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

Name of Assistant /Associate Professor :.....Parmila.....Dahiya.....
Class and Section :...M.Sc. – IVth sem.....
Subject :Inner...Product...Spaces.and..Measure Theory

Week 1(January 1-6)	
Chapter 1	
01/01/2018	Introduction of Inner Product spaces
02/01/2018	Def^n and Examples of IPS
03/01/2018	Introduction of Hilbert spaces
04/01/2018	Def^n and related examples.
05/01/2018	Hilbert space as normed linear space.
06/01/2017	Schwarz inequality
Week 2(January 8-13)	
Chapter	
08/01/2018	Convex sets in Hilbert spaces
09/01/2018	Projection Theorem and results
10/01/2018	Introduction and def^n of orthonormal sets
11/01/2018	Concept of separability
12/01/2018	Def^n and results on total orthonormal sets
13/01/2018	Bessel inequality
Week 3(January 15-20)	
Chapter	
15/01/2018	Parseval inequality
16/01/2018	Assignment and presentation
17/01/2018	Test
18/01/2018	Conjugate of Hilbert space
19/01/2018	Riesz representation theorem in Hilbert space
19/01/2018	— do —
20/01/2018	Def^n of operators
Week 4(January22-27)	
Chapter	
22/01/2018	Vasant Panchmi
23/01/2018	Adjoint of an operator on a Hilbert space
24/01/2018	Sir chhotu Ram Jayanti
25/01/2018	Class – discussion on adjoint operators
26/01/2018	Republic Day

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27/01/2018	Reflexivity of Hilbert space
Week 5 (January29- Feb3)	
Chapter	
29/01/2018	Introduction of Self - adjoint operators
30/01/2018	Def^n. of self - adjoint operators
31/01/2018	Concept of positive operators
01/02/2018	Results and theorems on +ve operators
02/02/2018	Product of +ve operators
03/02/2018	Presentation on positive operators
Week 6(Feb 5-10)	
Chapter	
05/02/2018	Test
06/02/2018	Introduction of Projection operators
07/02/2018	Def^n. of Projection operators and Examples
08/02/2018	Properties of projection operators
09/02/2018	Product of Projections
10/02/2018	Maharshi Dayanand Sarasvati Jayanti
Week 7(Feb 12-17)	
Chapter	
12/02/2017	Sum and Difference of projections.
13/02/2017	Maha - Shivratri
14/02/2017	Def^n. of normal and unitary operators
15/02/2017	Examples of normal and unitary operators
16/02/2017	Projections on Hilbert space
17/02/2017	~~Sep~~ spectral theorem on finite dim. space
Week 8(Feb 19-24)	
Chapter	
19/02/2018	— do —
20/02/2018	Introduction of Convex functions
21/02/2108	Def^n and examples of Convex fun.
22/02/2018	Jensen inequalities
23/02/2018	Measure space
24/02/2018	Results on measure space
Week 9(Feb 26-March03)	
Chapter	
26/02/2018	Measure and outer measure
27/02/2018	Def's. and related examples and theorems
28/02/2018	—
01/03/2018	—

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02/03/2018	—
03/03/2018	—
Week 10(March 5-10)	
Chapter	
05/03/2018	Generalized Fatou Lemma
06/03/2018	Existance and Extension of a measure
07/03/2018	Caratheodory extension theorem
08/03/2018	Assignment
09/03/2018	Test
10/03/2018	Viva-wise class discussion
Week 11(March 12-17)	
Chapter	
12/03/2018	Introduction of signed measure
13/03/2018	Def^n and examples of Signed measure
14/03/2018	Hahn Decomposition theorem
15/03/2018	— do —
16/03/2018	Jordan decomposition theorem
17/03/2018	— do —
Week 12(March 19-24)	
Chapter	
19/03/2018	Introduction of mutually signed measure
20/03/2018	Radon-Nikodyn theorem
21/03/2018	Lebesgue decomposition Theorem
22/03/2018	— do —
23/03/2018	Shaheedi Diwas
24/03/2018	Lebesgue-Stieltjes integral Introduction
Week 13(March 26-31)	
Chapter	
26/03/2018	Def^{n}s and examples of lebesgue-stieltjes integral
27/03/2018	Introduction of Product measure
28/03/2018	Results on Product measure
29/03/2018	Mahavir Jayanti
30/03/2018	Fubini theorem
31/03/2018	— do —
Week 14(April 02-07)	
Chapter	
02/04/2018	Baire Sets
03/04/2018	Def^n of Baire measure and examples
04/04/2018	— do —

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05/04/2018	Continuous Functions
06/04/2018	Introduction of continuous fun. with compact support
07/04/2018	— do —
Week 15(April 09-14)	
Chapter	
09/04/2018	Related results and theorems on above topic.
10/04/2018	class presentation
11/04/2018	Assignment
12/04/2018	Test
13/04/2018	Revision of Unit - I
14/04/2018	Dr. AMBEDKAR Jayanti
Week 16(April 16-21)	
Chapter	
16/04/2018	class test of unit-I
17/04/2018	Revision of Unit - II
18/04/2018	Parashuram Jayanti
19/04/2018	class test of unit-II
20/04/2018	Revision of Unit - III
21/04/2018	— do —
Week 17(April 23-28)	
Chapter	
23/04/2017	Presentation and viva-wise class
24/04/2017	Test of unit - III
25/04/2017	Revision of unit - IV
26/04/2017	— do —
27/04/2017	— do —
28/04/2018	Test of unit - IV
Week 18(April 29-30)	
Chapter	
30/04/2018	Group - discussion on complete syllabus

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