

Dayanand Science College, Latur

E-Contents (Video Lectures)

Mathematics

Class: B. Sc. III Year (Sem-V)

Name of Paper: Metric Spaces

Sub: Mathematics

Paper No: XII (MT312)

SRTMUN, SPPU, MU, KUD, AMU, BAMU, NMU, SGBAU etc. Universities

Curriculum

Links of Video Lectures for UG, PG: Dr. Sidheshwar Bellale

Director, Mathematics Research Centre, DSC Latur

Lect. No.	Name of Units / Articles	Video Lecture Link
I	Unit-I All	https://www.youtube.com/playlist?list=PL7TANb4Sj71qVY4Tb7oZZwanvzqb3ctJl
1	Syllabus, Definition of Metric Spaces	https://youtu.be/WKh1P8ERKJk
2	Basic Concepts of and types of metric spaces	https://youtu.be/9jJ4tM_EDnE
3	Metric Space on set of Real Numbers	https://youtu.be/aEaO0sUb-nY
4	Euclidean Space and its proof	https://youtu.be/ncVsqm8fZIM
5	Hilbert's space and its proof	https://youtu.be/eWY7CCjFQFg
6	Rectangular Metric Space	https://youtu.be/8UM16mdc-DQ
7	Frechet Metric Spaces	https://youtu.be/02BDAWmk1yE
8	Bounded metric Space	https://youtu.be/majcQRbLIIdU
9	Open and Closed Spheres	https://youtu.be/2ZjaNoadfmY
10	Neighborhood of a Point	https://youtu.be/lwXvtXnR8dw
11	Open Set and Open Sphere	https://youtu.be/bPDF9GUV-Bs
12	Theorems on Open Set	https://youtu.be/s30_9Phkayg
13	Adherent Point, Limit Point	https://youtu.be/UNc4VcAFd7c
4	Closed Set and Closed Sphere	https://youtu.be/tP6BdFbnafw
15	Closed Set and theorems	https://youtu.be/Tn17nsQf6rg
16	Subspace and theorems	https://youtu.be/pCb4rkJbW8
17	Theorems on Subspace	https://youtu.be/9afyaU3L-dI
18	Closure of a Set	https://youtu.be/dKAofJJkKys
19	Properties of Closure of a Set	https://youtu.be/Kui27hzvp1o
20	Proofs Properties of Closure of a Set	https://youtu.be/R9gc_zbsf6k
21	Interior, Exterior Frontier and Boundary Points	https://youtu.be/Pm7JJ12tsbc
	UNIT -II	
	All Unit -II	https://www.youtube.com/playlist?list=PL7TANb4Sj71qh2uWfatm401WSm1D1dDqD
22	Convergence and Cauchy Sequence	https://youtu.be/X2tJohpC7x8
23	Cauchy Sequence	https://youtu.be/gMM3IjX-C4Q
24	Complete Metric Space	https://youtu.be/9sDiisOKuQE
25	Examples on Complete Metric Space	https://youtu.be/MOHFASs4afA

26	Examples on Complete Metric Space	https://youtu.be/09ojp8s1hYw
27	Subspace of Complete Metric Space	https://youtu.be/UNrrJFzC-8Y
28	Cantor's Intersection Theorem	https://youtu.be/Tuld69hTNI
29	Dense set, First and Second Category Sets	https://youtu.be/JmlPLqXrZnw
30	Baire's Category Theorem	https://youtu.be/al9_fHY1WD4
31	Continuity and Uniform Continuity	https://youtu.be/-mnjRDGxxbs
32	Theorems on Continuity	https://youtu.be/4LzVBRmldfM
33	Examples on Continuity in Metric Spaces	https://youtu.be/ty4b6Vhr2TI
34	Continuity and Uniform Continuity	https://youtu.be/X4NGDCa8th0
35	Examples on Uniform Continuity in Metric Spaces	https://youtu.be/9wD4U4Y371g
36	Banach Fixed Point Theorem	https://youtu.be/5oJcSrnLSk8
	UNIT III & IV	
	All Unit III & IV	https://www.youtube.com/watch?v=gNkDoqkwEqY&list=PL7TANb4Sj71qayU4tPSsf5EjEVflr2Q-C
37	Definitions and Basic Concepts of Compactness	https://youtu.be/E9tMX_JatC4
38	Theorems of Compactness	https://youtu.be/BCNh5w0x0-s
39	Theorems of Compactness	https://youtu.be/olEkNq235Hs
40	Finite Intersection Property	https://youtu.be/mye06Nzukfw
41	Relatively Compactness and Totally Bounded	https://youtu.be/g-4PJAIEdFM
42	Theorems on Totally Bounded Sets	https://youtu.be/q9d6wAwanGU
43	Connectedness	https://youtu.be/jPslLOfнк3s
44	Theorems on Connectedness	https://youtu.be/A5JrvCFBXsM
45	Theorems on Connectedness	https://youtu.be/gNkDoqkwEqY
	Completed Syllabus	
	Basics for Perfection in Mathematics	
1	Sequences and Series	https://www.youtube.com/playlist?list=PLzatFovyqohwqWOFegSefz7xOuRomL7De
2	Sets and Relations	https://www.youtube.com/playlist?list=PL7TANb4Sj71pLT9rJJN1XIDpqv9Lythw2
3	Functions	https://www.youtube.com/playlist?list=PL7TANb4Sj71okEsD3aX8ABnhxX5XfwXcU
4	Basics for Real Analysis	https://www.youtube.com/playlist?list=PL7TANb4Sj71okEsD3aX8ABnhxX5XfwXcU
5	For All Lectures Visit	https://www.youtube.com/channel/UC25Hwz1jT_gwAJU4YEiO6Rg
III	LIVE LECTURES	https://www.youtube.com/channel/UC25Hwz1jT_gwAJU4YEiO6Rg/live