

**UNIVERSIDAD LATINOAMERICANA**

**Nombre del Alumno: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Grupo: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sección: \_\_\_\_\_\_\_\_\_\_\_\_\_**

**BITÁCORA DE LABORATORIO**

**FÍSICA III**

 **Profesores Titulares: Fís. Beatriz Argumedo Uribe**

 **M. en I. Gabriel Fco. Fabregat Paredes**

 **Laboratorista: Ing. María Estela Oropeza Ruiz**

Campus Valle

Clave de Incorporación 1183

Preparatoria

Ciclo Escolar 2014 - 2015

4to año

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**UNIVERSIDAD LATINOAMERICANA**

Plantel Preparatoria

CLAVE INC. UNAM 1183

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| **PROTOCOLO DE PRÁCTICAS** |
| 1. **Datos generales**
 |
| **Ciclo escolar:** 2014-2015 **Institución:** Universidad Latinoamericana **Clave:** 1183 |
| **Asignatura:** Física III  **Clave:** 1401 |
| **Profesores Titulares**: M. I. Gabriel Fco. Fabregat Paredes  Fís. Beatriz Argumedo Uribe**Laboratorista**: Ing. María Estela Oropeza Ortiz |
| **Grupos:** 4010,4020,4030,4040, 4050,4060, 4070, 4080, 4090, 4100  **Sección:** A y B

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| **Grupo** | **Sección** | **Horario** |
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| **Práctica No**. 1 **Unidad**: I **Temática:** Introducción a la medición. |
| **Nombre de la práctica:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Número de sesiones que se utilizarán para esta práctica:**  4 |

**1a SESIÓN**

1. **Equipo número:\_\_\_\_\_\_\_\_\_**
2. **Marco Teórico.**

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1. **Planteamiento del problema.**

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1. **Objetivo de la práctica.**

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1. **Hipótesis.**

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1. **Plan de Investigación.**

Tipo de investigación:

 Experimental ( **X** ) De campo ( ) Observación ( ) Documental (  )

Instrumentos de investigación:

Libro de texto para la asignatura de Física III, Internet.

Programa de actividades:

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| **Actividad** | **Fecha** |
| Metodología de trabajo |  |
| Marco Teórico (1a SESIÓN) |  |
| Fase Experimental (2a SESIÓN) |  |
| Análisis y discusión de resultados (3a SESIÓN) |  |

**2a SESIÓN**

1. **Material, equipo y sustancias.**

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1. **Manejo y disposición de desechos.**

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1. **Identificación de Variables.**

Variable dependiente:

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Variable independiente:

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1. **Procedimiento.**

Para realizar esta sección, el alumno deberá relatar paso a paso cómo se realizó la fase experimental y que por medio de un dibujo bien elaborado demuestre la representación física del experimento.

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| Relato | Dibujo |
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1. **Resultados (Tablas y/o gráficas).**

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**3a SESIÓN**

1. **Análisis y discusión de resultados.**

Discusión:

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Cálculos Matemáticos:

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1. **Conclusiones.**

Individual:

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Equipo:

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1. **Autoevaluación.**

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1. **Observaciones.**

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1. **Bibliografía.**

Nombre del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nombre del autor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Editorial: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas electrónicas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**UNIVERSIDAD LATINOAMERICANA**

Plantel Preparatoria

CLAVE INC. UNAM 1183

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| **PROTOCOLO DE PRÁCTICAS** |
| 1. **Datos generales**
 |
| **Ciclo escolar:** 2014-2015 **Institución:** Universidad Latinoamericana **Clave:** 1183 |
| **Asignatura:** Física III  **Clave:** 1401 |
| **Profesores Titulares**: M. I. Gabriel Fco. Fabregat Paredes  Fís. Beatriz Argumedo Uribe**Laboratorista**: Ing. María Estela Oropeza Ortiz |
| **Grupos:** 4010,4020,4030,4040, 4050,4060, 4070, 4080, 4090, 4100  **Sección:** A y B

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| --- | --- | --- |
| **Grupo** | **Sección** | **Horario** |
|  |  |  |

 |
| **Práctica No**. 2 **Unidad**: I **Temática:** Movimiento: Fuerza, velocidad y aceleración. |
| **Nombre de la práctica:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Número de sesiones que se utilizarán para esta práctica:**  3 |

**1a SESIÓN**

1. **Equipo número:\_\_\_\_\_\_\_\_\_**
2. **Marco Teórico.**

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1. **Planteamiento del problema.**

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1. **Objetivo de la práctica.**

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1. **Hipótesis.**

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1. **Plan de Investigación.**

Tipo de investigación:

 Experimental ( **X** ) De campo ( ) Observación ( ) Documental (  )

Instrumentos de investigación:

Libro de texto para la asignatura de Física III, Internet.

Programa de actividades:

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| **Actividad** | **Fecha** |
| Marco Teórico (1a SESIÓN) |  |
| Fase Experimental (2a SESIÓN) |  |
| Análisis y discusión de resultados (3a SESIÓN) |  |

**2a SESIÓN**

1. **Material, equipo y sustancias.**

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1. **Manejo y disposición de desechos.**

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1. **Identificación de Variables.**

Variable dependiente:

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Variable independiente:

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1. **Procedimiento.**

Para realizar esta sección, el alumno deberá relatar paso a paso cómo se realizó la fase experimental y que por medio de un dibujo bien elaborado demuestre la representación física del experimento.

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| Relato | Dibujo |
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1. **Resultados (Tablas y/o gráficas).**

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**3a SESIÓN**

1. **Análisis y discusión de resultados.**

Discusión:

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Cálculos Matemáticos:

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1. **Conclusiones.**

Individual:

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Equipo:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Autoevaluación.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Observaciones.**

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1. **Bibliografía.**

Nombre del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nombre del autor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Editorial: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas electrónicas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**UNIVERSIDAD LATINOAMERICANA**

Plantel Preparatoria

CLAVE INC. UNAM 1183

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| --- |
| **PROTOCOLO DE PRÁCTICAS** |
| 1. **Datos generales**
 |
| **Ciclo escolar:** 2014-2015 **Institución:** Universidad Latinoamericana **Clave:** 1183 |
| **Asignatura:** Física III  **Clave:** 1401 |
| **Profesores Titulares**: M. I. Gabriel Fco. Fabregat Paredes  Fís. Beatriz Argumedo Uribe**Laboratorista**: Ing. María Estela Oropeza Ortiz |
| **Grupos:** 4010,4020,4030,4040, 4050,4060, 4070, 4080, 4090, 4100  **Sección:** A y B

|  |  |  |
| --- | --- | --- |
| **Grupo** | **Sección** | **Horario** |
|  |  |  |

 |
| **Práctica No**. 3 **Unidad**: II **Temática:** Trabajo y energía. |
| **Nombre de la práctica:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Número de sesiones que se utilizarán para esta práctica:**  3 |

**1a SESIÓN**

1. **Equipo número:\_\_\_\_\_\_\_\_\_**
2. **Marco Teórico.**

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1. **Planteamiento del problema.**

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1. **Objetivo de la práctica.**

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1. **Hipótesis.**

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1. **Plan de Investigación.**

Tipo de investigación:

 Experimental ( **X** ) De campo ( ) Observación ( ) Documental (  )

Instrumentos de investigación:

Libro de texto para la asignatura de Física III, Internet.

Programa de actividades:

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| --- | --- |
| **Actividad** | **Fecha** |
| Marco Teórico (1a SESIÓN) |  |
| Fase Experimental (2a SESIÓN) |  |
| Análisis y discusión de resultados (3a SESIÓN) |  |

**2a SESIÓN**

1. **Material, equipo y sustancias.**

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1. **Manejo y disposición de desechos.**

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1. **Identificación de Variables.**

Variable dependiente:

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Variable independiente:

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1. **Procedimiento.**

Para realizar esta sección, el alumno deberá relatar paso a paso cómo se realizó la fase experimental y que por medio de un dibujo bien elaborado demuestre la representación física del experimento.

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| Relato | Dibujo |
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1. **Resultados (Tablas y/o gráficas).**

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**3a SESIÓN**

1. **Análisis y discusión de resultados.**

Discusión:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cálculos Matemáticos:

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1. **Conclusiones.**

Individual:

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Equipo:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Autoevaluación.**

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1. **Observaciones.**

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1. **Bibliografía.**

Nombre del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nombre del autor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Editorial: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas electrónicas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**UNIVERSIDAD LATINOAMERICANA**

Plantel Preparatoria

CLAVE INC. UNAM 1183

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| **PROTOCOLO DE PRÁCTICAS** |
| 1. **Datos generales**
 |
| **Ciclo escolar:** 2014-2015 **Institución:** Universidad Latinoamericana **Clave:** 1183 |
| **Asignatura:** Física III  **Clave:** 1401 |
| **Profesores Titulares**: M. I. Gabriel Fco. Fabregat Paredes  Fís. Beatriz Argumedo Uribe**Laboratorista**: Ing. María Estela Oropeza Ortiz |
| **Grupos:** 4010,4020,4030,4040, 4050,4060, 4070, 4080, 4090, 4100  **Sección:** A y B

|  |  |  |
| --- | --- | --- |
| **Grupo** | **Sección** | **Horario** |
|  |  |  |

 |
| **Práctica No**. 4 **Unidad**: III **Temática:** Equilibrio térmico. Termometría y calorimetría. |
| **Nombre de la práctica:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Número de sesiones que se utilizarán para esta práctica:**  3 |

**1a SESIÓN**

1. **Equipo número:\_\_\_\_\_\_\_\_\_**
2. **Marco Teórico.**

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Planteamiento del problema.**

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1. **Objetivo de la práctica.**

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1. **Hipótesis.**

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1. **Plan de Investigación.**

Tipo de investigación:

 Experimental ( **X** ) De campo ( ) Observación ( ) Documental (  )

Instrumentos de investigación:

Libro de texto para la asignatura de Física III, Internet.

Programa de actividades:

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| --- | --- |
| **Actividad** | **Fecha** |
| Marco Teórico (1a SESIÓN) |  |
| Fase Experimental (2a SESIÓN) |  |
| Análisis y discusión de resultados (3a SESIÓN) |  |

**2a SESIÓN**

1. **Material, equipo y sustancias.**

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1. **Manejo y disposición de desechos.**

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1. **Identificación de Variables.**

Variable dependiente:

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Variable independiente:

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1. **Procedimiento.**

Para realizar esta sección, el alumno deberá relatar paso a paso cómo se realizó la fase experimental y que por medio de un dibujo bien elaborado demuestre la representación física del experimento.

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| Relato | Dibujo |
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1. **Resultados (Tablas y/o gráficas).**

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**3a SESIÓN**

1. **Análisis y discusión de resultados.**

Discusión:

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Cálculos Matemáticos:

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1. **Conclusiones.**

Individual:

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Equipo:

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1. **Autoevaluación.**

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1. **Observaciones.**

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1. **Bibliografía.**

Nombre del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nombre del autor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Editorial: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas electrónicas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**UNIVERSIDAD LATINOAMERICANA**

Plantel Preparatoria

CLAVE INC. UNAM 1183

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| **PROTOCOLO DE PRÁCTICAS** |
| 1. **Datos generales**
 |
| **Ciclo escolar:** 2014-2015 **Institución:** Universidad Latinoamericana **Clave:** 1183 |
| **Asignatura:** Física III  **Clave:** 1401 |
| **Profesores Titulares**: M. I. Gabriel Fco. Fabregat Paredes  Fís. Beatriz Argumedo Uribe**Laboratorista**: Ing. María Estela Oropeza Ortiz |
| **Grupos:** 4010,4020,4030,4040, 4050,4060, 4070, 4080, 4090, 4100  **Sección:** A y B

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| --- | --- | --- |
| **Grupo** | **Sección** | **Horario** |
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| **Práctica No**. 5 **Unidad**: III **Temática:** Electricidad. Circuitos eléctricos, en serie y en paralelo. |
| **Nombre de la práctica:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Número de sesiones que se utilizarán para esta práctica:**  3 |

**1a SESIÓN**

1. **Equipo número:\_\_\_\_\_\_\_\_\_**
2. **Marco Teórico.**

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1. **Planteamiento del problema.**

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1. **Objetivo de la práctica.**

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1. **Hipótesis.**

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1. **Plan de Investigación.**

Tipo de investigación:

 Experimental ( **X** ) De campo ( ) Observación ( ) Documental (  )

Instrumentos de investigación:

Libro de texto para la asignatura de Física III, Internet.

Programa de actividades:

|  |  |
| --- | --- |
| **Actividad** | **Fecha** |
| Marco Teórico (1a SESIÓN) |  |
| Fase Experimental (2a SESIÓN) |  |
| Análisis y discusión de resultados (3a SESIÓN) |  |

**2a SESIÓN**

1. **Material, equipo y sustancias.**

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1. **Manejo y disposición de desechos.**

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1. **Identificación de Variables.**

Variable dependiente:

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Variable independiente:

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1. **Procedimiento.**

Para realizar esta sección, el alumno deberá relatar paso a paso cómo se realizó la fase experimental y que por medio de un dibujo bien elaborado demuestre la representación física del experimento.

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| Relato | Dibujo |
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1. **Resultados (Tablas y/o gráficas).**

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**3a SESIÓN**

1. **Análisis y discusión de resultados.**

Discusión:

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Cálculos Matemáticos:

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1. **Conclusiones.**

Individual:

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Equipo:

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1. **Autoevaluación.**

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1. **Observaciones.**

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1. **Bibliografía.**

Nombre del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nombre del autor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Editorial: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas electrónicas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**UNIVERSIDAD LATINOAMERICANA**

Plantel Preparatorio

CLAVE INC. UNAM 1183

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| **PROTOCOLO DE PRÁCTICAS** |
| 1. **Datos generales**
 |
| **Ciclo escolar:** 2014-2015 **Institución:** Universidad Latinoamericana **Clave:** 1183 |
| **Asignatura:** Física III  **Clave:** 1401 |
| **Profesores Titulares**: M. I. Gabriel Fco. Fabregat Paredes  Fís. Beatriz Argumedo Uribe**Laboratorista**: Ing. María Estela Oropeza Ortiz |
| **Grupos:** 4010,4020,4030,4040, 4050,4060, 4070, 4080, 4090, 4100  **Sección:** A y B

|  |  |  |
| --- | --- | --- |
| **Grupo** | **Sección** | **Horario** |
|  |  |  |

 |
| **Práctica No**. 6 **Unidad**: IV **Temática:** Campos eléctricos y magnéticos. |
| **Nombre de la práctica:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Número de sesiones que se utilizarán para esta práctica:**  3 |

**1a SESIÓN**

1. **Equipo número:\_\_\_\_\_\_\_\_\_**
2. **Marco Teórico.**

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1. **Planteamiento del problema.**

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1. **Objetivo de la práctica.**

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1. **Hipótesis.**

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1. **Plan de Investigación.**

Tipo de investigación:

 Experimental ( **X** ) De campo ( ) Observación ( ) Documental (  )

Instrumentos de investigación:

Libro de texto para la asignatura de Física III, Internet.

Programa de actividades:

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| **Actividad** | **Fecha** |
| Marco Teórico (1a SESIÓN) |  |
| Fase Experimental (2a SESIÓN) |  |
| Análisis y discusión de resultados (3a SESIÓN) |  |

**2a SESIÓN**

1. **Material, equipo y sustancias.**

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1. **Manejo y disposición de desechos.**

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1. **Identificación de Variables.**

Variable dependiente:

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Variable independiente:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Procedimiento.**

Para realizar esta sección, el alumno deberá relatar paso a paso cómo se realizó la fase experimental y que por medio de un dibujo bien elaborado demuestre la representación física del experimento.

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| Relato | Dibujo |
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1. **Resultados (Tablas y/o gráficas).**

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**3a SESIÓN**

1. **Análisis y discusión de resultados.**

Discusión:

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Cálculos Matemáticos:

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1. **Conclusiones.**

Individual:

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Equipo:

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1. **Autoevaluación.**

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1. **Observaciones.**

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1. **Bibliografía.**

Nombre del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nombre del autor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Editorial: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas electrónicas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**UNIVERSIDAD LATINOAMERICANA**

Plantel Preparatorio

CLAVE INC. UNAM 1183

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| **PROTOCOLO DE PRÁCTICAS** |
| 1. **Datos generales**
 |
| **Ciclo escolar:** 2014-2015 **Institución:** Universidad Latinoamericana **Clave:** 1183 |
| **Asignatura:** Física III  **Clave:** 1401 |
| **Profesores Titulares**: M. I. Gabriel Fco. Fabregat Paredes  Fís. Beatriz Argumedo Uribe**Laboratorista**: Ing. María Estela Oropeza Ortiz |
| **Grupos:** 4010,4020,4030,4040, 4050,4060, 4070, 4080, 4090, 4100  **Sección:** A y B

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| --- | --- | --- |
| **Grupo** | **Sección** | **Horario** |
|  |  |  |

 |
| **Práctica No**. 7 **Unidad**: IV **Temática:** Fenómenos ondulatorios. La luz. |
| **Nombre de la práctica:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Número de sesiones que se utilizarán para esta práctica:**  3 |

**1a SESIÓN**

1. **Equipo número:\_\_\_\_\_\_\_\_\_**
2. **Marco Teórico.**

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1. **Planteamiento del problema.**

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1. **Objetivo de la práctica.**

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1. **Hipótesis.**

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1. **Plan de Investigación.**

Tipo de investigación:

 Experimental ( **X** ) De campo ( ) Observación ( ) Documental (  )

Instrumentos de investigación:

Libro de texto para la asignatura de Física III, Internet.

Programa de actividades:

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| **Actividad** | **Fecha** |
| Marco Teórico (1a SESIÓN) |  |
| Fase Experimental (2a SESIÓN) |  |
| Análisis y discusión de resultados (3a SESIÓN) |  |

**2a SESIÓN**

1. **Material, equipo y sustancias.**

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1. **Manejo y disposición de desechos.**

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1. **Identificación de Variables.**

Variable dependiente:

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Variable independiente:

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1. **Procedimiento.**

Para realizar esta sección, el alumno deberá relatar paso a paso cómo se realizó la fase experimental y que por medio de un dibujo bien elaborado demuestre la representación física del experimento.

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| Relato | Dibujo |
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1. **Resultados (Tablas y/o gráficas).**

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**3a SESIÓN**

1. **Análisis y discusión de resultados.**

Discusión:

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Cálculos Matemáticos:

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1. **Conclusiones.**

Individual:

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Equipo:

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1. **Autoevaluación.**

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1. **Observaciones.**

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1. **Bibliografía.**

Nombre del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nombre del autor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Editorial: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas electrónicas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**UNIVERSIDAD LATINOAMERICANA**

Plantel Preparatorio

CLAVE INC. UNAM 1183

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| **PROTOCOLO DE PRÁCTICAS** |
| 1. **Datos generales**
 |
| **Ciclo escolar:** 2014-2015 **Institución:** Universidad Latinoamericana **Clave:** 1183 |
| **Asignatura:** Física III  **Clave:** 1401 |
| **Profesores Titulares**: M. I. Gabriel Fco. Fabregat Paredes  Fís. Beatriz Argumedo Uribe**Laboratorista**: Ing. María Estela Oropeza Ortiz |
| **Grupos:** 4010,4020,4030,4040, 4050,4060, 4070, 4080, 4090, 4100  **Sección:** A y B

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| --- | --- | --- |
| **Grupo** | **Sección** | **Horario** |
|  |  |  |

 |
| **Práctica No**. 8 **Unidad**: V **Temática:** Estructura de la materia. Óptica. |
| **Nombre de la práctica:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Número de sesiones que se utilizarán para esta práctica:**  3 |

**1a SESIÓN**

1. **Equipo número:\_\_\_\_\_\_\_\_\_**
2. **Marco Teórico.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Planteamiento del problema.**

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1. **Objetivo de la práctica.**

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1. **Hipótesis.**

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1. **Plan de Investigación.**

Tipo de investigación:

 Experimental ( **X** ) De campo ( ) Observación ( ) Documental (  )

Instrumentos de investigación:

Libro de texto para la asignatura de Física III, Internet.

Programa de actividades:

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| **Actividad** | **Fecha** |
| Marco Teórico (1a SESIÓN) |  |
| Fase Experimental (2a SESIÓN) |  |
| Análisis y discusión de resultados (3a SESIÓN) |  |

**2a SESIÓN**

1. **Material, equipo y sustancias.**

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1. **Manejo y disposición de desechos.**

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1. **Identificación de Variables.**

Variable dependiente:

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Variable independiente:

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1. **Procedimiento.**

Para realizar esta sección, el alumno deberá relatar paso a paso cómo se realizó la fase experimental y que por medio de un dibujo bien elaborado demuestre la representación física del experimento.

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| Relato | Dibujo |
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1. **Resultados (Tablas y/o gráficas).**

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**3a SESIÓN**

1. **Análisis y discusión de resultados.**

Discusión:

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Cálculos Matemáticos:

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1. **Conclusiones.**

Individual:

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Equipo:

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1. **Autoevaluación.**

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1. **Observaciones.**

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1. **Bibliografía.**

Nombre del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nombre del autor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Editorial: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas del libro: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Páginas electrónicas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_