GCSET

Global Computer Science Entrance Test)

B.Tech. Entrance Syllabus

Introduction and Overview

The GCSET B.Tech. entrance exam would focus on evaluating the subject knowledge of candidates.
Overall, it is designed to be a test of aptitude and skills that are necessary for Computer Science engineering rather than prior knowledge.
It shall be a 60 minutes test, with 100 multiple-choice questions carrying 1 mark each. There shall be no negative marking.

These questions would be divided across the following subjects

Mathematics 20 Marks
Physics 20 Marks
Chemistry 20 Marks
Computer Fundamentals 10 Marks
English Language 10 Marks
Logical Ability and Reasoning 10 Marks
General Awareness 10 Marks

1. Mathematics

Geometry and Trigonometry:

- Coordinate Geometry (Lines, Circles, Parabolas)
- Trigonometric Ratios and Identities
- Heights and Distances

Algebra:

- Quadratic Equations and Inequalities
- Polynomials and Binomial Theorem
- Matrices and Determinants

Calculus:

- Differentiation and Integration Basics
- Application of Derivatives
- Area under Curves

Statistics and Probability:

- Measures of Central Tendency (Mean, Median, Mode)
- Permutations and Combinations
- Probability Theorems

Miscellaneous Topics:

- Sets, Relations, and Functions
- Progressions (Arithmetic, Geometric, Harmonic)
- Logarithms and Exponents

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2. Physics

Electrostatics and Current Electricity

- Electric Charges and Fields
- Electrostatic Potential and Capacitance
- Current Electricity
- Magnetic Effects of Current
- Electromagnetic Induction

Optics

- Reflection and Refraction
- Dispersion of Light
- Optical Instrument

Modern Physics

- Dual Nature of Radiation and Matter
- Atoms and Nuclear
- Semiconductor Device
- Communication Systems

3. Chemistry

Physical Chemistry

- Atomic Structure
- Chemical Bonding
- Atomic Structure
- States of Matter
- Thermodynamics
- Chemical Kinetics

Inorganic Chemistry

- Coordination Compounds
- s-block, p-block, d-block, and f-block
- Elements
- Periodic Table

Organic Chemistry

- Hydrocarbons
- Alcohols, Phenols, and Ethers
- Aldehydes, Ketones, and Carboxylic Acids
- Amines and Amides
- Biomolecules

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4. Computer Fundamentals

Basics of Computers:

- Hardware and Software Components
- Number Systems (Binary, Octal, Decimal, Hexadecimal)
- Logic Gates and Boolean Algebra

Programming Fundamentals:

- Introduction to Algorithms and Flowcharts
- Basics of Programming Languages (C, C++, Python)
- Conditional and Looping Statements

Data Structures and Networking Basics:

- Arrays, Stacks, Queues, Linked Lists
- Basics of Internet and Networking
- Understanding of Databases and SQL Basics

Cybersecurity Fundamentals:

- Concepts of Encryption and Decryption
- Safe Browsing Practices
- Introduction to Cyber Threats and Prevention

5. English Language

Grammar and Usage:

- Parts of Speech (Nouns, Pronouns,
- Verbs, Adjectives, Adverbs, Prepositions)
- Tenses and Subject-Verb Agreement
- Active and Passive Voice
- Direct and Indirect Speech

Vocabulary:

- Synonyms and Antonyms
- Word Usage and Word Pairing
- Idioms and Phrases

Comprehension and Reading:

- Reading Passages with Questions
- Identifying Themes and Main Ideas
- Contextual Meaning

Sentence Skills:

- Sentence Rearrangement
- Sentence Completion
- Spotting Errors

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6. Logical Ability and Reasoning

Verbal Reasoning:

- Coding and Decoding
- Blood Relations
- Direction Sense Test
- Series Completion
- Analogy and Classification

Non-Verbal Reasoning:

- Pattern Matching
- Mirror and Water Images
- Paper Folding and Cutting
- Cube and Dice Problems

Analytical Reasoning:

- Syllogisms
- Puzzles and Seating Arrangements
- Cause and Effect Relationships
- Statement and Conclusion

7. General Awareness

- Geography
- History
- Science and Technology
- Government Policies
- Sports
- Cultural Events
- Current Affairs