

DEPARTMENT OF PHYSICS



R.C.S. COLLEGE, MANJHAUL

(A CONSTITUENT UNIT OF L.N. MITHILA UNIVERSITY, DARBHANGA)

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Email ID : principalrcscollege@gmail.com | www.rcscollege.ac.in

Ph. : +91 8544513326



Ref. No.

Date16/08/2026.....

Assignment-MJCPHY10

Subject: Physics

Name of the Course: -**Analytical Mechanics and Special Theory of Relativity**

Course Code: **MJCPHY10**

Semester: **Semester-VI**, Session: **2023-2027**

Answer all questions.

Q.1

Explain Holonomic and Non-Holonomic constraints.

Q.2

Derive Lagrange's equation of motion using D'Alembert's principle.

Q.3

What are generalized and cyclic coordinates? Explain with one example for each.

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Assignment-MJCPHY11

Subject: **Physics**

Name of the Course: - **Statistical Mechanics**

Course Code: **MJCPHY11**

Semester: **Semester-VI**, Session: **2023-2027**

Answer all questions.

Q.1

Explain, how a thermodynamic probability of a system is different from the conventional probability of an event ?.

Q.2

When is a gas called degenerate? How is a completely degenerate Fermi gas is different from a completely degenerate Bose gas?

Q.3

What are the basic assumptions of Plank's theory of Blackbody radiation? Derive Plank's radiation formula treating radiation as a collection of oscillators.

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Assignment-MJCPHY12

Subject: Physics

Name of the Course: -**Quantum Mechanics and its applications**

Course Code: **MJCPHY12**

Semester: **Semester-VI**, Session: **2023-2027**

Answer all questions.

Q.1

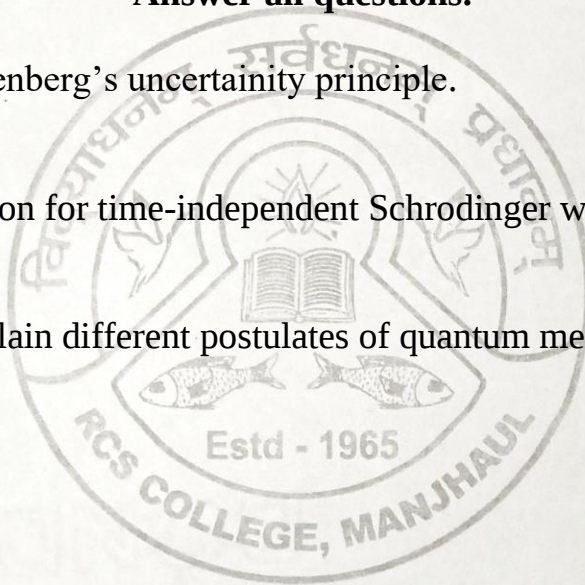
Explain Heisenberg's uncertainty principle.

Q.2

Derive equation for time-independent Schrodinger wave equation.

Q.3

State and explain different postulates of quantum mechanics.



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Assignment-MICPHY07

Subject: **Physics**

Name of the Course: - **Optics**

Course Code: **MICPHY07**

Semester: **Semester-VI**, Session: **2023-2027**

Answer all questions.

Q.1

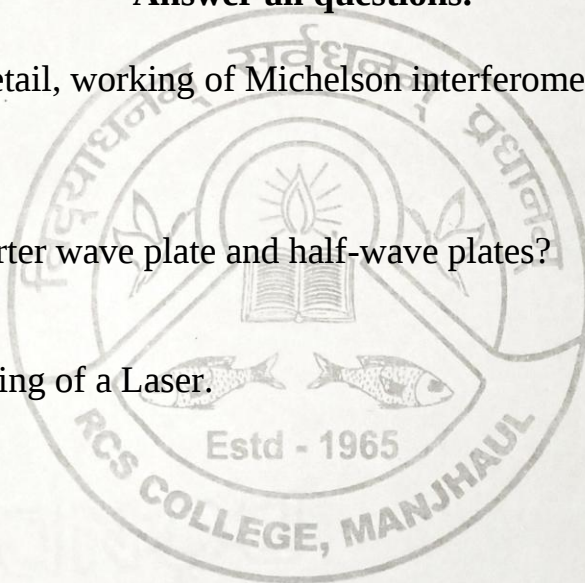
Explain, in detail, working of Michelson interferometer and its application.

Q.2

What are quarter wave plate and half-wave plates?

Q.3

Explain working of a Laser.



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Assignment-MICPHY08

Subject: Physics

Name of the Course: - Elements of Modern Physics

Course Code: MICPHY08

Semester: Semester-VI, Session: 2023-2027

Answer all questions.

Q.1

Explain Heisenberg's uncertainty principle.

Q.2

Discuss Einstein's theory of Photoelectric effect.

Q.3

What is radioactivity? Explain law of radioactive decay.

