

INDIRA PRIYADARSHINI COLLEGE, CHHINDWARA (M.P.)

CONSPECTUS

CLASS- B.C.A. III Sem.

SUBJECT- Discreate Mathematics

Date	Unit	Proposed Contents	Remark
01 Aug 14 - 06 Aug 14	I	Connectives, logical capabilities of languages,	
07 Aug 14 – 12 Aug 14		Tautologies, Equivalence of formulae, Duality Law,	
13 Aug 14 - 18 Aug 14		Different normal forms, Predicates,	
19 Aug 14 - 24 Aug 14		Predicates Formulae, Free and Bound Variables,	
25 Aug 14 - 31 Aug 14		Universe of discourse.	
01 Sep 14 - 06 Sep 14	II	Inclusion and equality of sets, Ordered pair and n-tuples ,	
07 Sep 14 – 12 Sep 14		Cartesian Product, Binary relation in a set,	
13 Sep 14 - 18 Sep 14		Equivalence and Compatibility relations,	
19 Sep 14 - 24 Sep 14		Partial Ordering, Composition of Functions, inverse function,	
25 Sep 14 - 30 Sep 14		Hashing function, Recursive Function.	
01 Oct 14 - 06 Oct 14	III	Algebraic system, Semi group and Monoid,	
07 Oct 14 – 12 Oct 14		Grammar and Languages, Subgroup, Polish Notation,	
13 Oct 14 - 18 Oct 14		Homomorphism,	
19 Oct 14 - 24 Oct 14		Group codes, Lattice as partially ordered set,	
25 Oct 14 - 31 Oct 14		BOOLEAN Algebra, Boolean Function.	
01 Nov 14 - 06 Nov 14	IV	Basics of Graph Theory, Vertex, Edges,	
07 Nov 14 – 12 Nov 14		Circuit, path and connectedness,	
13 Nov 14 - 18 Nov 14		matrix representation of Graph, Tree,	
19 Nov 14 - 24 Nov 14		Labeled tree, Spanning tree,	
25 Nov 14 - 30 Nov 14		List structure and graph.	

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CONSPECTUS

CLASS- **B.C.A. III Sem.**

SUBJECT- **Statistical Methods**

Date	Unit	Proposed Contents	Remark
01 Aug 14 - 06 Aug 14	I	Sample space and probability events and probability,	
07 Aug 14 – 12 Aug 14		axioms, probability and independence,	
13 Aug 14 - 18 Aug 14		Bays theorem with applications,	
19 Aug 14 - 24 Aug 14		Bernoulli trails,	
25 Aug 14 - 31 Aug 14		Concept of random variables with definition and example	
01 Sep 14 - 06 Sep 14	II	Discrete random variables, probability mass function and distribution function, Bernoulli Binomial,	
07 Sep 14 – 12 Sep 14		Poisson, Geometric Negative Binomial distributions with properties. Independence of random variables and probability generating functions.	
13 Sep 14 - 18 Sep 14		Continuous random variables, probability density functions,	
19 Sep 14 - 24 Sep 14		Properties of Hypo exponential, Erlang,	
25 Sep 14 - 30 Sep 14		Gamma Hyper exponential normal and truncated normal distributions.	
01 Oct 14 - 06 Oct 14	III	Functions of normal random variables,	
07 Oct 14 – 12 Oct 14		Joint distribution Mixture distribution and conditional expectation. Reliability failure density,	
13 Oct 14 - 18 Oct 14		hazard function Imperfect fault coverage with reliability, Parameter estimation in inference,	
19 Oct 14 - 24 Oct 14		properties of estimators,	
25 Oct 14 - 31 Oct 14		method of moments and maximum likely hood with uses.	
01 Nov 14 - 06 Nov 14	IV	Least square theory, Fitting of lines and curves scatter diagram,	
07 Nov 14 – 12 Nov 14		Coefficient of determination, concept of correlation and	
13 Nov 14 - 18 Nov 14		correlation coefficient with examples,	
19 Nov 14 - 24 Nov 14		correlation analysis Rank correlation linear regression,	
25 Nov 14 - 30 Nov 14		confidence interval of regression, simple non-linear regression.	

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CLASS- **B.C.A. III Sem.**

SUBJECT- **COBOL**

Date	Unit	Proposed Contents	Remark
01 Aug 14 - 06 Aug 14	I	Structure of a COBOL program character set, COBOL word,	
07 Aug 14 – 12 Aug 14		Data names, littorals, figurative constants Identification and	
13 Aug 14 - 18 Aug 14		environment division, Data division,	
19 Aug 14 - 24 Aug 14		Level Structure Data description,	
25 Aug 14 - 31 Aug 14		File working storage.	
01 Sep 14 - 06 Sep 14	II	Procedure division, Data movement, Arithmetic verbs,	
07 Sep 14 – 12 Sep 14		sequential control verbs, Input and output verbs, conditional verbs,	
13 Sep 14 - 18 Sep 14		Usage, justified, redefines, renames,	
19 Sep 14 - 24 Sep 14		clauses; Data movement verbs and arithmetic verbs,	
25 Sep 14 - 30 Sep 14		Move, add subtract computer condition and sequence control verbs.	
01 Oct 14 - 06 Oct 14	III	Table handling, occurs clause, assigning values to tables,	
07 Oct 14 – 12 Oct 14		Multidimensional tables, perform verb with different options,	
13 Oct 14 - 18 Oct 14		Indexed tables and indexing sets,	
19 Oct 14 - 24 Oct 14		Search and sort of tables,	
25 Oct 14 - 31 Oct 14		Sorting a table.	
01 Nov 14 - 06 Nov 14	IV	File handling, File characteristics record,	
07 Nov 14 – 12 Nov 14		Block, buffers,	
13 Nov 14 - 18 Nov 14		Sequential files,	
19 Nov 14 - 24 Nov 14		File description,	
25 Nov 14 - 30 Nov 14		Operations on sequential files, report writer.	

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CONSPECTUS

CLASS- B.C.A. III Sem.

SUBJECT- DS Using 'C'

Date	Unit	Proposed Contents	Remark
01 Aug 14 - 06 Aug 14	I	List, Stack and operations, stack as an array,	
07 Aug 14 - 12 Aug 14		queue and implementation, circular queue.	
13 Aug 14 - 18 Aug 14		Applications of queue linked list pointers,	
19 Aug 14 - 24 Aug 14		Dynamic memory allocation linked stack,	
25 Aug 14 - 31 Aug 14		linked list in array abstract data type.	
01 Sep 14 - 06 Sep 14	II	Searching, sequential and binary search decision tree,	
07 Sep 14 - 12 Sep 14		big O notation, Triangular, Jagged and inverted tables,	
13 Sep 14 - 18 Sep 14		Table as ADT. Hashing, Sorting,	
19 Sep 14 - 24 Sep 14		Insertion, Selection Shell,	
25 Sep 14 - 30 Sep 14		Merge and Quick sort.	
01 Oct 14 - 06 Oct 14	III	Recursion, divide and conquer tower of Hanoi,	
07 Oct 14 - 12 Oct 14		Generating permutations, Back tracking Non attacking queens,	
13 Oct 14 - 18 Oct 14		Game tree Binary tree, Tree search, tree traversal,	
19 Oct 14 - 24 Oct 14		tree sort, Binary search tree,	
25 Oct 14 - 31 Oct 14		AVL trees, Heap sort.	
01 Nov 14 - 06 Nov 14	IV	Ordered tree, Forest and Orchards,	
07 Nov 14 - 12 Nov 14		Tries, graphs, Computer representation,	
13 Nov 14 - 18 Nov 14		Graph traversal depth first, Breadth first,	
19 Nov 14 - 24 Nov 14		Greedy algorithm,	
25 Nov 14 - 30 Nov 14		Graph as data structure.	

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CONSPECTUS

CLASS- B.C.A. III Sem.

SUBJECT- DBMS

Date	Unit	Proposed Contents	Remark
01 Aug 14 - 06 Aug 14	I	Database System & Evolution of Database technology. Database and Data sharing, planning,	
07 Aug 14 – 12 Aug 14		Management control Risks and cost of database logical and physical data representation,	
13 Aug 14 - 18 Aug 14		Database development. Database design- Conceptual design objects and relationships,	
19 Aug 14 - 24 Aug 14		Conceptual data models, Aggregation.	
25 Aug 14 - 31 Aug 14		Conceptual and Physical Objects.	
01 Sep 14 - 06 Sep 14	II	Relational data model - system development and concepts.	
07 Sep 14 – 12 Sep 14		Normalization process conceptual model to relational model. Relational algebra,	
13 Sep 14 - 18 Sep 14		Relational implementation with SQL, Schema and table definition Data manipulation, view queries.	
19 Sep 14 - 24 Sep 14		Relational implementation with graphical query language,	
25 Sep 14 - 30 Sep 14		Data manipulation.	
01 Oct 14 - 06 Oct 14	III	Physical Database System- Physical, storage media,	
07 Oct 14 – 12 Oct 14		Disk performance factors, Data storage format,	
13 Oct 14 - 18 Oct 14		File organization and addressing methods implementing logical relationship.	
19 Oct 14 - 24 Oct 14		Mapping Logical data structure to Physical data structure,	
25 Oct 14 - 31 Oct 14		Query optimization.	
01 Nov 14 - 06 Nov 14	IV	Managing the Data base environment - Database administration and	
07 Nov 14 – 12 Nov 14		Control DBA functions, Goals, integrity security and recovery.	
13 Nov 14 - 18 Nov 14		DBMS selection and implementation,	
19 Nov 14 - 24 Nov 14		Need analysis, DBMS functions and capabilities,	
25 Nov 14 - 30 Nov 14		DBMS evaluation and Implementation.	