

TPSC Assistant Technical Officer (ATO) Paper II Syllabus

Job-Oriented Technical

Tripura Public Service Commission — Assistant Technical Officer · Section-wise syllabus and exam pattern

MARKS
120

EXAM DATE
17 Jan 2027

Section-wise syllabus

Probability and Statistics

Random variables. Uniform, normal, exponential, Poisson and binomial distributions. Mean, median, mode and standard deviation. Conditional probability and Bayes theorem.

Digital Logic

Boolean algebra, combinational and sequential circuits, minimization, number representations and computer arithmetic (fixed and floating point).

Computer Organization and Architecture

Machine instructions and addressing modes, ALU, data path and control unit. Instruction pipelining, pipeline hazards. Memory hierarchy: cache, main memory and secondary storage; I/O interface (interrupt and DMA mode).

Analog and Digital Communication

Autocorrelation and power spectral density, white noise, AM and FM, superheterodyne receivers, information theory, entropy and channel capacity, PCM, DPCM, ASK, PSK, FSK, QAM, MAP and ML decoding, matched filter, bandwidth, SNR and BER, error correction and Hamming codes, synchronization, inter-symbol interference, TDMA, FDMA and CDMA.

Data Structures and Programming

Arrays, stacks, queues, linked lists, trees, binary search trees, binary heaps, graphs. Programming in C, C++, Java. Recursion.

Algorithms

Searching, sorting, hashing. Asymptotic worst-case time and space complexity. Greedy, dynamic programming, divide and conquer. Graph traversals, minimum spanning trees, shortest paths.

Compiler Design

Lexical analysis, parsing, syntax-directed translation. Runtime environments. Intermediate code generation. Local optimization, data flow analyses: constant propagation, liveness analysis, common subexpression elimination.

Operating System

System calls, processes, threads, inter-process communication, concurrency and synchronization. Deadlock. CPU and I/O scheduling. Memory management and virtual memory. File systems.

Databases

ER model. Relational model: relational algebra, tuple calculus, SQL. Integrity constraints, normal forms. File organization, indexing (B and B+ trees). Transactions and concurrency control.

Information Systems and Software Engineering

Information gathering, requirement and feasibility analysis, data flow diagrams, process specifications, input/output design, process life cycle, planning and managing the project, design, coding, testing, implementation, maintenance.

Computer Networks

OSI and TCP/IP stacks; packet, circuit and virtual circuit switching; data link layer: framing, error detection, MAC, Ethernet bridging; routing: shortest path, flooding, distance vector and link state; fragmentation and IPv4 addressing, CIDR; ARP, DHCP, ICMP, NAT; transport layer: flow and congestion control, UDP, TCP, sockets; DNS, SMTP, HTTP, FTP, email.

Web Technologies

HTML5, CSS3, XML, client-server computing, web server, proxy server, web application development, MVC architecture, web services, frontend technologies.

Cyber Security and Emerging Technologies

Secure programming techniques, OWASP top 10 vulnerabilities, concepts of IoT, blockchain, AI.

Cloud Technology

Cloud computing, compute, network and storage management technologies, edge computing.

Keep in mind

55% in each paper

Unreserved candidates need at least 55% in Paper I and in Paper II separately; reserved categories need 45%. A strong Paper II cannot carry a weak Paper I.

No limit on attempts

You can sit the exam as many times as you like while you meet the eligibility and your category's upper age limit.

Answers only in English

Questions in all papers must be answered in English and in no other language.

Gate closes 10 minutes early

The venue closes 10 minutes before the exam starts and no one is let in after that. Jackets, coats and pullovers are not allowed inside.

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