Maharani Kishori Jat Kanya Mahavidyalya, Rohtak Section A (1-3)

Day Wise Lesson Plan for the session January 2018 to April 2018 Section B (4-6)

Name of ~~Associate~~ Assistant Professor ..... Dr. Monica .....

Class B.Sc. III year (Sem. VI) Subject. Physics (Atomic, Molecular & laser physics)

Week	Date	Topic
1	01.01.18	**Winter vacation**
	02.01.18	**Winter vacation**
	03.01.18	**Winter vacation**
	04.01.18	**Winter vacation**
	05.01.18	**Winter vacation**
	06.01.18	Practical Exams
	07.01.18	**Sunday**
2	08.01.18	Practical Exams
	09.01.18	Practical Exams
	10.01.18	Practical Exams
	11.01.18	Introduction to early observations, Atomic Spectra.
	12.01.18	Bohr's atom, Origin of line Spectra
	13.01.18	Variation in Rydberg constant due to finite mass, shortcomings of Bohr's theory.
	14.01.18	**Sunday**
3	15.01.18	Introduction to early observations, Atomic Spectra.
	16.01.18	Bohr's atom, Origin of line Spectra
	17.01.18	Variation in Rydberg constant due to finite mass, shortcomings of Bohr's theory.
	18.01.18	Sommerfields extension of Bohrs model & its shortcomings.
	19.01.18	Sommerfield relativistic correction. Wilson Sommerfield Quantization rule, De Broglie Interpretation of Bohr Quantisation law, Bohr's Corresponding Principle
	20.01.18	CR celebration
	21.01.18	**Sunday**
4	22.01.18	**Basant Panchami**
	23.01.18	Wilson Sommerfield Quantization Rule, De Broglie Interpretation of Bohr Quantisation law, Bohr's Corresponding Principle
	24.01.18	Sommerfields extension of Bohr's model & its shortcomings. Sommerfield relativistic correction.
	25.01.18	Vector Atom Model, Space Quantisation, Electron Spin, Coupling of Orbital & spin angular momentum.
	26.01.18	**Republic Day**
	27.01.18	Spectroscopic terms & notation, quantum nos. associated with vector atom model.
	28.01.18	**Sunday**
5	29.01.18	Vector Atom Model, Space Quantisation, Electron Spin, Coupling of Orbital & spin Angular momentum.
	30.01.18	Spectroscopic terms & notation, quantum nos. associated with vector atom model
	31.01.18	**Guru Ravidas Jayanti**

Sign

Maharani Kishori Jat Kanya Mahavidyalya, Rohtak

Day Wise Lesson Plan for the session January 2018 to April 2018

Name of ~~Associate~~ Asistant Professor ....Dr. Monica.....

Class .B.Sc. III. year. (Sem VI) Subject. ~~Physics~~ (Atomic, Molecular & laser physics)

Section A (1-3)
Section B (4-6)

Week	Date	Topic
1	01.02.18	Transition Probability & Selection rules & Problems.
	02.02.18	Bohr Magneton, Larmor's precession & theorem
	03.02.18	Penetrating & Non Penetrating Orbits. Penetrating Orbits in Classical Model.
	04.02.18	**Sunday**
2	05.02.18	Transition Probability & Selection rules & Problems
	06.02.18	Bohr Magneton, Larmor's Precession & theorem
	07.02.18	Penetrating & Non Penetrating Orbits. Penetrating Orbits in Classical Model.
	08.02.18.	Spin Orbit interaction energy of single valence of e^-.
	09.02.18	Features & Interpretation of alkali spectra, term series & limits,
	10.02.18	Rydberg Ritz Combination principle. **Maharshi Dayanand Saraswati Jayanti**
	11.02.18	**Sunday**
3	12.02.18	Spin Orbit interaction energy of single valence of e^-.
	13.02.18	**Maha Shivratri**
	14.02.18	Features & Interpretation of alkali spectra, term series & limit,
	15.02.18	Rydberg Ritz combination principle. Absorption spectra of alkali atoms, Doublet fine structure spectra in Alkali metals.
	16.02.18	Intensity rules for doublets, Alkali spectra & Hydrogen spectra comparison
	17.02.18	Essential features of spectra of alkali earth elements.
	18.02.18	**Sunday**
4	19.02.18	Absorption Spectra of alkali atoms, Doublet fine structure spectra in Alkali metals.
	20.02.18	Intensity rules for doublets, Alkali spectra & Hydrogen spectrum comparison.
	21.02.18	Essential features of spectra of alkali earth elements.
	22.02.18	Vector model for two valence e^- atom, Application of spectra, Coupling Schemes.
	23.02.18	LS coupling, JJ coupling
	24.02.18	Interaction energy LS coupling (sp, pd), Lande's interval rule.
	25.02.18	**Sunday**
5	26.02.18	Vector model for two valence e^- atom, Application of spectra, Coupling schemes
	27.02.18	LS coupling & JJ coupling, Int^n energy (sp, pd), Lande's interval rule.
	28.02.18	**MDU Holidays**

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Maharani Kishori Jat Kanya Mahavidyalya, Rohtak

Day Wise Lesson Plan for the session January 2018 to April 2018 Section A (1-3) Section B (4-6)

Name of ~~Associate~~ Assistant Professor ...Dr. Monica.....

Class B.Sc. III year (Sem. VI) Subject Physics (Atomic, Molecular & laser physics)

Week	Date	Topic
1	01.03.18	**MDU Holidays**
	02.03.18	**MDU Holidays**
	03.03.18	**MDU Holidays**
	04.03.18	**Sunday**
2	05.03.18	Equivalent and Non-equivalent e^-s
	06.03.18	Two valence e^- systems, spectral terms of non eq. & equivalent e^-s.
	07.03.18	Comparison of spectral terms in LS & JJ coupling. Hyperfine structure of spectral lines & its origin.
	08.03.18	Equivalent & Non-equivalent e^-s.
	09.03.18	Two valence e^- system, Spectral terms of non-eq & eq. e^-s.
	10.03.18	Comparison of spectral terms in L.S & JJ coupling, Hyperfine structure of spectral lines & its origin.
	11.03.18	**Sunday**
3	12.03.18	Test (Unit I)
	13.03.18	Zeeman Effect (Normal & Anomalous) & expt. set up for Zeeman effect.
	14.03.18	Zeeman Effect (Classical & Qnt^n mech.) expt., Lande g factor.
	15.03.18	Test (Unit I)
	16.03.18	Zeeman Effect (Normal & Anomalous) & expt. set up for Zeeman effect.
	17.03.18	Zeeman Effect (Classical & Qnt^n mech.) expt., Lande g factor.
	18.03.18	**Sunday**
4	19.03.18	Zeeman pattern of D_1 & D_2 lines of Na atom, Paschen Back effect of single valence e^-.
	20.03.18	Weak field Stark effect of Hydrogen atom, General considerations of electronic states of diatomic molecule.
	21.03.18	Rotational spectra in I-R & M-W region.
	22.03.18	Zeeman pattern of D_1 & D_2 lines of Na atom, Paschen Back effect of single valence e^-.
	23.03.18	**Shaheedi Diwas**
	24.03.18	Weak field stark effect of Hydrogen atom, General considerations of electronic states of diatomic molecule.
	25.03.18	**Sunday**
5	26.03.18	Vibrational spectra in IR region, Rotator Model of diatomic molecule.
	27.03.18	Raman effect, Classical & quantum mechanical treatment of Raman effect spectra.
	28.03.18	Unit test (II Unit)
	29.03.18	**Mahavir Jayanti**
	30.03.18	Rotational spectra in I-R & M-W region.
	31.03.18	Vibrational spectra in IR region, Rotator Model of diatomic molecule.

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Maharani Kishori Jat Kanya Mahavidyalya, Rohtak

Day Wise Lesson Plan for the session January 2018 to April 2018

Name of ~~Associate~~ Assistant Professor ... Dr. Monica .....

Class ..... B.Sc. III year ..... Subject (Atomic, Molecular and laser Physics)

Section A (1-3)
Section B (4-6)

Week	Date	Topic
	01.04.18	Sunday
1	02.04.18	Directionality + intensity of laser, Coherence (Spatial & temporal)
	03.04.18	Einstein coefficients + possibility of amplification, Momentum transfer, life time of level
	04.04.18	Kinetics of optical absorption
	05.04.18	Raman Effect, Classical + Quⁿ mechanical treatment of Raman effect Spectra.
	06.04.18	Unit test (Unit II)
	07.04.18	Directionality + intensity of laser, Coherence (Spatial + temporal)
	08.04.18	Sunday
2	09.04.18	Threshold condition for laser emission
	10.04.18	Laser pumping, Ruby Laser
	11.04.18	He - Ne laser
	12.04.18	Einstein coefficients + possibility of amplification, Momentum transfer, life time of level.
	13.04.18	Kinetics of optical absorption.
	14.04.18	Baisakhi / Ambedkar Jayanti
	15.04.18	Sunday
3	16.04.18	He Ne Laser
	17.04.18	Applications of Lasers.
	18.04.18	Parshuram Jayanti
	19.04.18	Threshold condition for laser emission.
	20.04.18	Laser pumping, Ruby Laser
	21.04.18	He - Ne Laser
	22.04.18	Sunday
4	23.04.18	Applications of Lasers.
	24.04.18	Unit II test
	25.04.18	Unit III test.
	26.04.18	Application of laser
	27.04.18	Unit II test
	28.04.18	Unit III test
	29.04.18	Sunday
	30.04.18	Discussion regarding test.

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