



ज्ञानगंगा घरोघरी

Yashwantrao Chavan Maharashtra Open University, Nashik - 422 222

SUBJECT: Counselling Schedules for current year (2020-2021)

V57: M.SC. (MATHEMATICS) {2015 PATTERN}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	S24031: FUNCTIONAL ANALYSIS	August	02/08/2020	10.30 am - 11.30 am	Theory	Normed Linear Spaces
2.		August	09/08/2020			Banach Spaces
3.		August	16/08/2020			Hahn-Banach Theorem
4.		August	23/08/2020			Open Mapping Theorem
5.		September	30/08/2020			Hilbert Spaces
6.		September	06/09/2020			Bessel Inequalities
7.		September	13/09/2020			Fourier Expansions
8.		September	20/09/2020			Conjugate Space
9.		September	27/09/2020			The Adjoint Operators
10.		October	04/10/2020			Special Type of Operators
11.		October	11/10/2020			Finite Dimensional Spectral Theory
12.		October	18/10/2020			Contraction Mapping Principle
13.		October	25/10/2020			Backlog Clearance
14.		November	01/11/2020			Conduction of CA
15.		November	08/11/2020			Guidance for End Exam
16.	S24032:	August	02/08/2020	11.30am- 12.30pm	Theory	Graph Theory: Introduction, Graphs as Models

17.	ADVANCED DISCRETE MATHEMATICS	August	09/08/2020			Graph Theory: The Matrix Representation of Graphs, Fusion,
18.		August	16/08/2020			Trees: Introduction, Trees and Connectivity, Connector Problems, Kruskals Algorithm, Prims Algorithm
19.		August	23/08/2020			Lattice Theory: Introduction, Theorem, Product of Two Posets-Theorem, Lattices, Distributivity and Modularity, Lemma, Ideals, Dual Ideals
20.		September	30/08/2020			Lattice Theory: Lattices, Distributivity and Modularity, Lemma, Ideals, Dual Ideals
21.		September	06/09/2020			Boolean Algebra: Introduction, Theorem, Simplification of Circuits, Designing of Switching Circuits.
22.		September	13/09/2020			Recurrence Relations: Introduction
23.		September	20/09/2020			Recurrence Relations: Linear Difference Equation with Constant Coefficients
24.		September	27/09/2020			Generating Functions
25.		October	04/10/2020			Combinatorics
26.		October	11/10/2020			Automata
27.		October	18/10/2020			Languages
28.		October	25/10/2020			Backlog Clearance
29.		November	01/11/2020			Conduction of CA
30.		November	08/11/2020			Guidance for End Exam
31.	S24033: NUMBER THEORY	August	02/08/2020	12.30pm - 1.30pm	Theory	Divisibility: Introduction, Division Algorithm, Uniqueness of q and r , To establish the Second Assertion of the Theorem.
32.		August	09/08/2020			Prime Numbers and Their Distribution: Introduction, Prime Numbers
33.		August	16/08/2020			Prime Numbers and Their Distribution: Prime

						and Their Distribution, The Goldbach Conjecture
34.		August	23/08/2020			Congruence Relation: Introduction, Definition, Theorem, Corollary
35.		September	30/08/2020			Fermat's-Theorem and Applications: Introduction, Theorem
36.		September	06/09/2020			Fermat's-Theorem and Applications: Corollary, Alternative Proof
37.		September	13/09/2020			Number Theoretic Functions: Introduction, Lemma, Theorem
38.		September	20/09/2020			Number Theoretic Functions: Mobius Inversion Formula
39.		September	27/09/2020			Euler's Function: Introduction, Lemma, Gauss Theorem
40.		October	04/10/2020			Primitive Roots: Introduction, Composite Number having Primitives, Lemma, Theory of Indices
41.		October	11/10/2020			Primitive Roots: Lemma, Theory of Indices
42.		October	18/10/2020			Quadratic Reciprocity: Introduction, Definition, Theorem, Corollary
43.		October	25/10/2020			Backlog Clearance
44.		November	01/11/2020			Conduction of CA
45.		November	08/11/2020			Guidance for End Exam
46.	S24034: INTEGRAL EQUATIONS	August	02/08/2020	2.30 pm – 3.30pm	Theory	Integral Equation
47.		August	09/08/2020			Conversion of ODE to Integral Equation
48.		August	16/08/2020			Fredholm Integral Equations with Separable Kernel
49.		August	23/08/2020			Eigen Values and Eigen Functions
50.		September	30/08/2020			Method of Successive Approximation
51.		September	06/09/2020			Volterra Integral Equation
52.		September	13/09/2020			Symmetric Kernels: Preliminaries, Symmetric

						Kernel and Properties, Orthonormal Set,
53.		September	20/09/2020			Fundamental Properties of Eigen values and Eigen Function for Symmetric Kernel,
54.		September	27/09/2020			Hibert Theorem and its Consequences: Hibert-Schmidt Theorem, Application of Hilbert-Schmidt Theorem, Solution of symmetric Integral Equation by Hilbert- Schmidt Theorem
55.		October	04/10/2020			Integral Transform Method: Laplace Transform, Solution of Volterra Integral Equation with Convolution Type Kernel.
56.		October	11/10/2020			Solution of Integrals- Differential by Laplace Transform Method, Solution of Able Integral Equation by Laplace Transform Method, Fourier Transform, Solution by Fourier Transform Method
57.		October	18/10/2020			Greens Function: Introduction, Motivation, Definition of Greens Function, Existence and Uniqueness Theorem, Construction of Greens Function, Solution or Conversion of BVP to Integral Equation by using Greens Function.
58.		October	25/10/2020			Backlog Clearance
59.		November	01/11/2020			Conduction of CA
60.		November	08/11/2020			Guidance for End Exam
61.	S24035: OPERATION RESEARCH-I	August	02/08/2020	3.30pm- 4.30pm	Theory	Convex Sets and Functions: Introduction, Convex Sets and Their Properties,
62.		August	09/08/2020			Hyperplanes and Half Spaces, Supporting and Separating Hyperplanes, Convex Functions, Local and Global Extreme.
63.		August	16/08/2020			Linear Programming
64.		August	23/08/2020			D-Generacy, Duality and Revised Simplex Method: Introduction, Duality, Standard form of the Primal

65.		September	30/08/2020			Relationship between two problems (Primal and dual), Revised Simplex Method, To Obtain Inverse of Initial Basis Matrix an Initial BFS
66.		September	06/09/2020			Integer Programming: Introduction, Gomory's All Integer Cutting Plane Method, Examples, Geometrical Interpretation of Gomory's Cutting Plane Method,
67.		September	13/09/2020			Branch and Bound Method, Steps of Branch and Bound Algorithm.
68.		September	20/09/2020			Dynamic Programming
69.		September	27/09/2020			Applications To Linear Programming
70.		October	04/10/2020			Non-Liner Programming: Introduction, Unconstrained External Problem, Theorem, Lagrange's Method of Undetermined Multipliers,
71.		October	11/10/2020			Necessary and Sufficient Conditions for Optimization of an Objective Function, Kuhn- Tucker's Conditions
72.		October	18/10/2020			Wolfe's and Beale's Methods
73.		October	25/10/2020			Backlog Clearance
74.		November	01/11/2020			Conduction of CA
75.		November	08/11/2020			Guidance for End Exam
76.	S24041: MEASURE AND INTEGRATION	February	07/02/2021	10.30am- 11.30am	Theory	Measure Space, Measurable Functions
77.		February	14/02/2021			Integration and General Convergence Theorems: Introduction, Theorem: Fatou's Lemma
78.		February	21/02/2021			Theorem: Monotone Convergence Theorem, Theorem: Lebesgue Convergence Theorem.
79.		February	28/02/2021			Signed Measure
80.		March	07/03/2021			The Radom- Nikodym Theorem
81.		March	14/03/2021			Uniqueness, Lebesgue Decomposition

						Theorem
82.		March	21/03/2021			Product Measures: Introduction, Product Measure, Lemma, Proposition
83.		March	28/03/2021			Integration on Product Spaces, Fubini's Theorem, Tonelli's Theorem
84.		March	04/04/2021			Outer Measure
85.		April	11/04/2021			Inner Measure
86.		April	18/04/2021			Lp-Spaces: Introduction, Definition, Holder Inequality
87.		April	25/04/2021			Minkowski Inequality, Proposition, Lemma, Riesz Representation Theorem.
88.		April	02/05/2021			Backlog Clearance
89.		May	09/05/2021			Conduction of CA
90.		May	16/05/2021			Guidance for End Exam
91.	S24042: PARTIAL DIFFERENTIAL EQUATIONS	February	07/02/2021	11.30am - 12.30pm	Theory	First Order Partial Differential Equations: Introduction, Curves and Surfaces, Parametric Equations of a Surface, A Curve Through Surfaces, Direction Cosines of a Line Passing Through two Points, The Direction Cosines if the Tangent to the Curve
92.		February	14/02/2021			Direction Ration of the Normal to the Surface, Equation of a Line when two Surfaces are Given, Partial Differential Equation, Classification of First Order Partial Differential Equations, Classification of Integrals
93.		February	21/02/2021			Liner Equation of the First Order
94.		February	28/02/2021			Compatible Systems of First Order Partial
95.		March	07/03/2021			The Cauchy Problem: Introduction, Integral Surface Through a Given Curve for a Linear Partial Differential Equations
96.		March	14/03/2021			Integral Surface Through a Given Curve for a Non-Linear Partial Differential Equations,

						Integral Surface Through a Given Curve by a Method of Characteristics.
97.		March	21/03/2021			Second Order Partial Differential Equations: Introduction, Solution of the Equation, Origin of the Partial Differential Equation, One Dimensional Wave Equation, Heat Conduction Equation, Classification of Second Order Partial Differential Equation,
98.		March	28/03/2021			Physical Meaning of the Solution of the Wave Equation, Vibration of a Semi-Infinite String (one end point is fixed), Vibration of a String of Finite Length, Vibration of a String of Finite Length (Method of Separation of Variables), Uniqueness of Solution of Wave Equation.
99.		March	04/04/2021			Heat Conduction Problem
00.		April	11/04/2021			Laplace Equation: Introduction, Boundary Value Problems, Interior Dirichlet Problem for a Circle, The Dirichlet Exterior Problem for a Circle, Interior Neumann Problem for a Circle, Exterior Neumann Problem for a Circle
01.		April	18/04/2021			Interior Dirichlet Problem for a Rectangle, The Neumann Problem for a Rectangle, The Dirichlet Problem for the Upper Half Plane, The Neumann Problem for the Upper Half Plane
02.		April	25/04/2021			Riemann's Method of Solution of Linear Hyperbolic Equation
03.		April	02/05/2021			Backlog Clearance
04.		May	09/05/2021			Conduction of CA
05.		May	16/05/2021			Guidance for End Exam
06.	S24043:	February	07/02/2021	12.30pm – 1.30pm	Theory	Some Preliminaries and Tensor

07.	RIEMANNIAN GEOMETRY-I	February	14/02/2021		N-Ply Orthogonal System of Hyper surfaces and Orthogonal Ennuple: Introduction, Length of a Curve and Magnitude of a Vector, Angle Between two Hyper surface, Co-ordinate Hyper surface
08.		February	21/02/2021		Orthogonality Conosition, N-Ply Orthogonal System of Hyper surface, Congruence, Orthogonal Ennuple, Principle Directions for a Symmetric Covariant Tensor of Second Order
09.		February	28/02/2021		Euclidean Space of M-Dimension
10.		March	07/03/2021		Christoffel's Three-Index Symbols and Covariant Differentiation: Introduction, Christoffel Symbols, Covariant Derivative of a Tensor Field
11.		March	14/03/2021		Intrinsic Derivative (Derived Vector), Tender of a Vector
12.		March	21/03/2021		Divergence and Curl of a Vector and Laplacian Operator
13.		March	28/03/2021		Curvature of a curve, Geodesics, Parallelism of Vectors: Introduction, First Curvature (Geoderic Curvature) Vector,
14.		March	04/04/2021		First Curvature (Geoderic Curvature) of the Curve, Principle Normal, Geodesics, Differential Equations of Geodesic on a V_n .
15.		April	11/04/2021		Geodesic Co-ordinate System, Riemannian Co-ordinate
16.		April	18/04/2021		Parallelism of a Vector: Introduction, Parallel Displacement and Riemannian Tensor, Parallelism f a Vector of Variable Magnitude
17.	April	25/04/2021		Subspace of a Riemannian Manifold, Parallelism in Subspace	

18.		April	02/05/2021			Backlog Clearance
19.		May	09/05/2021			Conduction of CA
20.		May	16/05/2021			Guidance for End Exam
21.	S24044: RIEMANNIAN GEOMETRY-II	February	07/02/2021	2.30pm- 3.30pm	Theory	Ricci's Coefficients of Rotation: Introduction, Ricci's Coefficients of Rotation, Curvature of a Congruence, Geodesic Congruence
22.		February	14/02/2021			Normal Congruence, Curl of a Congruence
23.		February	21/02/2021			Canonical Congruences
24.		February	28/02/2021			Riemann Curvature Tensor: Introduction, Riemann Curvature Tensor, Second Order Covariant Derivative of a Tensor of Rank two,
25.		March	07/03/2021			Properties of Riemann Curvature Tensor, Ricci Tensor, Bianchi Identities, Contracted Bianchi Identities
26.		March	14/03/2021			Curvature of a Riemannian Space: Introduction, Riemannian Co-ordinates, Relation between Christoffel Symbols of V_n and V_m in which V_n is Immersed, Riemannian Curvature of a Space at a Point
27.		March	21/03/2021			Expression Riemannian Curvature, Flat Space, Mean Curvature of a Space for a Given Direction, Ricci's Principle Directions
28.		March	28/03/2021			Einstein Space
29.		March	04/04/2021			Hyper surfaces
30.		April	11/04/2021			Curvature of a Curve in A Hyper surface and Normal Curvature of a Hyper surface: Introduction, Meunier's Theorem, Generalization of Dupin's Theorem, Some Definitions, Conjugate Directions and Asymptotic Directions in a Hyper surface
31.		April	18/04/2021			Euler's Formula, Umbilical Points, Totally

						Geodesic Hyper surface, Tensor Derivative of the Unit Normal
32.		April	25/04/2021			Gauss and Codazzi Equations for a Hyper surface
33.		April	02/05/2021			Backlog Clearance
34.		May	09/05/2021			Conduction of CA
35.		May	16/05/2021			Guidance for End Exam
36.	S24045: OPERATION RESEARCH-II	February	07/02/2021	3.30pm- 4.30pm	Theory	Replacement Problems: Introduction, Types of Replacement Situation To find the best Replacement age of a Machine when (i) Its Maintenance Cost is given by a function Increasing with time, (ii) Its Scrap Value is Constant and (iii) The Money Value is not increased. Solution
37.		February	14/02/2021			To find the Interval of Optimum Replacement
38.		February	21/02/2021			Problems in Mortality
39.		February	28/02/2021			Inventory Control: Introduction, Definitions and Related Concepts, Model-I, Model-II
40.		March	07/03/2021			Model-III, Model-IV, Model-V, Model-VI
41.		March	14/03/2021			Probabilistic Models
42.		March	21/03/2021			Queuing Theory-I: Introduction, Basic Definitions and Notations, Classification of Queuing Models
43.		March	28/03/2021			Model I: (M/M/1): (∞ /FCFS) (Birth and Death Model), Model II: General Erland Queuing Model
44.		March	04/04/2021			Queuing Theory-II
45.		April	11/04/2021			Information Theory: Information, Description of a Communication System, A Quantitative Measure of Information, A Binary Unit of

					Information
46.		April	18/04/2021		Measure of Uncertainty or Entropy, Properties of Average Measure of Uncertainty or Entropy, Important Relations for Various Entropies
47.		April	25/04/2021		Pert and CRM
48.		April	02/05/2021		Backlog Clearance
49.		May	09/05/2021		Conduction of CA
50.		May	16/05/2021		Guidance for End Exam




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