

**Dayanand Mahila Mahavidyalaya, Kurukshe**  
**Lesson Plan for UG First Year - NEP (Even Sem**

Session 2023-24 (16.02.2024 to 31.05.2024)

Name of Teacher: .....Mrs....Suman Rani.....

Subject.....Physics.....

| Day       | Date              | Class...B.Sc...1.....                                                                                                            |
|-----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------|
|           |                   | Semester...2nd.....                                                                                                              |
| Friday    | 16.02.2024        |                                                                                                                                  |
| Saturday  | 17.02.2024        |                                                                                                                                  |
| Monday    | 19.02.2024        | Unit 1: Gradient of a scalar and it's physical significance                                                                      |
| Tuesday   | 20.02.2024        |                                                                                                                                  |
| Wednesday | 21.02.2024        | Line, Surface and Volume integral of a vector and physical significance                                                          |
| Thursday  | 22.02.2024        | Flux of a vector field , Divergence and curl of a vector and their physical significance                                         |
| Friday    | 23.02.2024        |                                                                                                                                  |
| Saturday  | <b>24.02.2024</b> | <b>Guru Ravidas Jayanti</b>                                                                                                      |
| Monday    | 26.02.2024        | Gauss's divergence theorem, Stoke theorem                                                                                        |
| Tuesday   | 27.02.2024        |                                                                                                                                  |
| Wednesday | 28.02.2024        | Conservative nature of Electrostatic Field ,Electrostatic Potential                                                              |
| Thursday  | 29.02.2024        | Potential as line intergral of field, Potential difference Derivation of electric field E from potential as gradient             |
| Friday    | 01.03.2024        |                                                                                                                                  |
| Saturday  | 02.03.2024        |                                                                                                                                  |
| Monday    | 04.03.2024        | Derivation of Laplace and Poisson equations, Electric flux, Gauss law                                                            |
| Tuesday   | 05.03.2024        |                                                                                                                                  |
| Wednesday | 06.03.2024        | Differential form of Gauss law and application, Mechanical force of charged surface ,Energy per unit volume                      |
| Thursday  | 07.03.2024        | Unit 2: Biot Savart law and it's simple application: straight wire and circular loop, current loop as a Magnetic Dipole and it's |
| Friday    | <b>08.03.2024</b> | <b>Maha Shivratri</b>                                                                                                            |
| Saturday  | 09.03.2024        |                                                                                                                                  |
| Monday    | 11.03.2024        | Ampere's Circuital Law and it's application to 1) Solenoid ,2) Toroid, properties of B                                           |
| Tuesday   | 12.03.2024        |                                                                                                                                  |
| Wednesday | 13.03.2024        | Force on a dipole in an external field ,Electric currents in Atoms, Electron spin and Magnetic moment                            |

| Day                             | Date              | Class...B.Sc...1.....                                                                                                  |
|---------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------|
|                                 |                   | Semester...2nd.....                                                                                                    |
| Thursday                        | 14.03.2024        | Types of magnetic materials, Magnetization vector(M), Magnetic Intensity (H), magnetic susceptibility and permeability |
| Friday                          | 15.03.2024        |                                                                                                                        |
| Saturday                        | 16.03.2024        |                                                                                                                        |
| Monday                          | 18.03.2024        | Relation between B,H and M, Electronic theory of dia and paramagnetism                                                 |
| Tuesday                         | 19.03.2024        |                                                                                                                        |
| Wednesday                       | 20.03.2024        | Domain theory of ferromagnetism,Cycle of Magnetization                                                                 |
| Thursday                        | 21.03.2024        | Energy dissipation,Hysteresis loss and importance of Hysteresis curve                                                  |
| Friday                          | 22.03.2024        |                                                                                                                        |
| <b>23.03.2024 to 31.03.2024</b> |                   | <b>Holi Vacations</b>                                                                                                  |
| Monday                          | 01.04.2024        | Unit 3: Electromagnetic Induction,Faraday's law of induction and Lenz's law,self inductance                            |
| Tuesday                         | 02.04.2024        |                                                                                                                        |
| Wednesday                       | 03.04.2024        | Test                                                                                                                   |
| Thursday                        | 04.04.2024        | Mutual inductance, Energy stored in a magnetic field                                                                   |
| Friday                          | 05.04.2024        |                                                                                                                        |
| Saturday                        | 06.04.2024        |                                                                                                                        |
| Monday                          | 08.04.2024        | Derivation of Maxwell equations                                                                                        |
| Tuesday                         | 09.04.2024        |                                                                                                                        |
| Wednesday                       | 10.04.2024        | Displacement current                                                                                                   |
| Thursday                        | <b>11.04.2024</b> | <b>Id-UI-Fitr</b>                                                                                                      |
| Friday                          | 12.04.2024        |                                                                                                                        |
| Saturday                        | <b>13.04.2024</b> | <b>Vaisakhi/Chhath Puja</b>                                                                                            |
| Monday                          | 15.04.2024        | Maxwell equations in differential form and integral form                                                               |
| Tuesday                         | 16.04.2024        |                                                                                                                        |
| Wednesday                       | <b>17.04.2024</b> | <b>Ram Navami</b>                                                                                                      |
| Thursday                        | 18.04.2024        | Electromagnetic waves                                                                                                  |
| Friday                          | 19.04.2024        |                                                                                                                        |
| Saturday                        | 20.04.2024        |                                                                                                                        |
| Monday                          | 22.04.2024        | Transverse nature of electromagnetic wave                                                                              |

| Day       | Date       | Class...B.Sc...1.....                                                  |
|-----------|------------|------------------------------------------------------------------------|
|           |            | Semester...2nd.....                                                    |
| Tuesday   | 23.04.2024 |                                                                        |
| Wednesday | 24.04.2024 | Energy transported by electromagnetic waves,                           |
| Thursday  | 25.04.2024 | Poynting vector and poynting theorem                                   |
| Friday    | 26.04.2024 |                                                                        |
| Saturday  | 27.04.2024 |                                                                        |
| Monday    | 29.04.2024 | Propagation of Plane electromagnetic wave in free space and Dielectric |
| Tuesday   | 30.04.2024 |                                                                        |
| Wednesday | 01.05.2024 | Test                                                                   |
| Thursday  | 02.05.2024 | Unit 4: Electric current and current density                           |
| Friday    | 03.05.2024 |                                                                        |
| Saturday  | 04.05.2024 |                                                                        |
| Monday    | 06.05.2024 | Electrical conductivity and ohm's law                                  |
| Tuesday   | 07.05.2024 |                                                                        |
| Wednesday | 08.05.2024 | kirchoff law for D.C network                                           |
| Thursday  | 09.05.2024 | Network theorems                                                       |
| Friday    | 10.05.2024 | Parshuram Jayanti/Akshay T                                             |
| Saturday  | 11.05.2024 |                                                                        |
| Monday    | 13.05.2024 | Thevwnin's theorem                                                     |
| Tuesday   | 14.05.2024 |                                                                        |
| Wednesday | 15.05.2024 | Norton theorem, Superposition theorem                                  |
| Thursday  | 16.05.2024 | A resonance circuit                                                    |
| Friday    | 17.05.2024 |                                                                        |
| Saturday  | 18.05.2024 |                                                                        |
| Monday    | 20.05.2024 | Phasor,Complex Reactance and Impedance                                 |
| Tuesday   | 21.05.2024 | Analysis for RL,RC and LC circuits, Series LCR circuit                 |
| Wednesday | 22.05.2024 | Resonance                                                              |
| Thursday  | 23.05.2024 | Power Dissipation                                                      |
| Friday    | 24.05.2024 |                                                                        |

| Day       | Date       | Class...B.Sc...1.....          |
|-----------|------------|--------------------------------|
|           |            | Semester...2nd.....            |
| Saturday  | 25.05.2024 | Loksabha Election              |
| Monday    | 27.05.2024 | Quality Factory and Band width |
| Tuesday   | 28.05.2024 | Parallel LCR circuit           |
| Wednesday | 29.05.2024 | Revision                       |
| Thursday  | 30.05.2024 | Revision                       |
| Friday    | 31.05.2024 |                                |

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| <b>Class.....</b>    |
| <b>Semester.....</b> |
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**Dayanand Mahila Mahavidyalaya, Kurukshetra****Lesson Plan (Odd Semester)****Session 2024-25 (22.07.2024 to 22.11.2024)****Name of teacher: Mrs. Suman Rani****Subject.....Physics.....**

| <b>Date</b>       | <b>Class...B Sc 1.....</b>                                                      | <b>Class...B.sc 2nd.....</b>                                                                                             |
|-------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|                   | <b>Semester...1st.....</b>                                                      | <b>Semester...3rd.....</b>                                                                                               |
| 22.07.2024        | Orientation                                                                     | Unit 1 : Thermodynamic system, variable and equation of state                                                            |
| 23.07.2024        | Orientation                                                                     | Thermal equilibrium, Zeroth law of thermodynamics                                                                        |
| 24.07.2024        | Rigid body, M.O.I, Radius of Gyration                                           | Concept of heat, work and its path dependence                                                                            |
| 25.07.2024        | Theorem of parallel and perpendicular axis                                      | Law of thermodynamics, its significance and limitations                                                                  |
| 26.07.2024        |                                                                                 |                                                                                                                          |
| 27.07.2024        |                                                                                 |                                                                                                                          |
| 29.07.2024        | M.O.I of ring, Disc and Angular Disc                                            | Internal energy as a state function, different types process                                                             |
| 30.07.2024        | Solid cylinder and solid sphere                                                 | continue                                                                                                                 |
| <b>31.07.2024</b> | <b>Shaheed Udham Singh's Martyrdom Day</b>                                      |                                                                                                                          |
| 01.08.2024        | Hollow sphere, Rectangular plate                                                | First law of thermodynamics, Second law of thermodynamics and its significance                                           |
| 02.08.2024        |                                                                                 |                                                                                                                          |
| 03.08.2024        |                                                                                 |                                                                                                                          |
| 05.08.2024        | Square plate, Solid Cone                                                        | Carnot theorem                                                                                                           |
| 06.08.2024        | Triangular plate, Torque                                                        | Absolute scale of temperature, Absolute Zero and magnitude of each division on thermodynamic scale and perfect gas scale |
| 07.08.2024        | Rotational kinetic energy, Angular momentum                                     | Joule's free expansion, Joule Thomson effect                                                                             |
| 08.08.2024        | Law of conservation of angular momentum, Rolling motion                         | Porous Plug experiment, conclusion and explanation                                                                       |
| 09.08.2024        |                                                                                 |                                                                                                                          |
| 10.08.2024        |                                                                                 |                                                                                                                          |
| 12.08.2024        | Condition for pure rolling, Acceleration of body rolling down an inclined plane | Entropy, Calculation of entropy, Diagram                                                                                 |
| 13.08.2024        | Fly wheel                                                                       | Liquefaction of gases, solidification                                                                                    |
| 14.08.2024        | M.O.I of an irregular body                                                      | Solidification below 4K                                                                                                  |
| <b>15.08.2024</b> | <b>Independence Day</b>                                                         |                                                                                                                          |
| 16.08.2024        |                                                                                 |                                                                                                                          |
| 17.08.2024        |                                                                                 |                                                                                                                          |
| <b>19.08.2024</b> | <b>Raksha Bandhan</b>                                                           |                                                                                                                          |
| 20.08.2024        | Test of unit 1                                                                  | Cooling by adiabatic demagnetization                                                                                     |
| 21.08.2024        | Deforming force, Elastic limit, Stress, Strain, and their types                 | Problems                                                                                                                 |

| Date              | Class...B Sc 1.....                                                            | Class...B.sc 2nd.....                                                                                                           |
|-------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                   | Semester...1st.....                                                            | Semester...3rd.....                                                                                                             |
| 22.08.2024        | Hookes law, Modulus of rigidity                                                | Test                                                                                                                            |
| 23.08.2024        |                                                                                |                                                                                                                                 |
| 24.08.2024        |                                                                                |                                                                                                                                 |
| <b>26.08.2024</b> | <b>Janamashtami</b>                                                            |                                                                                                                                 |
| 27.08.2024        | Shear angle and angle of twist, elastic energy                                 | Unit 2 : Claudius Claperyron and Claudius latent heat equation and significance                                                 |
| 28.08.2024        | Elongation produced in heavy rod and elastic potential energy stored in it     | specific heat of saturated vapours, phase diagram and Triple point of a substance                                               |
| 29.08.2024        | Tension in rotating rod, Poisson ratio                                         | Development of Maxwell thermodynamical equation, Thermodynamical functions                                                      |
| 30.08.2024        |                                                                                |                                                                                                                                 |
| 31.08.2024        |                                                                                |                                                                                                                                 |
| 02.09.2024        | Elastic constants and their relation                                           | Application of Maxwell relations, Derivation of Claudius Claperyron equation                                                    |
| 03.09.2024        | Torque required to twist cylinder, Hollow shaft is stiffer than solid          | Derivation of Stefan's law                                                                                                      |
| 04.09.2024        | Bending of beam, bending moment and its magnitude                              | Adiabatic compression and theory of Thomson effect                                                                              |
| 05.09.2024        | Flexural rigidity, Geometrical M.O I of Rectangular and circular cross section | problems                                                                                                                        |
| 06.09.2024        |                                                                                |                                                                                                                                 |
| 07.09.2024        |                                                                                |                                                                                                                                 |
| 09.09.2024        | Bending of cantilever                                                          | Test                                                                                                                            |
| 10.09.2024        | Dispersion of a centrally loaded beam supported as it's ends                   | Unit 3: Distribution of N distinguishable and indistinguishable particle in 2 boxes of equal size                               |
| 11.09.2024        | Elastic constant by Searls method                                              | micro states and macrostates, thermodynamical probability, constraints and accessible states                                    |
| 12.09.2024        | Question                                                                       | statistical fluctuations, general distribution of distinguishable particle in compartment of different sizes                    |
| 13.09.2024        |                                                                                |                                                                                                                                 |
| 14.09.2024        |                                                                                |                                                                                                                                 |
| 16.09.2024        | Test of unit 2                                                                 | Beta parameter, entropy and probability, concept of phase space                                                                 |
| 17.09.2024        | Michelsons Morley experiment                                                   | division of phase space into cells,                                                                                             |
| 18.09.2024        | Postulates of special theory of relativity, Lorentz Transformation             | postulates of statistical mechanics, classical and quantum statistics                                                           |
| 19.09.2024        | Simultaneity and order of events, Lorentz contraction                          | basic approach to these statistics, Maxwell boltzmann statistics applied to an ideal gas in equilibrium energy distribution law |

| Date                            | Class...B Sc 1.....                                        | Class...B.sc 2nd.....                                                                  |
|---------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------|
|                                 | Semester...1st.....                                        | Semester...3rd.....                                                                    |
| 20.09.2024                      |                                                            |                                                                                        |
| 21.09.2024                      |                                                            |                                                                                        |
| <b>23.09.2024</b>               | <b>Shaheedi Diwas/Haryana War Heroes' Martyrdom Day</b>    |                                                                                        |
| 24.09.2024                      | Time dilation, Relativistic transformation of velocity     | Maxwell distribution of speed and velocity                                             |
| 25.09.2024                      | Relativistic addition of velocities                        | Most probable speed , average speed and r.m.s speed                                    |
| 26.09.2024                      | Variation of mass energy equivalence                       | mean energy for maxwellian distribution                                                |
| 27.09.2024                      |                                                            |                                                                                        |
| 28.09.2024                      |                                                            |                                                                                        |
| 30.09.2024                      | Relativistic Doppler effect, Relativistic kinematics       | test of unit 3                                                                         |
| 01.10.2024                      | Transformation of energy and momentum                      | Unit 4:Dulong and Petit law, derivation of Dulong and Petit law from classical Physics |
| <b>02.10.2024</b>               | <b>Mahatma Gandhi Jayanti</b>                              |                                                                                        |
| <b>03.10.2024</b>               | <b>Maharaja Aggarsen Jayanti</b>                           |                                                                                        |
| 04.10.2024                      |                                                            |                                                                                        |
| 05.10.2024                      |                                                            |                                                                                        |
| 07.10.2024                      | Transformation of force                                    | Need of quantum statistics, classical versus Quantum statistics                        |
| 08.10.2024                      | Problems of Relativistic dynamics                          | Bose Einstein energy distribution law                                                  |
| 09.10.2024                      | Numerical                                                  | Application of B.E statistics to Planks radiation law                                  |
| 10.10.2024                      | Numerical                                                  | Degenercy and B.E condensation                                                         |
| 11.10.2024                      |                                                            |                                                                                        |
| <b>12.10.2024</b>               | <b>Dussehra</b>                                            |                                                                                        |
| 14.10.2024                      | Test of unit 3                                             | Fermi dirac energy distribution law                                                    |
| 15.10.2024                      | Law of gravitation, Potential field due to spherical shell | F.D gas and degenercy                                                                  |
| 16.10.2024                      | Potential field due to solid sphere                        | Fermi energy and Fermi temperature                                                     |
| <b>17.10.2024</b>               | <b>Maharishi Valmiki Jayanti</b>                           |                                                                                        |
| 18.10.2024                      |                                                            |                                                                                        |
| 19.10.2024                      |                                                            |                                                                                        |
| 21.10.2024                      | Motion of a particle under central force field             | F.D energy distribution law                                                            |
| 22.10.2024                      | Two body pendulum                                          | Zero point energy                                                                      |
| 23.10.2024                      | compound pendulum                                          | average speed of electron gas                                                          |
| 24.10.2024                      | Expression for time period                                 | numerical                                                                              |
| 25.10.2024                      |                                                            |                                                                                        |
| 26.10.2024                      |                                                            |                                                                                        |
| <b>27.10.2024 to 03.11.2024</b> | <b>Diwali Vacations</b>                                    |                                                                                        |
| 04.11.2024                      | g by Bar pendulum                                          | numerical                                                                              |
| 05.11.2024                      | Normal coordinate and normal modes                         | problems                                                                               |
| 06.11.2024                      | Spring mass system                                         | test of unit 4                                                                         |
| 07.11.2024                      | continue                                                   | Revision                                                                               |
| 08.11.2024                      |                                                            |                                                                                        |

| Date              | Class...B Sc 1.....                                                          | Class...B.sc 2nd..... |
|-------------------|------------------------------------------------------------------------------|-----------------------|
|                   | Semester...1st.....                                                          | Semester...3rd.....   |
| 09.11.2024        |                                                                              |                       |
| 11.11.2024        | possible angular frequencies of oscillation of two identical simple pendulum | revision              |
| 12.11.2024        | continue                                                                     | revision              |
| 13.11.2024        | continue                                                                     | revision              |
| 14.11.2024        | numerical                                                                    | revision              |
| <b>15.11.2024</b> | <b>Guru Nanak Jayanti</b>                                                    |                       |
| 16.11.2024        |                                                                              |                       |
| 18.11.2024        | test of unit 4                                                               | revision              |
| 19.11.2024        | revision                                                                     | revision              |
| 20.11.2024        | revision                                                                     | revision              |
| 21.11.2024        | revision                                                                     | revision              |
| 22.11.2024        |                                                                              |                       |