

SARASWATI MAHILA MAHAVIDYALAYA, PALWAL

SESSION:2021-22

LESSON PLAN

Name of faculty : Ms. Amrita Agrawal

Designation : Assistant Professor in Maths

Sem : Even

Class : Bsc-II(CS)

Subject : Special Function and Integral Transform

Sr.No.	Topics/chapters	Lectures	Topics of assignment/test
1	Power Series Method, definition of beta & gamma functions, bessels equation & its solutions, covergence, recurrence relations & generating functions, orthogonality of bessels functions.	Lect 1 to Lect 20	Assignment of beta & gama function. Test of power Series method & bessels functions.
2	Legendre & hermit's function & their properties, recurrence relations & generating functions, orthogonality of Legendre & hermit polynomial, Rodrigues formula, Laplace integral integral representation of Legendre polynomial.	Lect 21 to Lect 40	Assignment of recurrence relations & generating functions. Test of Legendre & hermit polynomial & Rodrigues formula.
3	Existence theorem for Laplace transforms, linearity of Laplace transform, shifting theorems, Laplace transforms of derivatives & integral, Differentiation & integration of Laplace transforms, convolution theorem inverse Laplace transforms of derivative & integrals.	Lect 41 to Lect 60	Assignment of Laplace transforms & shifting theorem. Test of Laplace transforms & inverse Laplace transform & revision of Laplace transforms.

4	Fourier transform: Linearity, shifting, modulation, convolution theorem, Fourier transform of derivatives, relation between Fourier & Laplace transform, parseval's identity for Fourier transform, solution of differential equation using Fourier transform.	Lect 61 to Lect 80	Assignment of shifting modulation, convolution theorem. Test of Fourier transform & Laplace transforms & revision of Fourier transform.
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