JHARKHAND Rai University
UGC RECOGNISED UNIVERSITY
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Lesson Plan & Tracking

Programe : MCA	**Session : 2022 - 2024**	**Year : 2022**	**Sem: Ist**
Course: Discrete Mathematics			
Name of the Faculty: Wakil Kumar	**Commencement Date: September 2022**		**Date of Closure:**

Lecture No.	Week	Unit	Topics to be Covered	Blended Mode			Date	Duration	Tracking of Lectures	Related Course Outcome	Signature of Faculty	Signature of HoD	Remarks (if any)
				ICT Tool/Platform/ LMS	Resources	Activity							
1	1	1	Sets and different types of sets										
2		1	Combinations of Set										
3		1	Combination of Multisets, Venn Diagrams.										
4	2	1	Venn Diagrams.										
5		2	Relation and Properties of Relations										
6		2	Matrices of relations										
7	3	2	Closure operations on relations										
8		2	Equivalence Relation and examples										
9		2	Computer Representation of Relations										

10	4	2	Partial Ordering Relation										
11		2	Lattices, Properties of Lattices										
12		2	Hasse Diagram of partially ordered set.										
13	5	2	Introduction to functions and its types										
14		2	Function for Computer Science										
15		2	Discrete numeric Functions										
16	6	2	Composition of Functions										
17		2	Invertible Functions, Recursive Functions										
18		2	Generating functions										
19	7	2	Basics of Counting Techniques										
20		2	Pigeonhole Principle										
21		2	Generalized Permutations and Combinations										
22		3	Basic Concept of Graph Theory and Terminology										

23	8	3	Types pf Graph										
24		3	representation of Graphs in Matrix form										
25	9	3	Bipartite, Regular graph										
26		3	Planar and connected graphs										
27		3	Storage representation and manipulation of graph										
28	10	3	shortest path in weighted graphs										
29		3	Introduction, Undirected Trees, Binary search trees										
30		3	Spanning trees, Minimum spanning trees, Kruskal's Algorithm										
31	11	3	Minimum spanning trees through Prim's Algorithm										
32		4	Definition, Properties, Types: Semi Groups, Monoid										
33		4	Groups, Abelian group, Subgroup, cyclic groups										
34	12	4	Permutation groups, Normal subgroup										
35		4	Lagrange's Theorem, Homomorphism and Isomorphism of Groups										

36		1	Propositions and Logical Operations										
37	13	1	Functionally complete set of connectives, Well Formed Formulas										
38		1	Laws of equivalence, Normal forms										
39		1	Predicate calculus, Inference Theory										
40	14	4	Boolean Functions, Representing Boolean Functions										
41		4	Design and Implementation of Digital Networks, Karnaugh maps										
42		4	Codes and Groupcodes										
43		4	Error detection and correction using Group codes										