INSTRUCTION DIVISION
SECOND SEMESTER 2015-2016
Course Handout (Part-II)

Date: 06/01/ 2016

In addition to Part-I (General Handout for all Courses appended to the time table) this portion gives further specific details regarding the Course.

Course No. **: MATH F244**
Course Title **: Measure and Integration**
Instructor-incharge **: TRILOK MATHUR**

1. Scope and Objective of the Course:

The objective of this course is to give a comprehensive and sound introduction to modern measure theory and integration. It includes Lebesgue measure and integration, absolutely continuous function & function of bounded variation, L_p spaces. Lebesgue theory of integration is needed in study of theory of partial differential equations and in numerical solution of partial differential and integral equations.

2. Text Book:

Jain P.K. & V.P. Gupta; *Lebesgue Measure And Integration*, New Age International Limited, Delhi, IInd Edition, 2001

Reference Books:

1. De Barra: *Measure Theory and integration*, New Age International Limited, Delhi, 2003.
2. Royden: *Real Analysis*, Pearson l, 2003.
3. Mcshane: *Integration*, Academic Press, 2000.

3. Course Plan :

Topic	No. of Lecture	Chapter/Book
Review of Riemann integration & need for study of Lebesgue integration	2	Reference Book 2
Lebesgue measure, measurable sets and properties & characterization of measurable sets	7	Chapter 3.1---3.7
Non-measurable sets	1	Chapter 3.8
Measurable functions	8	Chapter 4
Riemann & Lebesgue Integral	2	Sec 3.4 of Ref. Book 1
Lebesgue integral	10	Chapter 5
Differentiation, Integration & functions of bounded variations	8	Chapter 6
Lp – Spaces	5	Chapter 7

4. Evaluation Schedule:

Components	Duration	Marks/ Weightage	Date & Time	Remark
Mid Semester Test	90 Min	65	16/3 2:00 - 3:30 PM	Closed book
Comprehensive	3 Hr.	90	9/5 FN	Partially open book
Class performance test	20 Min each	45 = (15+15+15)	**Five unannounced** class performance tests (**open book**) will be taken in regular class / common hour and best **three** will be consider for evaluation	

5. Regular Problem sets will be given for type of the problems to be done

6. Chamber Consultation Hours: To be announced in the class.

7. Notices: Notices if any, will be displayed on Department of Mathematics Notice Board and on the NALANDA website, normally information will be conveyed in the Class.

8. Make UP Policy:

a. **NO MAKE UP** will be given in Class Performance Tests under any circumstances.
b. Make up of other evaluation components (Mid Sem. and Comprehensive Exam) will be granted only in genuine cases. Permission must be taken in advance except in extreme cases.
c. **No MAKE-MAKE-UP will be entertained.**

Instructor-in-charge
MATH F244