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| LESSION PLAN FOR EVEN SEMESTER  SESSION 2018-19 (15.07.2018 TO 28.04.2018)  NAME OF ASSISTANT PROFESSOR : DR. R.L. DHIMAN  DEPARTMENT OF PHYSICS  S.D. COLLEGE (LAHORE), AMBALA CANTT. | | | | | | | | | | |
| WEEK | DATE | THEORY  (06 PERIODS/WEEK) | | | PRACTICAL  (21 PERIODS/WEEK) | | | | | |
| B.SC.- III  SECTION- A  [03 PERIODS/WEEK]  (Mon., Tue. & Wed.)  Physics Paper- IX & X  Nuclear & Laser Physics | | B.SC.- III  SECTION- B  [03 PERIODS/WEEK]  (Thu., Fri. & Sat)  Physics Paper- IX & X  Nuclear & Laser Physics | B.Sc.-III  Group-III  [06 PER./WEEK]  (Mon. & Tue.)  Physics Paper Practical | B.Sc.-III  Group-V  [03 PER./WEEK]  (Wed.)  Physics Paper Practical | B.Sc.-II  Group- III  [06 PER./WEEK]  (Wed. & Thu.)  Physics Paper Practical | | B.Sc.-II  Group–V  [06 PER./WEEK]  (Fri. & Sat.)  Physics Paper Practical | |
| 1. | 16.07.2018 | Nuclear Composition  (Electron Proton hypothesis) | |  | AS PER REMARKS GIVEN AT  FOOTNOTE |  |  | |  | |
| 17.07.2018 | Nuclear Composition  (Proton Neutron hypothesis) | |  | --Do-- |  |  | |  | |
| 18.07.2018 | Basic properties of Atomic Nuclei | |  |  | AS PER REMARKS GIVEN AT  FOOTNOTE | AS PER REMARKS GIVEN AT  FOOTNOTE | |  | |
| 19.07.2018 |  | | Nuclear Composition  (Electron Proton hypothesis) |  |  | --Do-- | |  | |
| 20.07.2018 |  | | Nuclear Composition  (Proton Neutron hypothesis) |  |  |  | | AS PER REMARKS GIVEN AT  FOOTNOTE | |
| 21.07.2018 |  | | Basic properties of Atomic Nuclei |  |  |  | | --Do-- | |
| 22.07.2018 | SUNDAY | | | | | | | | |
| 2. | 23.07.2018 | Basic properties of Atomic Nuclei | |  | AS PER REMARKS GIVEN AT  FOOTNOTE |  |  | |  | |
| 24.07.2018 | Nuclear Mass & Binding Energy | |  | --Do-- |  |  | |  | |
| 25.07.2018 | Packing Fraction | |  |  | AS PER REMARKS GIVEN AT  FOOTNOTE | AS PER REMARKS GIVEN AT  FOOTNOTE | |  | |
| 26.07.2018 |  | | Nuclear Mass & Binding Energy |  |  | --Do-- | |  | |
| 27.07.2018 |  | | Packing Fraction |  |  |  | | AS PER REMARKS GIVEN AT  FOOTNOTE | |
| 28.07.2018 |  | | Systematic of Binding Energy Curve & Nuclear stability |  |  |  | | --Do-- | |
| 29.07.2018 | SUNDAY | | | | | | | | |
| 3. | 30.07.2018 | Systematic of Binding Energy Curve & Nuclear stability | |  | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 31.07.2018 | SHAHEED UDHAM SINGH’S MARTYRDOM DAY | | | | | | | | |
| 01.08.2018 | Distance of closet approach & Nuclear size determination | |  |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 02.08.2018 |  | | Distance of closet approach & Nuclear size determination |  |  | | --Do-- | |  |
| 03.08.2018 |  | | Determination of Nuclear Mass Bain-Bridge & Jordan Mass Spectrograph |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 04.08.2018 |  | | Moseley Law |  |  | |  | | --Do-- |
| 05.08.2018 | SUNDAY | | | | | | | | |
| 4. | 06.08.2018 | Determination of Nuclear Mass Bain-Bridge & Jordan Mass Spectrograph |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 07.08.2018 | Moseley Law |  | | --Do-- |  | |  | |  |
| 08.08.2018 | Conceptual Questions & Numerical problems of Unit-I |  | |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 09.08.2018 |  | Conceptual Questions & Numerical problems of Unit-I | |  |  | | --Do-- | |  |
| 10.08.2018 |  | Conceptual Questions & Numerical problems of Unit-I | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 11.08.2018 |  | Interaction of heavy charged particles & stopping power | |  |  | |  | | --Do-- |
| 12.08.2018 | SUNDAY | | | | | | | | |
| 5. | 13.08.2018 | HARIYALI TEEJ | | | | | | | | |
| 14.08.2018 | Interaction of heavy charged particles & stopping power |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 15.08.2018 | INDEPENDANCE DAY | | | | | | | | |  | --do-- | |  | |  |  |
| 16.08.2018 |  | Range of α-Particles | |  |  | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 17.08.2018 |  | Energy Life time relationships | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 18.08.2018 |  | Interaction & Energy loss of light charged particles with matter | |  |  | |  | | --Do-- |
| 19.08.2018 | SUNDAY | | | | | | | | |
| 6. | 20.08.2018 | Range of α-Particles |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 21.08.2018 | Energy Life time relationships |  | | --Do-- |  | |  | |  |
| 22.08.2018 | BAKRID | | | | | | | | |
| 23.08.2018 |  | Absorption curve for β-particles | |  |  | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 24.08.2018 |  | Interaction of gamma-radiations Photoelectric Effect | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 25.08.2018 |  | Compton Effect | |  |  | |  | | --Do-- |
| 26.08.2018 | SUNDAY | | | | | | | | |
| 7. | 27.08.2018 | Interaction & Energy loss of light charged particles with matter |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 28.08.2018 | Absorption curve for β-particles |  | | --Do-- |  | |  | |  |
| 29.08.2018 | Interaction of gamma-radiations Photoelectric Effect |  | |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 30.08.2018 |  | Pair Production | |  |  | | --Do-- | |  |
| 31.08.2018 |  | Electron Positron Annihilation | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 01.09.2018 |  | Absorption &Applications of γ-rays | |  |  | |  | | --Do-- |
| 02.09.2018 | SUNDAY | | | | | | | | |
| 8. | 03.09.2018 | JANAMSHATMI | | | | | | | | |
| 04.09.2018 | Compton Effect |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 05.09.2018 | Pair Production &  Electron Positron Annihilation |  | |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 06.09.2018 |  | Theory of α-Disintegration | |  |  | | --Do-- | |  |
| 07.09.2018 |  | Energetic of α-Decay | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 08.09.2018 |  | Origin of Continuous β-Spectrum Neutrino Hypothesis | |  |  | |  | | --Do-- |
| 09.09.2018 |  | | | | | | | | |
| 9. | 10.09.2018 | Absorption & Applications of  γ-rays |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 11.09.2018 | Theory of α-Disintegration |  | | --Do-- |  | |  | |  |
| 12.09.2018 | Energetic of α-Decay |  | |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 13.09.2018 |  | Type & Energetic of β- Decay | |  |  | | --Do-- | |  |
| 14.09.2018 |  | Energetic of γ - Decay | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 15.09.2018 |  | Conceptual Questions & Numerical problems of Unit-II | |  |  | |  | | --Do-- |
| 16.09.2018 | SUNDAY | | | | | | | | |
| 10. | 17.09.2018 | Origin of Continuous β-Spectrum Neutrino Hypothesis |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 18.09.2018 | Type & Energetic of β- Decay |  | | --Do-- |  | |  | |  |
| 19.09.2018 | Class Test |  | |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 20.09.2018 |  | Class Test | |  |  | | --Do-- | |  |
| 21.09.2018 | MUHARRAM | | | | | | | | |
| 22.09.2018 |  | Introduction & Main Features of Laser | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 23.09.2018 | SUNDAY | | | | | | | | |
| 11. | 24.09.2018 | Energetic of γ - Decay |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 25.09.2018 | Introduction & Main Features of Laser |  | | --Do-- |  | |  | |  |
| 26.09.2018 | Spatial & Temporal Coherence |  | |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 27.09.2018 |  | Spatial & Temporal Coherence | |  |  | | --Do-- | |  |
| 28.09.2018 |  | Einstein’s Coefficients & their physical significance | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 29.09.2018 |  | Possibility of Amplification & Momentum transfer | |  |  | |  | | --Do-- |
| 30.09.2018 | SUNDAY | | | | | | | | |
| 12. | 01.10.2018 | Einstein’s Coefficients & their physical significance |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 02.10.2018 | MAHATAMA GANDHI JAYANTI | | | | | | | | |  | | --Do-- | |
| 03.10.2018 | Possibility of Amplification & Momentum transfer  Life time of a Energy Level |  | |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 04.10.2018 |  |  | |  |  | | --Do-- | |  |
| 05.10.2018 |  | Fuchbauer Ladenburg formula | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 06.10.2018 |  | Origin of line shape function | |  |  | |  | | --Do-- |
| 07.10.2018 | SUNDAY | | | | | | | | |
| 13. | 08.10.2018 | Fuchbauer Ladenburg formula |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 09.10.2018 | Origin of line shape function |  | | --Do-- |  | |  | |  |
| 10.10.2018 | MAHARAJA AGRASEN JAYANTI | | | | | | | | |
| 11.10.2018 |  | Line Broadening Mechanism | |  |  | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 12.10.2018 |  | Types of Broadening | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 13.10.2018 |  | Resonance Cavity & Light Amplification | |  |  | |  | | --Do-- |
| 14.10.2018 |  | | | | | | | | |
| 14. | 15.10.2018 | Line Broadening Mechanism |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 16.10.2018 | Types of Broadening |  | | --Do-- |  | |  | |  |
| 17.10.2018 | Resonance Cavity & Light Amplification |  | |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 18.10.2018 | DUSSEHRA | | | | | | | | |
| 19.10.2018 |  | Threshold condition for Laser oscillations | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 20.10.2018 |  | Theory Principle, construction & working of Ruby Laser | |  |  | |  | | --Do-- |
| 21.10.2018 | SUNDAY | | | | | | | | |
| 15. | 22.10.2018 | Threshold condition for Laser oscillations |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 23.10.2018 | Theory Principle, construction & working of Ruby Laser |  | | --Do-- |  | |  | |  |
| 24.10.2018 | MAHARISHI VALMIKI’S BIRTHDAY | | | | | | | | |
| 25.10.2018 |  | Theory Principle, construction & working of He-Ne Laser | |  |  | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 26.10.2018 |  | Theory Principle, construction & working of Semiconductor Laser | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 27.10.2018 | KARVA CHAUTH | | | | | | | | |
| 28.10.2018 | SUNDAY | | | | | | | | |
| 16. | 29.10.2018 | Theory Principle, construction & working of He-Ne Laser |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 30.10.2018 | Theory Principle, construction & working of Semiconductor Laser |  | | --Do-- |  | |  | |  |
| 31.10.2018 | Applications of Laser in field of Medicine & Industry |  | |  | AS PER REMARKS GIVEN AT  FOOTNOTE | | AS PER REMARKS GIVEN AT  FOOTNOTE | |  |
| 01.11.2018 | HARYANA DAY | | | | | | | | |
| 02.11.2018 |  | Applications of Laser in field of Medicine & Industry | |  |  | |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |
| 03.11.2018 |  | Conceptual Questions & Numerical problems | |  |  | |  | | --Do-- |
| 04.11.2018 | SUNDAY | | | | | | | | |
| 17. | 05.11.2018 | Conceptual Questions & Numerical problems |  | | AS PER REMARKS GIVEN AT  FOOTNOTE |  | |  | |  |
| 06.11.2018 | Vacation-I | | | | | | | | |
| 07.11.2018 | ---Do--- | | | | | | | | |
| 08.11.2018 | ---Do--- | | | | | | | | |
| 09.11.2018 | ---Do--- | | | | | | | | |
| 10.11.2018 | ---Do--- | | | | | | | | |
| 11.11.2018 | ---Do--- | | | | | | | | |
| 18. | 12.11.2018 | ---Do--- | | | | | | | | |
| 13.11.2018 | ---Do--- | | | | | | | | |
| 14.11.2018 | Examinations | | | | | | | | |

REMARKS:

As per University syllabus in an academic session every student is required to perform total sixteen Experiments equally divided into two sections (Section-A & Section-B). The number of students allotted in every practical group is divided in to Subgroups. Each subgroup comprises of three students. In every practical class, maintaining the balance of experiment kits available in Laboratory, different experiment from Section A & Section B are allotted to different subgroups, every student of each subgroup ask to read the theory of allotted experiment at home. On the next day of practical class demonstration of allotted experiments are given to students in every subgroup by explaining Theory, Principle, working and how to perform & record the readings. Next Experiment is allotted to every subgroup after checking the results of previous allotted experiment. The practical file of every student is checked through Viva-Voce. The same procedure is followed for every Practical group of allotted classes throughout the academic session.

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| LIST OF PHYSICS EXPERIMENTS | | | | |
| B.Sc.-II Semester III & IV [Physics Practical Group-III & V] | | B.Sc.-III Semester III & V [Physics Practical Group-II & IV] | | |
| SECTION-A | | SECTION-A | | |
| SR.NO. | NAME Of EXPERIMENT | SR.NO. | | NAME Of EXPERIMENT |
| 1. | To measure the area of window using Sextant | 1. | | Determination e/m by Thomson’s method. |
| 2. | Refractive index & dispersive power of a prism material | 2. | | Study of B-H curve. |
| 3. | To draw a graph between wavelength & minimum deviation for various lines from a mercury discharge source | 3. | | Transistor as Voltage Amplifier in C.B. configuration. |
| 4. | Determination of wavelength of Sodium light & number of lines/cm using diffraction grating | 4. | | Transistor as Voltage Amplifier in C.E. configuration. |
| 5. | Determination of wavelength of Na light using Newton’s Rings | 5. | | Program of compute Product of two matrices. |
| 6. | Resolving Power of Telescope | 6. | | Simpsons’ one third rule. |
| 7. | Measurement of specific rotation of sugar solution using Polrimeter | 7. | | Using lease square fitting to fit a straight line. |
| 8. | Comparison of illuminating powers by LB Photometer | 8. | | Evaluate Sum of finite series. |
|  | | 9. | | Find Average & Standard deviation. |
| 10. | | Arrange marks in Ascending & descending order |
| SECTION-B | | SECTION-B | | |
| 9. | Low resistance of Carey foster bridge with calibration | 11. | Wave length of Sodium light by Fresnel’s biprisim. | |
| 10. | Determination of Impendence of an A.C. circuit & its verification | 12. | Velocity of ultrasonic waves by grating formation in CCl4. | |
| 11. | Frequency of A.C. mains by Sonometer using an electromagnet | 13. | Diameter of Lycopodium powder particles by carona rings. | |
| 12. | Measurement of angle of Dip by earth inductor | 14. | Diameter of thin wire by diffraction method. | |
| 13. | High resistance by substitution method | 15. | Resolving power of Prism. | |
| 14. | To draw forward and reverse bias characteristics of a Semiconductor | 16 | Resolving power of Plane transmission grating. | |
| 15. | E.C.E. of Hydrogen using Ammeter | 17 | Thickness of thin paper by air wedge. | |
| 16. | Verification of inverse square law by photo-cell |  | | |
| 17. | Zener diode Voltage Regulation Characteristics |

DR. R.L. DHIMAN

DEPARTMENT OF PHYSICS