

**Lesson Plan Format**  
18 weeks (From January 2018 to April 2018)

Name of Assistant / Associate Professor : JYOTI NARWAL  
 Class and Section : M.Sc. Physics Sem. II  
 Subject : Quantum Mechanics II

<b>Week 1 (January 1-6)</b>	
Chapter 1	Unit - 1 Variational methods
01/01/2018	Ground state of Helium by variational
02/01/2018	" " " "
03/01/2018	Ground state of Helium by perturbation method
04/01/2018	" " " "
05/01/2018	The hydrogen molecule.
06/01/2018	" " " "
<b>Week 2 (January 8-13)</b>	
Chapter	
08/01/2018	WKB approximation
09/01/2018	" " " "
10/01/2018	" " " "
11/01/2018	Time dependent perturbation theory
12/01/2018	" " " "
13/01/2018	" " " "
<b>Week 3 (January 15-20)</b>	
Chapter	
15/01/2018	Constant Perturbation.
16/01/2018	" " " "
17/01/2018	" " " "
18/01/2018	Harmonic perturbation.
19/01/2018	" " " "
19/01/2018	" " " "
20/01/2018	Fermi Golden rule.
<b>Week 4 (January 22-27)</b>	
Chapter	
22/01/2018	Vasant Panchami
23/01/2018	Fermi Golden rule.
24/01/2018	S.R. Chhotu Ram Jayanti
25/01/2018	Fermi Golden rule.
26/01/2018	Re public Day.

- . . . ti

27/01/2018	Adiabatic approximation
Week 5 (January 29- Feb 3)	
Chapter	
29/01/2018	Sudden approximation
30/01/2018	Sudden approximation
31/01/2018	Test
01/02/2018	Unit-2: Transition probability for absorption
02/02/2018	
03/02/2018	Transition probability for induced emission
Week 6 (Feb 5-10)	
Chapter	
05/02/2018	" " " " "
06/02/2018	Induced emission
07/02/2018	Electric dipole transition
08/02/2018	& selection rules
09/02/2018	" "
10/02/2018	" "
Week 7 (Feb 12-17)	
Chapter	
12/02/2017	Magnetic dipole transition
13/02/2017	Maha Shiv ratri
14/02/2017	magnetic dipole transition
15/02/2017	Forbidden transition
16/02/2017	" "
17/02/2017	" "
Week 8 (Feb 19-24)	
Chapter	
19/02/2018	Higher order transitions
20/02/2018	" " " "
21/02/2018	" " " "
22/02/2018	Einstein's coefficients
23/02/2018	" " " "
24/02/2018	" " " "
Week 9 (Feb 26-March 03)	
Chapter	
26/02/2018	Revision
27/02/2018	Test
28/02/2018	Holiday
01/03/2018	Holiday

02/03/2018	Holidays
03/03/2018	"
<b>Week 10(March 5-10)</b>	
<b>Chapter</b> Unit-III Collision in 3D & scattering	
05/03/2018	Laboratory reference frames.
06/03/2018	C.M.
07/03/2018	"
08/03/2018	scattering "amplitude."
09/03/2018	"
10/03/2018	Differential scattering cross-section
<b>Week 11(March 12-17)</b>	
<b>Chapter</b>	
12/03/2018	"
13/03/2018	Total scattering cross-section.
14/03/2018	The optical theorem.
15/03/2018	"
16/03/2018	Scattering by spherically symmetric pot
17/03/2018	"
<b>Week 12(March 19-24)</b>	
<b>Chapter</b>	
19/03/2018	Partial waves
20/03/2018	phase shifts
21/03/2018	"
22/03/2018	Scattering by perfectly rigid sphere
23/03/2018	Shaheed Diwas
24/03/2018	"
<b>Week 13(March 26-31)</b>	
<b>Chapter</b>	
26/03/2018	Scattering by perfectly square well potential
27/03/2018	Complex potential & absorption.
28/03/2018	"
29/03/2018	Mahavir Jayanti
30/03/2018	Born approximation
31/03/2018	"
<b>Week 14(April 02-07)</b>	
<b>Chapter</b> Identical particles	
02/04/2018	The principle of indistinguishability
03/04/2018	"
04/04/2018	"

05/04/2018	Symmetric wave functions. Antisymmetric Spin of identical particles.
06/04/2018	
07/04/2018	
<b>Week 15 (April 09-14)</b>	
<b>Chapter</b>	
09/04/2018	Statistics of identical particles The Slater determinant
10/04/2018	
11/04/2018	
12/04/2018	
13/04/2018	Ambedkar Jayanti
14/04/2018	
<b>Week 16 (April 16-21)</b>	
<b>Chapter</b>	
16/04/2018	The Pauli exclusion principle
17/04/2018	
18/04/2018	Parshuram Jayanti Spin states of a two $e^-$ system
19/04/2018	
20/04/2018	
21/04/2018	
<b>Week 17 (April 23-28)</b>	
<b>Chapter</b>	
23/04/2017	States of the helium atom
24/04/2017	
25/04/2017	Collision of identical particles
26/04/2017	
27/04/2017	
28/04/2018	
<b>Week 18 (April 29-30)</b>	
<b>Chapter</b>	
30/04/2018	Test.