Effect used in Laser cooling of atoms.
9. Describe the phenomenon of Bose-Einstein condensation.

PART - B

Answer any Four of the following.

(4×10=40)

10. a) Explain general static testing standards.
b) Outline general laboratory and workshop practices.
11. Explain the principle and working of transducers.
12. Describe with a neat sketch the construction and working of rotary and diffusion pumps in production of rough and high vacuum.

[P.T.O.]





(2)

60965

13. Explain in detail the working principle of Resistance thermometer, State any two advantages of RTDs over thermocouple.
14. Explain parity violation. Describe Wu experiment to demonstrate parity violation in beta decay.
15. Explain in detail the recoilless emission and absorption of gamma rays in solids.

