Online applications are invited from bonafide citizen of India for recruitment of 02(two)(UR-1& ST-1) vacant posts of Assistant Programmer,Group-C Non-Gazetted under Election Department, in the scale of pay Rs. 34,700/-, (PB-2, Rs.5700-24000/-, Cell -1, Level-10) as per Tripura State Pay Matrix-2018(subject to revision by the Government from time to time).

The number of post to be filled up is subject to increase or decrease following requisition of the Department.

Educational and other qualifications required for direct recruitment:
Essential:

At least Bachelor in Computer Application (BCA/B.Sc. (Computer Science)/B.Sc. (Information Technology) or Diploma in Computer Engineering or Higher.

Desirable Qualification:

i)Knowledge in VB, NET,ASP,NET,C#, JAVA/J2EE programming along with handling MS-SQL Server, Oracle, MySQL database

ii)Knowledge of Bengali or Kokborok.

To apply for the aforementioned post, the applicant must have Permanent Resident Certificate of Tripura (PRTC). This is in pursuance of GA(P&T) Department Notification dated 07-07-2023.

Age-18 to 40 years as on 09-12-2024. Upper Age limit is relaxable by 5 years in case of ST/SC/ PwDs(PH) / Government Employee candidates. Provided that Govt. Employees belonging to ST/SC/ PH category shall not get this relaxation over and above the general relaxation of 5 (five) years available to them.

The last date of submission of online application is 09-12-2024. (upto 5.30 PM). The application(s) received after the closing date will not be entertained.

Syllabus & Selection Procedure:
The Selection Process consist of 2(two) successive stage:
1.Written Examination-170 Marks.
2.Interview/Personality Test-30 Marks.

Sl No	Written Exam		Marks	Duration
1	General Ability Test Paper-1 (MCQ)	English	15	180 Minutes (3 hours)
		General Mental Ability and Logical reasoning	15	
		GK & Current Affairs	20	
		Total	**50**	
	Job Oriented Subject Technical Paper-II	Job oriented Subjects Technical Paper-II(MCQ)	120	
2	**Viva/Interview**		30	
3	**Grand Total**		200	

a) Candidates will be called for the Personality Test in the following ratio:

No. of vacancies	No. of candidates to be called for interview cum Personality Test (Category wise)
1(one)	5(five) candidates
2(two)	8(eight) candidates
3(three)	3(three) times the number of vacancies.

Candidates scoring marks equal to that of the last candidate, so selected, for the Personality Test will also be called for Personality Test.

b) The candidates who will be found qualified in the Written Examination will be called to appear in the Interview cum Personality Test. In no case shall a candidate be called for interview cum personality test unless he/she appears in the written examination.

c) In the list of recommendation, merit position of candidates securing equal marks will be finalized as per their seniority of age. The same procedure is to be followed for preparing waiting List, if there be any.

Further provided that, in the list of recommendation, merit position of candidates securing equal marks in aggregate and also of the same age will be decided on the basis of percentage of marks obtained in the minimum educational qualification prescribed in Recruitment Rules/ Service Rules.

d) Question paper for written examination will be of 170 marks (170 MCQ). Question will be MCQ type carrying 1(one)mark each. There will be negative marking of 0.25 marks for every wrong answer.

e) The interview cum 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.

f) The final selection will be made in order of merit and merit list will be prepared by adding the marks obtained in the written examination and Interview cum personality test. If a candidate remains absent in interview cum personality test his/her candidature will not be considered for final merit list.

(g) Ranks of the candidates are not prepared for the candidates beyond the recommendation list & wait list (if there be any).

h) Merit list will be prepared as per marks obtained by the candidates in category wise.

i) Out of 30 marks allocated for interview, some marks to be allocated for Desirable qualification as per Memorandum vide No.F.20(1)/GA(P&T)/2018 dated 02-01-2021 issued by the Govt. of Tripura.

For detailed syllabus & Selection Procedure (Annexure-I) please visit https://tpsc.tripura.gov.in

Other Important information:

Online Application Portal:
(a) Candidates will have to submit application through Online Application Portal only. The Commission will not entertain any hard copy application. Before submission of online application, read carefully the instruction to candidates.

(b) Link for Online Application Portal will be available on Commission's website from **07/11/2024** to **09/12/2024 (5.30 PM)**. Before applying for the post, an applicant (New user) shall register his/her bio-data particulars through One Time Profile Registration (OTPR) on the Commission's Website viz. tpsc.tripura.gov.in / tpsconline.in. Once applicant registers his/her particulars, a User ID is generated and sent to his/her registered mobile number and email ID. Applicants need to apply for the post using the OTPR User ID through the Commission's website.

(c) Applicants should avoid submitting multiple applications through different registration. However, if due to any unavoidable circumstances, any applicant submits multiple applications then he/she must ensure that the application with latest Application Number is complete in all respect.

(d) In case of multiple applications, the application with latest Application Number shall only be entertained by the Commission and fee paid against one Application Number shall not be adjusted against any other Application Number.

2. (a) Candidates are not required to upload submit with their respective applications any certificate in support of their claims regarding age, educational qualification, SC/ST etc.

(b) Applicants must be in possession of the prescribed minimum qualification(s) and others for the post on the closing date for submission of application as mentioned in the advertisement. Their admission at all the stages will be purely provisional, subject to their satisfying the prescribed eligibility conditions. Mere issue of admission certificate to the candidate will not imply that his/her candidature has been finally cleared by the Commission.

(c) On scrutiny of documents, if a candidate is found ineligible as per terms and condition of the advertisement (including prescribed recruitment fees), his/ her candidature will be rejected. If the application is not routed Through Proper Channel, at the day of interview candidates will have to submit 'No-Objection' certificate failing which his/ her candidature will not be considered for preparation of final merit list. In that No-Objection certificate, it is to be clearly mentioned that your employer has **'No-Objection'** if you are considered for recruitment to the post for which you have applied for.

(3) Rate of Recruitment Fees:
(a) **Group-C Non- Gazetted posts:-Rs. 200/-**(Rupees two hundred) for General Candidates and **Rs.150/-**(Rupees One hundred & fifty) only for ST/SC/ BPL card holders/Physically Handicapped Candidates.

(b) Recruitment fee so deposited, is non-refundable.

(c) If a candidate submits incomplete application in respect of terms & condition of the Advertisement and without requisite recruitment fee, his/her candidature will be rejected.

(4) Decision of the Commission as to the eligibility or otherwise of a candidate at any stage of the selection process shall be final.

(5) Assessment and evaluation of necessary documents done by the Commission shall be final and shall not be open to scrutiny by any external authority.

(6) The Examination venue shall be closed 10 minutes before the Scheduled Commencement of Examination. No candidate shall be allowed entry into the examination venue after closure of entry. No functionary has any direction in this regard.

(7) Candidates are instructed to visit the Commission's website for information regarding steps of recruitment process time to time.

(8) Mobile Phone/Electronic Gadgets etc. are banned in the Campus of the Examination Premises/Interview Premises. Any Phone/Electronic Gadget found in possession of any candidate in the Examination Premises/Interview premises shall be confiscated forthwith and he/she may be debarred from appearing at the Examination/Interview and also for the Examination(s)/Interview to be conducted by the Commission in future Violation of such instruction will be dealt as per Law.

(9) Entry in the Examination hall/Interview Premises with Jacket, Coat, Pull over & this type of garments will not be allowed.

30/10/24
(S. Mog, IAS)
Secretary,
Tripura Public Service Commission.

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SYLLABUS & SELECTION PROCEDURE

SCHEME OF EXAMINATION FOR DIRECT RECRUITMENT TO THE POST OF ASSISTANT PROGRAMMER, GROUP-'C' NON GAZETTED UNDER ELECTION DEPARTMENT, GOVERNMENT OF TRIPURA

The Selection process consist of 2 (two) Successive stage

1. Written Examination
2. Interview/Personality Test

Sl.No	Written Exam		Marks	Duration
1.	General Ability Test Paper – I (MCQ)	English	15	180 Minutes (3 hours)
		General Mental Ability & Logical reasoning	15	
		GK & Current Affairs	20	
		Total	50	
	Job Oriented Subject Technical Paper-II	Job Oriented Subjects Technical Paper-II (MCQ)	120	
2.	Viva/Interview		30	
3.	Grand Total		200	

Details of the Syllabus:-

Sl. No.	Subjects		Syllabus	Marks
1.	General Ability Test Paper	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
		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
		General Knowledge & Current Affairs	(i) General Knowledge with special reference to Tripura and North Eastern 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. **(OMR based MCQ Type & 20 Questions one mark each)**	20
			General Ability Test Paper - I	Total Marks = 50

2	Job Oriented Subject Technical Paper-II	**Computer Science and Information Technology** **Section 1: Computer Organization and Architecture** Digital and Analog computers, CPU, Hardware, Software and firmware. Number Systems: Binary Numbers, Number Base conversions, Octal and Hexadecimal Numbers, Complements, Signed Binary Numbers, Binary Codes: BCD code, Gray Code, ASCII Code, Excess 3 Code, Error detecting Code. Computer Arithmetic, Logic gates, Integrated Circuits, K-Map, AND, OR, NAND and NOR implementations, Exclusive-OR function. Combinational Logic: Combinational Circuits, Binary adder, subtractor, multiplier, Decoders, Encoders, Multiplexes and Demultiplexers. Sequential circuits, Latches, Flip Flops: SR, D, JK, T. Master Slave JK Flip Flop. Characteristic equations and Excitation tables of flip-flops. Shift Registers, Counters. The memory unit, the input and output subsystem, the bus structures, ALU. Program development tools: Compiler, interpreter and assembler. 8085/86 micro processor architecture, Instruction set. Integer division. BCD arithmetic, Design of ALU. Memory address and addressing modes. RISC and CISC processors. Instruction pipelining, Parallel processing and pipelining, pipelining in RISC and CISC processors. Super scalar processors. VLIW processors. Cache memory and its types. Input Output organization, accessing I/O devices, Interrupts. Memory mapped I/O and I/O mapped I/O. Programmed I/O. **Section 2: Programming in C** Data types, Constants and Variables, Expressions and Operators and Decision Control Structures in C. Loop Control Structures, Case Control Structures. One dimensional and multidimensional array. Pointers and their Applications, String Handling Functions: Standard and User defined Function, Parameter passing, Scope Rule. Recursion, Structures and Union, Arguments to main, Enumerations and bit fields. Pre-Processors: {Def, include, macro's, ifdef etc.}, File Handling. **Section 3: Object Oriented Programming through JAVA** Features of Java, Object-oriented programming overview, Introduction of Java technologies, How to write simple Java Programs, Data Types, Variables, Memory concepts, decision making operators, Naming Conventions. Introduction to Class, Objects Methods and Instance Variables, Primitive type Vs Reference Type, Initializing Objects with Constructors. Static Method, Static field, String Handling in JAVA, Arrays, Using Command-line Arguments final Instance Variables, this reference, static import, overloaded Constructors, Garbage collection and method finalize. Overloading methods, parameter passing. Inheritance, Polymorphism, Packages and Interfaces, Exception Handling, Streams and Files. Multithreading, GUI in JAVA, Applets, Generic and Collection API, Database connectivity: JDBC	120 Marks

Section 4: 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 5: Data Structures and algorithms

Arrays, Stacks, Queues. Dequeues. Linked Lists, Singly and Doubly linked list, Trees: Definition, Tree types and their and Implementation. Preorder post order, in order traversal, Hashing, Hash function, Collision Resolution Techniques, Hashing Applications, Standard Template Libraries, Time Complexity, Big- Oh- notation, Running Times, Best case, Worst case, Average Case Factors depends on running time, Introduction to Recursion, Divide and Conquer Algorithm, Evaluating time Complexity, Straight Sequential Search, Binary Search, Interpolation Search, Sorting: Introduction, Sorting by exchange, selection insertions. Bubble sort, Selection sort, Insertion sort, Efficiency of above algorithms, Merge sort, Quick sort Algorithm, Heap sort, Radix sort, Order Analysis: Objectives of time analysis of algorithms; Big-oh and Theta notations, Master Theorem and its proof, solution of divide and conquer recurrence relations, Dynamic Programming: methodology and examples. Graph Algorithms: Basics of graphs and their representations. BFS. DFS. Topological sorting. Minimum spanning trees (Kruskal and Prim's algorithms and disjoint set and Fibonacci heap data structures). Shortest Paths (Dijkstra, Bellman-Ford, Floyd- Warshall). Hard problems and approximation algorithms. Problems classes P, NP, NP-hard and NP complete, deterministic and nondeterministic polynomial-time algorithms. Approximation algorithms for some NP- complete problems. Backtracking, Branch and Bound technique, String Matching, Knave algorithms, KMP algorithm, Parallel Algorithms.

Section 6: Software Engineering:

System modeling, system engineering process, life cycle models, design and implementation, validation, evolution, automated, process support – software requirements, SRS, feasibility studies - elicitation and analysis - validation - management - system models, context models, behavior models, data models, object models, object-oriented design, design evolution, real-time software design, critical systems specifications - critical system development, software testing.
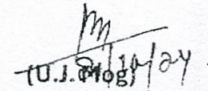
Section 7: Database Technologies

Various Views of data, data independence, schema & sub-schema, primary concept of data models, database languages, transaction management, database administrator & user, data dictionary, database architectures. ER model, Reduction of ER schema to tables, candidate, primary, alternate & foreign keys. EER model, Relational Algebra, SQL: DDL, DML, DCL Queries, Relational Database, Programming concepts of PL/SQL, Stored procedure, Database connectivity with ODBC/JDBC. SQL Extensions. Functional dependencies, Normalization, Database Integrity, Transaction Management, Concurrency & Recovery, Query Processing, Query optimization, File Organization: File organization, Organization of records in files, basic concept of Indexing, ordered indices: B+ tree & B tree index files. RAID. Fundamental of data mining, Data Mining Query Languages. Data Mining application Association Rule, clustering classification, Genetic Algorithm. Web Mining, Web content mining, Web Structure mining, Text mining, Temporal Data Mining, Spatial Data Mining. Data Warehouse, Warehouse Schema, Data Warehouse Architecture, Data Warehouse Server, Data Warehouse Implementation, Metadata, OLAP operations. Object Oriented Databases, Spatial Databases.

Section 8: Operating System

Evolution of operating systems, operating system concepts, Process Management: Concepts, Algorithms. Memory Management: Concepts, single user memory management. Partition memory allocation, Virtual memory management using paging and segmentation techniques.

Concurrent Processes: Mutual exclusion and synchronization, Techniques of inter process communication, Deadlock handling.

File Management: Operations on a file, structure of a file system, Free block list, keeping track of blocks allocated to a file, directory structure, sharing and protection of files, file system Reliability, Unix file system.

Device Management: Goals of input/output software design, Structure of device hardware and software, Layers of I/O software, structure of device drivers, Disk driver, disk arm scheduling algorithms, terminal driver, clock driver etc.

Introduction to network and distributed operating systems Case Studies: Unix/Linux, Windows operating system, Unix/Linux commands.

Section 9: Web Technologies

HTML : Introduction to HTML, Essential Tags, Tags and Attributes, Text Styles and Text Arrangements, Text, Effects, Exposure to Various Tags (DIV, MARQUEE, NOBR, DFN, HR, LISTING, Comment, IMG), Color and Background of Web Pages, Lists and their Types, Attributes of Image Tag, Hypertext, Hyperlink and Hypermedia, Links, Anchors and URLs, Links to External Documents, Different Section of a Page and Graphics, Footnote and eMailing, Creating Table, Frame, Form and Style Sheet

DHTML : Document Object Model, Features of DHTML, CSSP (Cascading Style Sheet Positioning) and JSSS (JavaScript assisted Style Sheet), Layers of Netscape, The ID Attribute, DHTML Events.

Java Script: Objects, Methods, Events and Functions, Tags, Operators, Data Types, Literals and Type Casting in JavaScript, Programming Construct, Array and Dialog Boxes, Relating JavaScript to DHTML, Dynamically Changing Text, Style, Content.

Introduction to PHP: Server Side Programming, Introduction to PHP, Basic Programming Concepts of PHP: Variables, Data-types, Constants, Scope of Variables, Type of Variables, Type Casting, Operators, Operators Precedence, References, Arrays; Control Structures: Branching, If statement, Switch statement; Looping: for Loop, while Loop, do while Loop, for each Loop; Functions: User Defined Functions, Built-in Function, Functions for Variables; Script Controlling Functions, Array Functions, Date and Time Functions, Mathematical Functions, String Functions, PHP Server Variables; Working with form, Uploading files to Web Server using PHP

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

(i) Question paper for written examination will be of 170 marks (170 MCQ). Question will be MCQ type carrying 1(one) mark each.

(ii) There will be negative marking of 0.25 mark for every wrong answer.

(iii) Minimum qualification marks in MCQ test should be as per standing norms of TPSC.

(iv) Accordingly, merit list of qualified candidates may be prepared considering 100 points roster as per the standing norms of Government of Tripura.

(v) Each question will have 4(four) distracters. Some of the questions may have "None of these" as one of the distracters if felt necessary.

(vi) Candidates must appear before the Selection Committee for interview/personality test.

(vii) Final merit list will be prepared by adding both marks obtained in the written test followed by interview.

(viii) Out of 30 marks allocated for interview, some marks to be allocated for Desirable Qualification as per Memorandum vide No.F.20(1)/GA(P&T)/2018 dated, 02/01/2021 issued by the Govt. of Tripura.

(U.J.Mog)
Addl. Chief Electoral Officer
Government of Tripura