

PHY - 301 A+B (25-26, सत्र)
PHY - 302 A+B

सत्र - 25-26
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कक्षा : BSc V		विद्यार्थी संख्या : 25-26			विषय : PHYSICS
दिनांक	व्याख्यान सं.	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
16/7/25	01	SKT.	PHY 301A	Constrained Motion.	Constraint - definition. Example & classification.
17/7/25	02	"	"	"	Degree of freedom and configurational space.
18/7/25	03.	"	"	"	Force of constraint and constraint motion
19/7/25	01	AV	PHY 302B	Vector Atomic model.	Bhoss - Sommerfeld. Theory, Spectrum of H-Atom.
21/7/25	04	SKT.	PHY 301B	Macro and Micro state	Macro state, micro state No of accessible state.
22/7/25	05	SKT	CT	CT	Minor / CT
23/7/25	06.	"	PHY 301B	Macro and Micro state	Phase space, Phase Trajectory, Volume Element in phase space.
24/7/25	07	SKT	"	"	Quantization of Phase Space. No of Accessible micro state for 1D free Part.
25/7/25	08	"	PHY 301A	Constrained Motion.	Generalised Co-ordinate Generalised velocity.
26/7/25	02	AV.	PHY 301B	Micro and Macro state	Harmonic Oscillator in 1-D.
28/7/25	09	SKT.	PHY 301A	Constrained Motion.	Principle of Virtual Work.
29/7/25	10	SKT.	CT.	CT	MINOR/CT.
30/7/25	11	"	PHY 301A	Constrained Motion.	D'Alemberted Principle.

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31/7/25	PHY 12.	SKT.	PHY 301B	Concept of Ensemble.	Problem of time Average. concept of ensemble
01/8/25	13	"	"	"	Postulate of ensemble average & Liouville's Theorem.
02/8/25	03	AV.	"	"	Micro, Canonical and Grand Canonical Ensemble
04/8/25	14	SKT.	PHY 310A	Langrangian formalism	Langrangian for Conservative & Non-Conservative system.
05/8/25	15	SKT	CT	CT	CT/MINOR
06/8/25	16	"	PHY 301B	Concept of Ensemble	Thermodynamical properties. Probabilities.
07/8/25	17	"	"	"	Postulate of Equilibrium. and Boltzmann. Entropy.
08/8/25	02	AV.	"	Distribution law.	Statistical Distribution Law. Accessible Micro state No, Probabilities.
11/8/25	18	SKT.	PHY 301A	Langrangian formalism.	Cyclic Co-ordinate, Conservation law.
12/8/25	19	"	"	"	Simple Example Based on Langrangian.
13/8/25	20	AV.	CT.	CT	CT/ Minor
14/8/25	21	SKT.	PHY 301A	Langrangian formalism.	Example and Solution of Previous Year Prob.
18/8/25	22	SKT.	PHY 301B	Distribution Law.	MD, BE, and FD. Statistics.
19/8/25	23	"	"	"	Comparison of Distribution and Physical Law.
20/8/25	24	AV.	PHY 301B	"	Canonical Distribution.

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21/8/25	24	SKT	PHY 301A	Hamaltonian formulasim.	Phase Space Hamaltonian for con. & Non Con.
22/8/25	25	"	CT	CT/Minor	Minor/CT
23/8/25	26	AV.	PHY 301B	Distribution Law.	Partialion function. Equipartition theorem.
24/8/25	26	SKT	"	"	Relation Between Partialion function and Therm. Potential.
26/8/25	27	SKT.	PHY 301A	Hamaltonian. formulasim.	Comparison of Hamaltonian & Langrangian.
27/8/25	28	SKT.	PHY 301A	"	Example Based on Hamaltonian.
28/8/25	29	SKT.	"	Central forces.	Definition and Properties.
29/8/25	30	"	"	"	Hamaltonian Eq of Motion.
30/8/25	31	—		Monthly Evaluation —	
1/9/25	32	SKT.	PHY 301B	Application of Statistical Distribution	BE Application — Photons in Black body. Planck distribution law.
2/9/25	33	"	"	"	FB-Application. Free electrons in Metal.
3/9/25	34	"	"	"	Definition of Fermi Energy.
4/9/25	35	"	"	"	Definition of Fermi Gas Energy.
8/9/25	37	AV.	"	"	Determination of Fermi Energy at 0K.
9/9/25	36	SKT	CT.	CT/Minor	CT/Minor

PHY-302 (2025-26)

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कक्षा :		विषय : PHY-302			विषय :
दिनांक	व्याख्यान सं.	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
10/9/25	01	SKT.	PHY 302A	Operator formalism.	Matrix Algebra, operators. Special operators.
11/9/25	02.	"	"	"	Operators, Operators corresponding to physical Var.
12/9/25	03	"	"	"	Commutators, Algebra, r.p relation.
13/9/25	04	AV.	AV PHY 302B	Vector Atom Model	Modification due to finite Mass of Nucleus.
15/9/25	04	SKT.	"	"	Vector Atom Model. Physical and Geo. Explanation.
16/9/25	05	"	CT.	CT	CT/ Minor.
17/9/25	07	SKT.	PHY 302A	Eigen and Expectation Value	Eigen Eq. for an operators. Eigen state.
18/9/25	08	"	"	"	Linear Superposition of Eigen function.
19/9/25	09	"	"	"	Hermitian operators, properties and Applications.
20/9/25	10	SKT	PHY 302B	Vector Model	LS and JJ Coupling.
22/9/25	11	"	"	"	Spectroscopic of Energy state. Transition Rules.
23/9/25	12	SKT	CT	CT	Minor/ CT.
24/9/25	02.	AV.	PHY 302B	Spectra of Alkali Atom.	Screening Constant. s, p, d f orbitals.

25/7/25	13	SKT	PHY 302A	Uncertainty Eq. and S.E. Eq.	Uncertainty principle, Commutative and Simultaneity.
24/9/25	14	"	"	"	Non-Commutative operators General form of uncertainty.
27/9/25	15	"	"	"	Uncertainty principle for Dynamical Parameters and application.
29/9/25	05	AV		Monthly Evaluation -	
30/9/25	16	SKT.	PHY 302B	Spectra of Alkali/Alkaline	Sharp, Principle, Diffuse and fundamental Series.
3/10/25	17	"	"	"	Fine structure of Sodium D lines.
4/10/25	18	"	"	"	Spectra of Alkali Atoms. Single and Triplet.
6/10/25	19.	"	PHY 302A	S.E. Equation.	Time and Time Independent S.E. Equation.
7/10/25	20	"	"	"	SE Equation as Eigen Equation.
8/10/25	21	"	"	"	Schrodinger Eq: Continuity Operator Eq. of SE.
9/10/25	22	"	PHY 302B	X-Ray.	Nature and production Duane-Hunt law.
11/10/25	23	"	"	"	Characteristics of X-Ray. Mosely law.
21/10/25	24	"	"	"	X-Ray Absorption Eq.
24/10/25	06	AV	PHY 302A	Application of SE Eq.	Application of 1D problem.
25/10/25	25	SKT.	"	"	Sq. Well, finite & infinite

27/10/25	26	SKT.	PHY 301	Application of SE.	Potential Barriers and 1D. Harmonic oscillator.
28/10/25	27	"	"	"	2D. Infinite Sq. Well. H. atom.
29/10/25	28	AV		Monthly Evaluation	
30/10/25	28	SKT	PHY 302B	Molecular Spectra	Electronic, Vibrational and Rotational Energies.
31/10/25	29	"	"	"	Quantization of Vibration Spectra
1/11/25	30	"	"	"	Transition rules. Pure Vibe. Spectra
3/11/25	31	"	PHY 302A	Application of SE.	Hydrogen Atom.
4/11/25	32	"	"	"	Solution of SE Eq. for H. Atom.
6/11/25	33	"	"	"	Direct Solution of Hermite, Legendre Eq.
7/11/25	34	SKT	PHY 302B	Molecular Spectra	Determination of Nu. distance.
8/11/25	35	"	"	"	Rotational - Vib. Spectra. Transition Rule
10/11/25	36	"	"	"	Fundamental Band. and Hot Band.
11/11/25	37	"	"	"	O, P, Q, R, S. Branches.
12/12/25	38	SKT	PHY. 302A	Revision	Revision.
13/12/25	39	AV	"	"	"

14/12/25	STE 39	SKT	PHY 301A	Revision.	Revision
15/12/25	ID.	Av.	"	Revision	Revision,