SCHEDULE -V

[See Rule-7]

PART-I

[COMPETATIVE EXAMINATION]

1. Competitive Examination for Direct Recruitment:

(i) As provided in Part-IV of the Rules, selection of candidate for direct recruitment to the service shall be made by the Commission on the basis of competitive examination to be conducted by it.

(ii) As and when required, with prior approval of the **GA(P&T) Department, Finance Department and the Council of Ministers,** the Industries & Commence (Information. Technology) Department of the State Government may send a requisition to the Commission for selection of candidates to fill vacancies against the direct recruitment quota of Grade–IV of the Tripura Information Technology Service. As per the number of vacancies mentioned in the requisition, the Commission shall conduct a competitive examination for direct recruitment to the service in the manner as provided in Part-IV of the Rules. The Commission will complete the process of selection of the candidates through the examination ordinarily within a period of 4(Four) months and recommend the list of selected candidates to the Government.

(iii) Before holding the examination, the Commission shall issue an advertisement notifying, inter alia, the vacancies with the breakup of the posts earmarked for the unreserved and reserved category of candidates and inviting applications from the candidates willing to appear in the examination. The advertisement shall also indicate that the number of vacancies so notified may increase or decrease according to necessity of the Government.

(iv) For better employment the Government employee candidates may submit the application (hard copy) along with No-objection Certificate from competent authority of present Govt. Department **OR** the Application (hard copy) of the Govt employee candidate may, readily be forwarded by the competent authority to the Commission. (However, advance copy of the Application may be submitted to the Commission directly, to avoid procedural delay).

Provided that a candidate who gets appointment to any post after submission of his application for admission to the examination must furnish forthwith evidence to show that his employer has no objection to his/her being selected for a post on the results of the examination. In both the cases the competent authority of the concerned Administrative Department may issue either NOC, or forward his/her application considering a better employment.

2. Number of Chances to be allowed to a candidate:

There will be **no fixed number of attempts** for the Examination i.e., a candidate can apply and appear for the examination multiple times provided that he/she should be otherwise eligible for the examination and his/her upper age-limit should also be as per the prescribed age-limit category wise.

3. Admission Certificate:

(i) A candidate who has paid application fees as prescribed and fulfilled the terms of

advertisement will receive an Admit Card and a timetable for the examination. The admission will be deemed to be provisional subject to determination of his eligibility in all respects;

(ii) No candidate shall be admitted to the examination unless he holds an Admit Card. If at any stage after issue of the Admit Card, a candidate is found to be ineligible for admission in terms of the regulations of the examination; his candidature shall be cancelled without further reference to him.

4. Consequences of violation of rules, regulation, instructions etc.
A candidate who violates the rules, regulations and instructions issued by the Commission, Supervisor or Invigilator on duty in the Examination Hall, be liable to expulsion from the Examination Hall and/or other penalties as provided in regulation.

5. Matter for which no specific provision has been made in the regulations shall be decided by the commission.

PART-II

[Nature of the Examination]

6. The Examination shall have the following two parts-

(i) A written part carrying **170 marks** for Grade-IV; and
(ii) An interview-cum-personality test carrying **30 marks**.

7. Written part of the Examination:

(i) The written part of the examination shall consist of the following:

(a) For Grade-IV Examination 2(two) compulsory subjects/papers: -

Sl. No.	Name of Paper	Type	Marks	Duration
1	General Ability Test Paper I	OMR Based MCQ	50	180 Minutes (3 hours)
2	Job Oriented Subjects Technical Paper II	OMR Based MCQ	120	
Grand Total			**170**	

(b) Marks distribution of Paper-I & II:

50 questions of1 Mark each	50
120 questions of 1 Mark each	120
Total	170

(ii) Qualifying marks for unreserved category shall be minimum 55% in each subject and that of reserve category shall be minimum 45% each subject.

(iii) In exception circumstances categories the Commission, at its discretion, shall fix the minimum qualifying marks for a paper and the minimum

qualifying aggregate marks for all the papers otherwise; Provided that incase a candidate fails to secure the qualifying marks, so fixed in any paper compulsory or optional, marks in that paper shall not be considered for calculating the aggregate.

(iv) Questions in all the papers shall be answered only in English and in no other language.

(v) Negative Marking on MCQ question (for wrong answer) will remain as per TPSC norms and amended from time to time.

8. Interview-cum-personality test

(i) The Commission shall conduct an Interview-cum-personality test carrying 30 marks, of those candidates who have obtained qualifying marks in the written part of the examination. The pattern of the Interview-cum-personality test shall be decided by the Commission in accordance with the requirement of the service and the post for which the examination is conducted.

(ii) The personality test shall be to assess the personal qualities of a candidate e.g. his intellectual ability, social traits, interest in current affairs, critical power of judgment, variety and depth of interest, ability for leadership, moral integrity etc.

(iii) In no case shall a candidate be called for personality test unless he appears in all the papers of the examination.

9. Final Selection and Validity of the Selection List

(i) Final selection shall be made in order of merit on the basis of the marks obtained by a candidate in aggregate in the written examination and the marks obtained by him in the personality test. If a candidate remains absent in the personality test, his candidature shall not be considered for final selection.

(ii) The Selection List recommended by the Commission shall remain valid for a period of 6 months from the date of recommendation and in no case for more than a period of one year, if so extended by the Government in consultation with the Commission.

Annexure - E

SCHEDULE-VI
[Syllabus of the Examination]

1. Syllabus for General Ability Test Paper-I (Grade-IV):

Sl. No.	Topic		Marks
1	English	English Composition will cover Synonyms, Antonyms, use of common Phrase & Idioms., use of appropriate Prepositions and Articles, Comprehension, ordering of words in a sentence, Ordering of sentences, spotting of errors, use of appropriate and qualifying words. **(OMR based MCQ Type - 15 Questions one mark each)**	15
2	General Mental Ability & Logical reasoning	Logical Reasoning, Analytical Reasoning Capabilities, Quantitative and Qualitative abilities, General Aptitude **(OMR based MCQ Type - 15 Questions one mark each)**	15
3	General Knowledge & Current Affairs	(i) General Knowledge with special reference to Tripura and Northeastern States (ii) Elementary knowledge of Indian History and Indian Geography. (iii) Matter of common experience and current events and problems with special reference to Tripura, India and world. **(iv) (OMR based MCQ Type & 20 Questions one mark each)**	20
Total			**50**

2. a) Syllabus for Job Oriented Subjects (Grade-IV) Examination:

(i) Technical Paper-II (Full Marks-120)

Engineering Mathematics

Section 1: Probability and Statistics: Random variables. Uniform, normal, exponential, Poisson and binomial distributions. Mean, median, mode and standard deviation. Conditional probability and Bayes theorem.

Computer Science and Information Technology Section 2:

Digital Logic

Boolean algebra, Combinational and sequential circuits, Minimization, Number representations and computer arithmetic (fixed and floating point).

Section 3: 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).

Section 4: Analog and Digital Communication

Autocorrelation and power spectral density, properties of white noise, filtering of

random signals through LTI systems, amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, Super heterodyne receivers, circuits for analog communications, Information theory, entropy, mutual information and channel capacity theorem, Digital communications, PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter- symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA

Section 5: Data Structures and Programming

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

Section 6: Algorithms

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

Section 7: 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.

Section 8: 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.

Section 9: Databases

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

Section 10: 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.

Section 11: Computer Networks

Concept of layering: OSI and TCP/IP Protocol Stacks; Basics of packet, circuit and virtual circuit-switching; Data link layer: framing, error detection, Medium Access Control, Ethernet bridging; Routing protocols: shortest path, flooding, distance vector and link state routing; Fragmentation and IP addressing, IPv4, CIDR notation, Basics of IP support protocols (ARP, DHCP, ICMP), Network Address Translation (NAT); Transport layer: flow control and congestion control, UDP, TCP, sockets; Application layer protocols: DNS, SMTP, HTTP, FTP, Email.

Section 12: Web Technologies:

HTML5, CSS3, XML, basic concept of client-server computing, web server, proxy server, web application development, MVC Architecture, web services, frontend technologies.

Section 13: Cyber Security and Emerging Technologies:
Secure programming techniques, OWASP top 10 vulnerabilities, concepts on IoT, Block chain, AI.

Section 14: Cloud Technology:
Cloud Computing, Compute, Network, Storage Management Technologies, Edge Computing.

(OMR based MCQ Type & 120 Questions one mark each)