**Lesson Plan & Execution**

Faculty:-Dr. Surender Semester- IV Class: B.Sc. 2nd

Course Code: - PHY-401 Course Title:-Statistical Mechanics Session: 2023-2024

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S. No.** | **Day** | **Unit** | **Topic** | **Status** | **Sign** |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43 | 1  2  3  4  5  6  7  8    9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43 | I  I  I  I  I  I  I  I  I  I  I  I  I  II  II  II  II  II  II  II  III  II  II  II  II  II  II  II  III  III  III  III  III  III  III  III  III  III  III  III  III  III  III | Probability  Some probability considerations  combinations possessing maximum probability  Distribution of molecules in two boxes  Tossing of four coins ( like and unlike)  Case with weight age (general)  Phase space  Microstates and Macro states  Statistical fluctuations  constraints and accessible States  **Test And Assignment**  Thermo dynamical probability  Short questions and numerical.  Postulates of Statistical Physics  Boltzmann’s distribution law  Evaluation of A and b  Bose-Einstein statistics  Application of B.E. Statistics to Plancks’s radiation law  B.E. gas  Take the problems and numerical  Fermi-Dirac statistics  Range and straggling of alpha particles. Geiger-Nuttal law  Origin of continuous beta-spectrum (neutrino hypothesis)  Types of beta decay and energetic of beta decay  Energy loss of beta- particles (ionization)  Range of electrons  Absorption of beta-particles  Test And Assignment  Fermi-Dirac statistics  M.B. Law as limiting case of B.E Condensation  M.B. Law as limiting case of B.E Condensation  F.D. Gas  Electron gas in metals  Zero point energy  Specific heat of metals and its solution  Short questions and numerical  Revision of Ist Unit  Revision of Ist Unit  Revision of Ist Unit  Revision of 2ndUnit  Revision of 2ndUnit  Revision of 3rdUnit  Revision of 3rdUnit  . | Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed |  |