

				Portions			
CORE		APTITUDE		ANALYTICS		SOFTWARE	
		Quant	LR	Verbal	Data analytics		Data Interpretation
CPC 1	Casting & Welding, Machining, Forming, Tooling for Manufacturing, Material science elements	Number System, Percentages, Logarithms, Ratios & Proportions, Interest	Analogy, Series, Logical Deductions, Sets and Venn Diagram	Reading Comprehension, Para Jumble, Para Summary, Odd one out, Grammar corrections, Synonyms, Antonyms, etc.	Probability: Basic definitions, distributions (uniform, normal, etc), Bayes Theorem, Probability Density and Distribution Function, Cumulative Distribution Function. Statistics: Measures of Central Tendency, Normal Distribution, Hypothesis Testing, over and under sampling	Table Chart, Graphs, Pie Charts, Bar Graphs, Line Graphs, Caselets, Combined Data Sets	See below table
CPC 2	Thermal, Fluid Mechanics,Strength of Materials,Engineering Mechanics, Basics of Automobile Engg - IC Engine concepts, Power Engineering	Averages, Geometry, Mensuration, Number Series, Mixtures	Coding/Decoding, Direction and Distance		Python Data Science, Data pre processing, Data Visualization: Different types of plots and their use cases.		See below table
CPC 3	Kinematics and Dynamics of machine, Design of machines, Vibrations	Profit and Loss, Time and work,Distance and Speed problems, Permutation and Combinations	Blood Relations, Syllogism, Double Lineup		SQL for data science and Excel. Machine Learning Theory: Supervised, Unsupervised Learning, Regression, Classification, Clustering		See below table
CPC 4	Quality, Reliability and Safety Engineering,Supply Chain Management,Lean Manufacturing (basics),Operations Research, Work Design and Facility Planning, Product life cycle and forecasting, Computer Integrated manufacturing	Probability, Data Sufficiency, Functions and inequalities, Quadratic equations, Number Series	Grouping and Selections, Puzzles, Clock and Calendar		Maching Learning Algorithms: Linear Regression, Polynomial Regression, Logistic Regression, Decision Trees, Random Forest, KNN, Naive Bayes. Dimensionality reduction and it's importance.		See below table

## CPC '22 Portion

SOFTWARE				
	CPC 1	CPC 2	CPC 3	CPC 4
DS	Arrays, Strings, Matrix	Stacks, Queues, Linked List	Binary, Binary Search & AVL Tree	Graphs, Heaps
Algos   Coding questions based on	Time and Space complexity analysis on Algorithms			
	Searching Algorithms, Sorting Algorithm	Greedy Algorithms, Bit Manipulation Algorithms, Divide and Conquer	Dynamic Programming, Backtracking	
OS	Basic OS concepts, Processes vs Threads, Heap vs Stack	Multitasking, Multiprocessing, Parallel Processing, Concurrent Programming	Priority Inversion, Process Synchronisation, Critical Section, Mutex Locks, Semaphores	Deadlock, Resource Allocation Graph, Virtual Memory, Segmentation, Cache (L1, L2, L3)
Database	SQL, ACID and BASE Properties, Relational Model, Document Model	Keys, Relational Algebra, Joins, Database connection	SQL Queries	
C, C++   Output question based on	Variable Declaration, Definition and Scope, Data Types, Storage Classes, Type Qualifiers, Access Modifiers, Operators, Control Statements, Preprocessor	Macros, Functions, References, Pointers, Structures and Unions, Memory Management	Classes and Objects, Constructors, Destructors, Function Overloading and Overriding, Operator Overloading	Inheritance, Virtual Functions and Polymorphism, Friend Functions, STL Function
Network	Types, Topologies, OSI/ISO Model, TCP/IP Model	Packet Switching and Circuit Switching	TCP, and UDP, TCP 3-way Handshake Process, Domain Name Server	HTTP and WWW, Ports, URL and URI
Web	Frontend and Backend, APIs, REST, SOAP	Cloud Computing - Hypervisor and types of virtualization, Virtual machines, SSH, Serverless Computing concepts wrt AWS	GraphQL, LAMP stack, MERN Stack, General Sysad concept	System Architecture Design