ADVERTISEMENT FOR ENGAGEMENT OF YOUNG PROFESSIONALS AS PROJECT ENGINEER AT C-DOT DELHI & BENGALURU

Centre for Development of Telematics was established in August 1984 as an autonomous Telecom R&D Centre of DoT, Govt of India. It is registered under the Societies Registration Act 1860. C-DOT has more than three decades of relentless R&D efforts in the indigenous design, development and production of telecom technologies especially suited to the Indian landscape.

At present C-DOT is engaged in Research & Development of various innovative telecom related technologies and is looking for dynamic, experienced and qualified young professionals who can contribute their best for the organization.

Applications are invited from eligible Indian Citizens for filling up of following Fixed term basis vacancies in C-DOT. The details regarding the period of engagement, educational qualifications, experience, and age, nature of duties etc. as under:

Particulars	Details
Name of the Position	Project Engineer
Number of Engineers required	156
Remuneration	Rs.1,00,000/- Consolidated remuneration per month
Time frame for which the employee is to be hired	One year (Extendable by one year based on Performance and Assessment)
Age Limit	Below 30 years of age as on the last date of application
Educational Qualifications, Experience and Nature of Duties	As per the Job description mentioned against each post (Annexure-1)

A) PROJECT ENGINEER

B) DURATION

The tenure of work will be as follows:

Post name	Duration
Project Engineer	01 Year (Extendable by one year based on Performance/Assessment and Project requirements)

The Project engineer will be on probation for a period of three months from the date of joining to facilitate performance evaluation. The place of posting shall be Bengaluru / New Delhi as per existing policy of C-DOT. C-DOT reserves the right to change the assignment and project if required during the tenure period.

C) QUALIFICATION

- 1. The qualification will be mentioned against the vacancies advertised. The candidates must meet the eligibility criteria as mentioned against respective Job Description. All qualification should be regular course(s) from AICTE/UGC approved/recognized University/Deemed University/Institutes. The courses offered by autonomous institutions should be recognized as equivalent to the relevant courses approved/recognized by Association of Indian Universities (AIU)/UGC/AICTE. And for such autonomous institute's course (s) submission of equivalency certificate is mandatory at the time of interview. A candidate can apply for one post. Multiple applications will be rejected.
- 2. Minimum percentage for applying shall be 65% & above in 10th, 12th and Graduation (64.9 % will not be rounded off to 65%). Cumulative marks of all semesters shall be considered to arrive at the percentage of marks obtained against each qualification.

D) <u>EXPERIENCE</u>

- 1. Only the relevant experience acquired after the passing date of the eligible qualification will be considered. The decision of C-DOT in this regard will be final and binding to applicants.
- 2. Years of experience, over and above the prescribed qualification, will not be considered for calculating higher pay.
- 3. Experience shall be calculated as on last date for receipt of application.

E) AGE LIMIT/RELAXATION:

- 1. Maximum Age Limit to apply shall not exceed 30 years as on last date for receipt of application.
- Applicants belonging to reserved category (SC/ST/OBC/EWS/PwD)/ Exservicemen would be eligible for relaxations as per the Govt rules. (Necessary certificates are to be uploaded mandatorily).
- 3. SSLC/SSC/ISC mark sheet/ certificate and any other valid document will be considered as proof of date of birth.

F) PAYMENT TERMS:

SI.	Post	Consolidated Remuneration
1.	Project Engineer	Rs.1,00.000/-

- The consolidated remuneration as indicated will include applicable taxes and no other allowances will be paid. The amount of remuneration so fixed shall remain unchanged for the terms of the contract. PF deduction as per statutory guidelines will be included in the consolidated emoluments.
- The payment of consolidated pay will be released by the C-DOT after completion of the month based on the biometric Attendance/Physical Attendance to be verified by the concerned Divisional Heads. No increment, HRA, Dearness Allowance and any other allowances shall be allowed during the terms of contract.

G) SELECTION PROCESS:

- 1. Based on the project requirements, the number of vacancies will be advertised online on the C-DOT Portal. If applications are received in large numbers, the screening shall be based on the qualifications, age, academic score, relevant experience and other factors as decided by C-DOT, Management.
- 2. The qualification and experience prescribed are the minimum requirements and possession of the same does not automatically make the candidates entitled for the selection processes. Where number of applications received in response to an advertisement is large, it may not be convenient or possible for the Organization to call all the candidates to participate in selection process. The selection committee may devise its own method for selection of suitable Candidates as per requirement. The Selection Committee may also recommend names for keeping in wait list with valid time period.

- 3. C-DOT reserves the right to fix higher threshold of qualifications and experience for screening and limiting the number of candidates for interview. The candidates should, therefore, furnish all the qualifications and experience possessed in the relevant field, over and above the minimum qualifications prescribed. However, for further requirements candidates who meet the eligibility criteria and not considered for interviews shall be contacted again in the order of merit as mentioned above. Only the shortlisted candidates will be invited for the interview.
- 4. Canvassing in any form will be a disqualification for selection.
- 5. In case, it is found at any point of time in future during process of selection or even after appointment that candidate was not eligible as per prescribed qualification, experience etc, which could not be found at the time of selection due to whatever circumstances, his/her candidature/appointment shall be liable to be cancelled/terminated as case may be without giving any notice.
- 6. No TA/DA shall be permissible during the recruitment process.

H) Other Terms and Conditions

Leave: -The Project Engineers shall be eligible for paid leave of absence @ 1.5 day for each completed month of service besides the Gazetted holidays. Accumulation of leave beyond a calendar year will not be allowed. "No work no pay" will be applicable during the period of contract, if more than prescribed leave in taken.

Tax Deduction at Source: - The income tax or any other tax liable to be deducted as per prevailing rules will be deducted at Sources before releasing the payment and the Department will issue TDS certificate/ GST as the case may be. C-DOT takes no liability for taxes or other contribution payable by the Project Engineer on payment made under the contract.

Authenticity: - If any declaration given or information furnished by the candidate proves to be false or if he/she is found to have willfully suppressed any material information, he/she will be liable for removal from such contract and also such other action as the Government may deem necessary.

Relaxation: - CEO C-DOT is of the opinion that it is necessary or expedient to do so, it may by order and for reasons to be recorded in writing, relax any of the provisions of the guidelines.

TA/DA: - For any official travel, TA/DA will be reimbursed as per the entitlement permissible to Level 10.

I) TERMINATION:

C-DOT reserves the right to terminate by giving 15 days' notice during probation period and payment shall be made on prorata basis for man days worked.

C-DOT can terminate the contract at any time without prior notice and without providing any reason thereto. However, in the normal course it will provide one month's notice to the Project Engineer. The candidate can also seek for termination of the contract upon giving one month's notice to C-DOT.

J) CONTRACTUAL TERMS AND CONDITIONS:

1.Legal Status:

The Project Engineer (PE) shall have the legal status of a temporary contractual manpower vis-a-vis C-DOT and shall not be regarded, for any purpose, as being staff member or an official of C-DOT. No temporary staff member shall claim status of permanent employment or that of equivalent to official staff on C-DOT rolls.

2.Standards of conduct:

The candidate shall neither seek nor accept instructions from any authority other than C-DOT in connection with the performance of its obligations under the contract. The Project Engineer shall not take any action in respect of its performance or otherwise related to its obligations under the contract that may adversely affect the interest of the organisation. The PE shall fulfill his obligations with the full regard upholding the interest of C-DOT. The PE shall comply with all laws, ordinance, rules, and regulations bearing upon the performance of obligations under the Contract. In the performance of the contract, the PE shall comply with the established standards of conduct and as per the rules and regulations of the employing organisation. Failure to comply with the same shall be ground for the termination of the contract.

3.Assignment of Duties:

The PE shall perform the duties assigned to him. The Competent Authority reserves the right to assign any duty as and when required. No extra/ additional allowance-shall be admissible in case of such additional duties assigned.

4. Provision of Sexual Exploitation and abuse:

In the performance of the contract, the PE shall comply with the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013. The PE acknowledges and agrees that any breach of the provisions thereof shall constitute a breach of an essential term of the contract and in addition to any other legal right or remedies available to any person, shall give rise to a ground for termination of the contract. If required, further appropriate legal action may also be recommended.

5.Medical Clearance and service incurred Death and Grievous injury:

It is mandatory for PE to submit a Medical Fitness Certificate from a registered medical practitioner at the time of joining duties. In the event of death or grievous injury to the PE during the course of his/her duties, compensation shall not be payable to the Project Engineer or his/her dependents. It is desired that the PE takes out and maintains adequate medical insurance.

6.Basic Support Facility

PE will be provided by C-DOT with basic supports like office space, furniture, stationery, computer, laptop, calculator, access to Internet etc. to perform the duties assigned. PE is responsible for any equipment and supplies provided to perform their duties assigned and any damages or degradation occurring to the equipment at the time of return beyond normal wear and tear, shall be compensated to C-DOT.

7.Confidentiality of Documents & Information

The PE would be subject to the provisions of confidentiality applicable in the organisation. They shall not use the name, emblem, or official seal of C-DOT for any commercial purpose other than discharging assigned duties under the employment contract.

8.Settlement of Disputes

C-DOT and the PE shall use their best efforts to amicably settle any dispute, controversy or claim arising out of the Contract or the breach, termination or invalidity thereof. Any dispute, controversy or claim between the parties arising out of the Contract or the breach, termination or invalidity thereof unless settled amicably, as provided above, shall be referred by either of the parties to the CEO, C-DOT or any person/official to whom such authority has been delegated by CEO, C-DOT for resolution. The courts at New Delhi shall have jurisdiction over the issues which fail to be resolved amicably.

9.Conflict of interest

The PE are expected to follow all the rules and regulations of C-DOT/Government of India which are in force. He/she is also expected to display utmost honesty, secrecy of office and sincerity while discharging his/her duties. In case the services of the Project Engineer are not found satisfactory or found in conflict with the interests of C-DOT, his/her services will be liable for discontinuation without assigning any reason.

Job Description

Project Name: a) POTP project, b) Smart Energy meter

Post code: 01

<u>No. of Post(s</u>): 2

Location: New Delhi

Roles and Responsibilities:

• Research & development of appropriate ML algorithms to analyze huge volumes of historical data, make predictive analysis and automation as per project requirements

- Identify appropriate data sets, data collection and data modeling
- Statistical analysis of big data sets to improve models.
- Keeping abreast with the latest development in AI/ML
- Design & Development of quality software to enhance software reusability & scalability
- Code reviews and Release management

Skills and Abilities:

• Experience of writing robust code in Python and R , NLP

• Familiarity with machine learning algorithms and use of AI/ML frameworks such as TensorFlow or Keras

• Working knowlege of NoSQL and RDBMS

• Knowledge of statistical & algorithmic models, fundamental mathematical concepts such as linear algebra and probability

• Knowledge of data structure & algorithms, object-oriented design principles and best practice patterns and code profiling.

• Familiarity with Linux environment for software development

•Knowledge of Smart Energy Meter (SEM), Head-end System(HES) and Meter Data Management(MDM)

- Knowledge of developing ChatBot shall be an added advantage
- Excellent problem solving and debugging skills
- •Proficient in software version maintenance tools such as Git, SVN
- Excellent communicator, team player who can work independently also

Minimum Qualifications:

• Min 65% in (10th, 12th and B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: a) POTP, b) NCCS, c) NPT, d) DOT website

Post code: 02

No. of Post(s): 4

Location: New Delhi

Roles and Responsibilities:

• Research & development of appropriate ML algorithms to analyze huge volumes of historical data, make predictive analysis and automation as per project requirements

- Identify appropriate data sets , data collection and data modeling
- Statistical analysis of big data sets to improve models.
- Keeping abreast with the latest development in AI/ML
- Design & Development of quality software to enhance software reusability & scalability
- Code reviews and Release management

Skills and Abilities:

- Experience of writing robust code in Python and R , NLP
- Familiarity with machine learning algorithms and use of AI/ML frameworks such as TensorFlow or Keras
- Working knowledge of NoSQL and RDBMS
- Knowledge of statistical & algorithmic models, fundamental mathematical concepts such as linear algebra and probability
- Knowledge of data structure & algorithms, object-oriented design principles and best practice patterns and code profiling.
- Familiarity with Linux environment for software development
- Knowledge of Smart Energy Meter(SEM), Head-end System(HES) and Meter Data Management(MDM)
- Knowledge of developing ChatBot shall be an added advantage
- Excellent problem solving and debugging skills
- Proficient in software version maintenance tools such as Git, SVN
- Excellent communicator, team player who can work independently also

Minimum Qualifications:

• Min 65% in (10th, 12th and B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: a) POTP, b) NCCS(2), c) NPT

Post code: 03

No. of Post(s): 4

Location: New Delhi

Roles and Responsibilities:

- Identify and analysis of software requirements
- Design, Development, testing and debugging of back-end software in Java
- Design & Development of quality software to enhance software reusability & scalability Design and development of API structure
- Coding, Code reviews, unit testing and Release management
- Integration of Software modules & System Integration testing
- Contribute to all phases of the development lifecycle and hands-on with distributed computing systems.
- Collaborating with the front-end developers to establish objectives and design functional, cohesive codes to enhance the user experience.

Skills and Abilities:

- Hands on experience with programming languages like Java, JavaScript, PHP and Python
- Knowledge of Spring Boot, Spring Framework and understanding of Web Application framework (Express Framework)
- In-depth knowledge of data structure & algorithms and its application in software design & development
- Experience with container based application development and Troubleshooting, testing and maintenance of the existing software, including applications, databases, interfaces and new functionalities.
- Working knowledge of Relational Database (Knowledge of NoSQL database is an added advantage)
- Experience with Cloud Environments like AWS / Azure / GCP.
- Knowledge of Optical Link Validation, Network Planning Tool for WDM/POTP
- Architectural knowledge of handling millions of devices in HES of Smart Energy Meters
- Knowledge of Testing & debugging tool and version control system(GIT
- Knowledge of web server configuration for Apache, Tomcat, Nginx.
- Excellent communicator, team player who can work independently also

Minimum Qualifications:

• Min 65% in (10th, 12th and B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: a) POTP(2), b) NCCS, c) Smart Energy Meter

Post code: 04

No. of Post(s): 4

Location: New Delhi

Roles and Responsibilities:

- Identify and analysis of software requirements
- Design, Development, testing and debugging of Web application software
- Web Performance optimization and development of quality components for speed, reusability and scalability
- Design & development of mobile based features
- Collaborate with back-end developers and web designers to improve quality & usability
- Implementation of data manipulation/ data binding through REST API
- Implementation of quality mockups and prototypes of User Interface
- Code reviews and Release management

Skills and Abilities:

- Knowledge of Material UI, ReactJS, Redux, NPM, bootstrap, JQuery
- In-depth knowledge of data structure & algorithms and it's application in software design & development
- Understanding of front-end framework
- Working knowledge of GIS integration
- Knowledge of Optical Link Validation, Network Planning Tool for WDM/POTP shall be an added advantage
- Architectural knowledge of handling millions of devices in HES of Smart Energy Meters
- Understanding of browser rendering behavior and performance.
- Knowledge of tools like ELK, Grafana, Elasticsearch
- Experience in dynamic website or portal and API integration
- Understanding of web application protocols.
- Knowledge of Web application security
- Knowledge of testing & debugging tool and version control system(GIT)
- Stay up-to-date on emerging technologies
- Familiarity with input validation techniques and approaches
- Excellent communicator, team player who can work independently also

Minimum Qualifications:

• Min 65% in (10th, 12th and B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: a) POTP(2), b) Smart Energy Meter

Post code: 05

<u>No. of Post(s)</u>: 3

Location: New Delhi

Roles and Responsibilities:

- Identify and analysis of software requirements
- Design, Development, testing and debugging of embedded software, Linux device driver
- Design & Development of quality software to enhance software reusability & scalability
- Porting of Linux, U-boot, SDK on embedded systems
- Porting and Integration of third party and open source software stack
- Interface with hardware design and development
- Code reviews and Release management

Skills and Abilities:

- Solid programming experience in C/C++
- In-depth knowledge of data structure & algorithms and it's application in software design & development
- Understanding of Linux framework, RTOS and embedded system architecture
- Experience in embedded systems design with preemptive, multitasking real-time operating systems. Knowledge of working with SDK in cross-platform environment and understanding of cross-platform toolchains
- Working knowledge of board bring-up having microprocessors, microcontrollers, SoCs, device driver development and porting.
- Good understanding of communication protocols like SPI, I2C, PCI and UART
- Understanding of universal bootloaders(U-Boot). Knowledge of embedded filesystems(journalling flash file system)
- Experience with development of networking protocols (TCP/IP stack, routing, IPv4/IPv6, L2/L3 protocol, IPCs)
- Knowledge of code profiling and application containerization (application in embedded domain)
- Knowledge of building drivers for PowerPC processors T1022,P5040 shall be an added advantage. Proficient in software version maintenance tools such as Git, SVN
- Knowledge of Renesas RL78 family of MCU and ARM Cortex series of microcontrollers
- Knowledge of Broadcom switches Arad+ and Jericho shall be an added advantage
- Excellent problem solving and debugging skills, communicator and a team player.

Minimum Qualifications:

• Min 65% in (10th, 12th and B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: DOT/POTP/NCCS

Post code: 06

No. of Post(s): 1

Location: New Delhi

Roles and Responsibilities:

- Investigating user experience design requirements for our products.
- Gathering and evaluating user requirements, in collaboration with product managers and engineers
- Illustrating design ideas using storyboards, process flows and sitemaps
- Developing and conceptualizing a comprehensive UI/UX design strategy.
- Producing high-quality UX design solutions through wireframes, visuals and graphic designs, flow diagrams, storyboards, site maps, and prototypes.
- Designing UI elements and tools such as navigation menus, search boxes, tabs, and widgets for our products.
- Testing UI elements such as CTAs, banners, page layouts, page designs, page flows, and target links for landing pages.
- Collaborating with the marketing team, and internal and external designers to ensure the creation and delivery of tailored experiences for users.
- Providing advice and guidance on the implementation of UX research methodologies and testing activities in order to analyze and predict user behavior.
- Identify and troubleshoot UX problems (e.g. responsiveness)
- Adhering to style standards on typography and graphic designs.

Skills and Abilities:

- A portfolio of professional UI/UX design work for both web and mobile platforms.
- Expertise in Photoshop, Illustrator, and Adobe XD.
- Working knowledge of the following technologies and software: Sketch, InVision, Figma, Visio, HTML, CSS (SCSS), iOS, Android, Design Systems and Adobe Creative Suite.
- Excellent written and verbal communication skills.
- Multi-tasking and time-management skills, with the ability to prioritize tasks.
- Excellent communicator, team player who can work independently also

Minimum Qualifications:

• Min 65% in (10th, 12th and B.E/B.Tech /B. Des (Fashion Communication) in Computer Science & Engineering or equivalent degree from a recognized college/university)

Eligibility Criteria:

Job Description

Project Name: CEIR Project

Post code: 07

No. of Post(s): 2

Location: New Delhi

Roles and Responsibilities:

- Operation and Maintenance of H/W and S/W Application based on telecom technology.
- Troubleshooting and escalation of H/W and S/W issue.
- Logging of maintenance activity and issues
- Customer Support.
- Troubleshooting and escalation of customer issue.
- Logging of customer issue.
- Collect feedback from customer

Skills and Abilities:

• Good understanding of Linux and Shell Scripting, TCP/IP Networking, DBMS like

MySQL, Web Technologies and Telecom technologies 2G/3G/4G.

- Good written and communication skill.
- Good problem-solving skill.

Minimum Qualifications:

• Min 65% in (10th, 12th and B.E/B.Tech in Computer Science & Engineering/IT/ECE from a recognized college/university)

Eligibility Criteria:

Job Description

Project Name : Lab set up for5GRAN, 5GRAN Testbed, CCRC, NGV Flats renovation

Post code: 08

No. of Post(s): 1

Location: Bengaluru

Roles and Responsibilities

- Must be well knowledgeable in preparation of specifications and estimations for any new construction / lab set-up activity
- Supervision of any construction activity in line with the approved Specifications
- Construction and maintenance of power and water supply systems in the Campus.
- Infrastructure management of the Campus
- Have good knowledge in Supervising carpentry, plumbing, sanitary and general campus maintenance activities

Skills and Abilities:

- Experience in any reputed company in civil related work like supervision of construction activities, coordination for preparation of estimates and specifications for civil work, moderate experience in supervising plumbing/carpentry work.
- Must have good working knowledge in English and MS Office tools like Word, Excel and PowerPoint
- Must be able to generate layout plans and drawings in coordination with AutoCAD Group

Minimum Qualifications:

• Min 65% in (10th, 12th and B.E/B.Tech in Civil Engineering from a recognized college/university)

Eligibility Criteria:

• 0-3 years of professional work experience post qualification.

Job Description

Project Name: NDMA CAP Integrated Alert System (DSA group)

Post code: 09

No. of Post(s): 3

Location: New Delhi

Roles and Responsibilities:

- Experience/Knowledge of design, development and integration of web-based front-end applications.
- Experience/Knowledge of working with front-end technologies like HTML, JavaScript and CSS.
- Knowledge of JS libraries like jQuery, React JS etc. and CSS libraries like Bootstrap, Materialize etc.
- Experience/Knowledge of interactive user interface developments.
- Knowledge of techniques for better user experience user experience.
- Basic hands-on on web-application development IDE (Eclipse/ NetBeans/ IntelliJ etc.) and hosting tools (web-app container, app-configurator).

Skills and Abilities:

- Skills HTML, JAVASCRIPT, jQuery, CSS, Materialize, Bootstrap
- Worked on live portals, User experience strategies.

Minimum Qualifications:

• Min 65% in (10th, 12th B.E/B.Tech in Computer Science & Engineering/IT/ECE or equivalent degree from a recognized college/university)

Eligibility Criteria:

Job Description

Project Name: NDMA CAP Integrated Alert System (DSA group)

Post code: 10

<u>No. of Post(s):</u> 5

Location: New Delhi

Roles and Responsibilities:

- Experience/Knowledge of design, development and integration of web-based applications
- Experience/ Knowledge of MVC architecture and coding skills using object-oriented language like JAVA.
- Knowledge of techniques for better user experience and optimized response time.
- Experience/Knowledge of Database Technologies like PostgreSQL, MongoDB, writing optimized queries.
- Basic hands-on of web application development IDE (Eclipse/NetBea IntelliJ etc.) and hosting tools (web-app container, app configurator)

Skills and Abilities:

- JAVA, SQL/No-SQL Databases.
- Knowledge of Spring and Hibernate framework will be preferred.

Minimum Qualifications:

 \bullet Min 65% in (10th, 12th , B.E/B.Tech in CSE/IT/ECE or equivalent degree from a recognized college/university.)

Eligibility Criteria:

Job Description

Project Name: NDMA CAP Integrated Alert System (DSA group)

Post code: 11

No. of Post(s): 2

Location: New Delhi

Roles and Responsibilities:

- Working knowledge in Android and iOS app development using React Native Framework.
- Experience with Android SDK and working with remote data via REST and JSON.
- Knowledge of iOS, iPad, C++, Objective C, iPhone SDK, Xcode, Swift and Cocoa Touch
- Work with Javascript, React Native for App Development
- Knowledge of UI development using XML
- Working knowledge of the general mobile landscape, architectures, trends, and emerging technologies
- Experience in live app operation, maintenance and update
- Publishing of mobile apps on Play Store and App Store

Skills and Abilities:

- Javascript, Mobile App, iOS, Android, React Native.
- React Native Framework
- REST, JSON
- iOS, iPad, C++, Objective C, iPhone SDK, Xcode, Swift and Cocoa Touch
- Hosting App in Play store and App Store

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in CSE/IT/ECE or equivalent degree from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: NDMA CAP Integrated Alert System (DSA group)

Post code: 12

<u>No. of Post(s</u>): 2

Location: New Delhi

Roles and Responsibilities:

- Designing manual and automated test procedures to evaluate each software product.
- Building, coding, and implementing software evaluation test programs.
- Running test programs to ensure that testing protocols evaluate the software correctly.
- Completing final test and creating test reports.
- Presenting test reports to management and suggesting software fixes.
- Knowledge of tools like- jMeter, Selenium, jUnit, Bug management tools like JIRA

Skills and Abilities:

- Automated testing skills and scripting, design test plan and test strategy, writing test cases, executing test cases, opening bugs, verifying bugs
- Mobile App, iOS, Android, React Native.

Minimum Qualifications:

 \bullet Min 65% in (10th, 12th, B.E/B.Tech in CSE/IT/ECE or equivalent degree from a recognized college/university.)

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Project Name: NDMA CAP Integrated Alert System (DSA group)

Post code: 13

<u>No. of Post(s):</u>2</u>

Location: New Delhi

Roles and Responsibilities:

- Audit, assessment, and penetration testing techniques
- Experience with malware, Threat analysis and modelling, thorough understanding of attacks and threats
- Capability to influence others while adhering to a secure development lifecycle for a wide range of software products and technologies.
- Experience implementing security solutions that resolve security and business risk tradeoffs
- An understanding of networking and communication protocols (such as TCP/IP, UDP, SSL/TLS, IPSEC, HTTP, HTTPS)
- Security venerability and threat analysis

Skills and Abilities:

- JAVA, C++, Linux architecture, Security Tools, OWASP Top 10 and CWE top 25
- Vulnerabilities
- An understanding of cryptography, web service frameworks, mobile application architectures, and service architectures (such as event-driven, service-oriented, or server less architectures).

Minimum Qualifications:

• Min 65% in (10th, 12th ,B.E/B.Tech in Computer Science & Engineering/IT/ECE or equivalent degree from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Project Name: NDMA CAP Integrated Alert System (DSA group)

Post code: 14

No. of Post(s): 2

Location: New Delhi

Roles and Responsibilities:

- 1. Experience/Knowledge of administration and troubleshooting for DevOps/Deployment, Orchestration Management, and Configuration Management
- 2. Deploying application into cloud using CI/CD
- 3. Continuous Integration and Continuous Deployment process using docker, jenkins etc.
- 4. Writing automation scripts to automate cloud deployment
- 5. Experience/Knowledge of in migration of conventional applications to the cloud
- 6. Experience/Knowledge of System Administration with Linux (Ubuntu, CentOS, RedHat)

Skills and Abilities:

- Linux administration, Load balancer setup, Database synchronization, SSL and Security certificate configuration
- Load Balancing, SSL over HTTPs, CI/CD, Certification in cloud domain

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in CSE/IT/ECE or equivalent degree from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Project Name: a) 4G/5G testing/POC/deployment in Railways b) 4G/5G deployment in BSNL

Post code: 15

No. of Post(s): 15

Location: New Delhi/Kolkata

Roles and Responsibilities:

- 1. Installation, commissioning and day to day activities to be performed at office and various sites PAN India
- 2. System integration and testing in C-DOT lab and at various PAN India sites.
- 3. Interfacing with various government and non-government customers for resolution of issues coming in their network

Skills and Abilities:

- 1. Candidate shall have experience of installation, deployment and support of different elements of 2G/3G/4G network
- 2. Candidate shall have experience of working on Network management and troubleshooting.
- 3. Hands-on experience of working on UNIX/Linux environment, shell scripting will be an additional advantage
- 4. Candidate shall have experience of working on Cloud environment.
- 5. Knowledge of Architecture of EPC & IMS as well as different Call flows in 4G/Volte Network
- 6. Good grasp on different Debugging Tools like Wireshark, Tcpdump, Tethereal
- 7. Knowledge of VOIP, SIP, Megaco, Diameter, MAP, GTP etc.
- 8. Knowledge of Networking Protocols i.e. OSPF, BGP, ACL, MPLS etc.
- 9. Comfortable with frequent Travelling/Field Visit at Customer sitesGood verbal and oral communication skill

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in CSE/IT/ECE or equivalent degree from a recognized college/university.

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Project Name: Wi-Fi Technology Enhancement and Rollout

Post code: 16

No. of Post(s): 02

Location: New Delhi / Bengaluru

Roles and Responsibilities:

Installation and Field Work for Wi-Fi

- RF survey and requirement finalization for any Wi-Fi deployment
- Installation of Wi-Fi solution, Network configuration with respect to TSP/ISP, Testing and
- Acceptance Testing as per the customer requirement.
- Provide support after installation.
- Training for operation and maintenance of network.
- Require extensive traveling for field deployment.
- Call Centre and Certification Related Activity:

• To provide extensive support to PDOAs and APP providers in day-to-day operation and maintenance.

- 24x7 Call-Centre support through mobile operator
- Full-fledged Control Room / Helpdesk between 9 AM to 8 PM
- Certification of PDOA stack and APP along with the preparation of reports.

Skills and Abilities:

- Knowledge of IT and server-based system and fundamental of IP/LAN/Wi-Fi technology.
- Knowledge of remote installation and support to customer

Minimum Qualifications:

 \bullet Min 65% in (10th, 12th ,B.E/B.Tech in ECE or equivalent degree from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Project Name: Switch and Router support- R34 (NGN)

Post code: 17

<u>No. of Post(s):</u> 2

Location: New Delhi

Roles and Responsibilities:

- Managing Router lab and associated infrastructure
- Field support activities

Skills and Abilities:

- Knowledge of computer networking.
- CCNA certification/training preferable

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in ECE from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Project Name: OCN Project: C04

Post code: 18

No. of Post(s): 6

Location: New Delhi

Roles and Responsibilities:

- Hardware board testing.
- Good analytical skills for hardware debug
- Handling sensitive instruments like oscilloscope, optical analysers etc.
- PCB Design exposure
- Should be able to work under minimal supervision.

Skills and Abilities:

• Microcontroller C coding, VHDL, Python scripting

Minimum Qualifications:

• Min 65% in (10th, 12Th, B.E/B.Tech in ECE from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Project Name: TSOC Project

Post code: 19

No. of Post(s): 2

Location: New Delhi / Bengaluru

Roles and Responsibilities

- 1. Monitoring of Pan-India MPLS links and interaction with ISPs/TSPs and MPLS service providers.
- 2. Monitoring of Routers, configuration, replacement and interaction with vendor & C-DOT router team.
- 3. Probe application monitoring & servers troubleshooting, interaction with Hardware vendor, ISPs/TSPs and C-DOT development team.
- 4. Monitoringof Data Center Network & Security (Router, Firewall, Core& access switches for 400G Backbonecovering 80 Racks.
- 5. Big-Data Platform comprising of following clusters with hunders of nodes.
 - IPFIX Collector cluster
 - Kafka cluster
 - SPARK cluster
 - Logstash nodes
 - Elasticsearch application and storage Hot & Warm clusters.
 - Web based application nodes, Mongo DB etc.

Skills and Abilities:

- 1. Candidates having cybersecurity-related certification (e.g. Ethical hacking, Network forensic, Computer forensic etc.) shall be preferred.
- 2. Knowledge of shell scripting, Python scripting, Linux (CentOS/Ubuntu), Windows OS
- 3. Knowledge of TCP/IP Protocol, Routing Protocol as BGP, IPFIX protocol, DNS, DHCP, HTTP, HTTPs, SIP etc.
- 4. Knowledge of IP protocols, packet debugging tools such as Wireshark, tcpdump, ping, traceroute, Nmap, Hping etc.
- 5. Knowledge of ICT device configuration like Router, Switches, PC, Servers etc.
- 6. Knowlede of Big data Applications as Kaka, Spark, ELKstack, MongoDB, Hadoop etc.

Minimum Qualifications:

• Min 65% in (10th, 12TSth, B.E/B.Tech in CSE/ECE or equivalent degree from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

a. QKD Software	
b. OAAS (GPON) Software	

Post code: 20

No. of Post(s): 2

Location: New Delhi

Roles and Responsibilities:

• Development and testing of system software for various modules for optical access and quantum network management

Skills and Abilities:

- Proficiency in programming languages, such as C/C++/Python/Java, SQL.
- Deep understanding of Web application technologies such as gRPC, REST, container, docker, Kubernets etc.
- Extensive experience in deploying, optimising and maintaining software.
- Excellent analytical and problem solving skills.

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in CSE/ ECE /IT or equivalent degree from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

a. QKD Software b. OAAS (GPON) Software

Post code: 21

<u>No. of Post(s): 2</u>

Location: New Delhi

Roles and Responsibilities:

• Design and development of switching and routing software. Working closely with the switch SDK to develop various L2 and L3 features for optical access devices.

Skills and Abilities:

- Proficiency in C/C++, shell scripting.
- Deep understanding of TCP/IP protocol stack, IPV4 and V6, switching and routing protocols.
- Experience of working on linux kernel and network layer.
- Excellent analytical and problem solving skills.

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in CSE/ECE /IT or equivalent degree from a recognized college/university.

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Job Description

Project Name:

a. QKD Software b. OAAS (GPON) Software

Post code: 22

<u>No. of Post(s)</u>:2

Location: New Delhi

Roles and Responsibilities:

- Software application development for Linux environment :
- Design,Coding
- Unit & Integration Testing

Skills and Abilities:

- Programming Languages -
- C/C++
- Scripting Languages -
- TCL, Python, JavaScript, PHP.
- Protocols -
- TCP/IP, UDP, IPC and Socket programming.
- Database -
- Relational, Non-relational databases.
- Kaka, Rabbit MQ, NetConf, Concept of Microservices and Concept of Networking

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in CSE /IT or equivalent degree from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

a. QKD Software

b. OAAS (GPON) Software

Post code: 23

No. of Post(s):1

Location: New Delhi

Roles and Responsibilities:

• Expect to participate in all phases of the optical product development cycle, from definition, design, documentation, implementation and testing.

Skills and Abilities:

- Proficiency in any one programming languages C/C++, Python
- Knowledge of AI/ML for modelling and performance evaluation
- Deep understanding and experience of TCP/IP protocol stack, HTTP (S) and other protocols.
- Experience with Agile development methodologies and DevOps environments.
- Practical knowledge of system architectures and networking.
- Knowledge of databases
- Experience with version control such as git

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in CSE/ ECE /IT or equivalent degree from a recognized college/university).

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

a. QKD Software b. OAAS (GPON) Software

Post code: 24

No. of Post(s):2

Location: New Delhi

Roles and Responsibilities:

• Expected to work on Low level software such as boot-loaders, Linux kernel and configuration on various optical products.

Skills and Abilities:

- Proficiency in programming languages C/C++.
- Practical knowledge of system architectures, networking and embedded systems.
- Embedded Linux development experience on ARM or other processes.
- Practical knowledge of BSP, Linux kernel, Linux Device Drivers etc.
- Experience with version control software git.
- Experience with device drivers for devices having I2C, SPI, UART, Ethernet, PCIe Interfaces.

Minimum Qualifications:

• Min 65% in (10th, 12th B.E/B.Tech in CS/ ECE /IT or equivalent degree from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

1. QKD Software

2. OAAS (GPON) Software

Post code: 25

No. of Post(s): 1

Location: New Delhi

Roles and Responsibilities:

- Responsibilities: Developing GUI for Network Manager of optical networks.
- Roles : GUI design, development and integration testing.

Skills and Abilities:

- Python, C++/Java, Database (relational, non-relational), Micro-service architecture, interprocess communication.
- Working knowledge of HTML, Javascript, CSS
- Working experience of frameworks React JS / Angular is preferred.

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Computer Science from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name:

a. QKD Software b. OAAS (GPON) Software

Post code: 26

No. of Post(s):1

Location: New Delhi

Roles and Responsibilities:

- Responsibilities: Developing Server side web application for Network Manager to manage optical networks.
- Roles : Design, Development and integration testing

Skills and Abilities:

- Python, C++/Java, Database (relational, non-relational), Micro-service architecture, interprocess communication.
- Working knowledge of HTML, Javascript, CSS, NodejS.
- Working experience of frameworks Django/Spring Boot is preferred.

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Computer Science from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

<u>**Project Name:**</u> 4G LTE IMS CONVERGED CORE COMMERCIALIZATION IN BSNL NETWORK - R42

Post code: 27

No. of Post(s):2

Location: Bengaluru

Roles and Responsibilities:

- Development of packet/message processing application
- Testing and debugging

Skills and Abilities:

- C Programming
- Knowledge of Linux, shell scripting
- Knowledge of networking IPC, sockets
- Knowledge of compilation and debugging tools

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Computer Science from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Project Name: DEVELOPMENT OF 5G STANDALONE (SA) CORE - G05 code

Post code: 28

No. of Post(s): 2

Location: Bengaluru

Roles and Responsibilities:

- Platform s/w porting of embedded systems
- Tester s/w development and testing.
- Integration testing with h/w

Skills and Abilities:

- Knowledge of Embedded systems (Bootloader, OS etc.) with any prior testing experience (if possible)
- C programming
- Knowledge of Linux, shell-scripting
- Knowledge of compilation and debugging tools

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Computer Science from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given to GATE qualified candidates.

Project Name: a)CMS Support- Testing for new services b) SAMVAD for LEAs c) IMPLN of LEAs

<u>Post code:</u> 29

No. of Post(s): 4

Location: Bengaluru

Roles and Responsibilities:

 $Electronic\ Provisioning\ and\ Interception\ Testing\ of\ new\ services\ launched\ /\ upgradation\ of\ their\ switch\ network\ by\ TSPs$

- NG-PSTN,
- PSTN,
- ILD,
- IPLC,
- 4G LTE services,
- VoLTE with CMS at each LSA in coordination with respective LI vendor / TSP.

The above testing is to be performed for the following LSAs

- Tamil Nadu
- Madya Pradesh
- Odisha
- Gujarat
- Mumbai
- Andhra Pradesh
- Kerala
- Karnataka
- Maharashtra

LEMF systems are deployed at LEA site and the initial testing is expected to be carried out to enable smooth hand-over of LEMF system to LEAs.

Skills and Abilities:

Knowledge in Wire-less and Wire-line technologies

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Computer Science/ECE from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification.

Quantum Key Distribution (including Measurement Device Independent Quantum Key Distribution which is a funded Project under NM-QTA as well as by NSCS)

Post code: 30

No. of Post(s): 1

Location: New Delhi

Skills and Abilities:

- Strong Theoretical Background in Quantum Communications / Quantum Mechanics
- Expertise in analysing QKD Protocols (& security proofs for the same) and support teams implementing the same
- Practical QKD implementation experience desirable
- Good understanding of various types of attack strategies on different QKD protocol implementations
- Should have thorough knowledge of Quantum Mechanics in general and all aspects related to Quantum Communications in particular
- Strong documentation and presentation skills; must be proficient in relevant software tools used in the same

Minimum Qualifications:

- Min 65% in (10th, 12th, BE/BTech in ECE or equivalent from a recognized college/university)
- M.E/M.Tech/MSc or Doctrate in Quantum Mechanics/ Quantum communication will be given preference

Eligibility Criteria:

Project Name: TWDM-PON (under which 4G/5G Front-haul products are being developed

Post code: 31

No. of Post(s):1

Location: New Delhi

Skills and Abilities:

- Experience in FPGA design, from low-level hardware description languages like Verilog/VHDL to high-level programming options like C, C++, and open computing language (OpenCL)
- Knowledge of Xilinx FPGA cards, and tools like Vivado for application development on FPGA, IP Core development and integration
- Experience of working on Optical Communication products desirable
- Strong digital design concepts as well as knowledge of Linux operating system
- Coding knowledge of C, C++, shell scripting, Python scripting
- Knowledge of Ethernet & other telecom protocols, error correction, privacy amplification, synchronization etc.
- Experience in handling lab instruments for debugging e.g. Mixed Signal Oscilloscope, signal generators etc.
- Experience in FPGA Timing closure
- Experience working with SoC based systems and knowledge of protocols such as SPI, UART, I2C, USB.
- Strong documentation and presentation skills; must be proficient in relevant software tools used in the same

Minimum Qualifications:

- Min 65% in (10th, 12th B/E/ B.Tech.in ECE or equivalent from a recognized college/university)
- M.E/ M.Tech or equivalent in Electronics & Communication, Electrical, Instrumentation will be given preference.

Eligibility Criteria:

Project Name: TWDM-PON (under which 4G/5G Front-haul products are being developed

Post code: 32

No. of Post(s):1

Location: New Delhi

Skills and Abilities:

- Strong optical communication fundamentals
- Experience of designing optical communication products and handling of Optical Components
- Good theoretical and practical knowledge of optical devices used in Optical Communication and Quantum Communications
- Good Board design skills and proficiency in tools used for the same
- Strong analog design concepts and proficiency in tools used for the same
- Strong documentation and presentation skills; must be proficient in relevant software tools used in the same

Minimum Qualifications:

- Min 65% in (10th, 12th,BE/ B.Tech.in ECE or equivalent from a recognized college/university)
- M.E/ M.Tech. or equivalent in Electronics & Communication, Electrical, Instrumentation, Opto-electronics or Optical Communication will be given preference..

Eligibility Criteria:

Job Description

Project Name: 4G-LTE RAN and OCN project.

Post code: 33

No. of Post(s): 2

Location: Bengaluru /New Delhi

Roles and Responsibilities:

- Mechanical Production Support
- Inspection & Verification
- Trouble shooting
- Documentation of Technical Drawings

Skills and Abilities:

- Working Knowledge of SOLIDWORKS/AutoCAD/ProE
- Good written and communication skills.
- Good problem-solving skills.

Minimum Qualifications:

 \bullet Min 65% in (10th, 12th , B.E/B.Tech in Mechanical Engineering from a recognized college/university)

Eligibility Criteria:

Job Description

Project Name: a) Data Center cloud infrastructure b) Network Security

Post code: 34

No. of Post(s): 2

Location: Bengaluru

Roles and Responsibilities:

Implementation, configuration and commissioning of:

- Virtual infrastructure
- Windows domain infrastructure
- Critical network services
- Network security

Skills and Abilities:

- Windows ADS & LDAP administration
- Linux server administraton
- Network services setup and administration DNS, DHCP, NFS, syslog, AAA
- Network devices switches, routers, firewall configuration
- Network management
- Security implementation in end-points and network devices
- Hypervisor administration Vmware ESXi, vCenter
- SAN administration
- Database administration
- Data center management practices
- Docker and kubernetes management
- Scripting skills with Shell, perl, python

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in ECE or IS/IT from a recognized college/university

Eligibility Criteria:

• 0-3 years of professional work experience post qualification.

• Preference would be given to candidates having industry certifications from:- Cisco, Vmware, Microsoft, Linux Professional Institute, RedHat etc

Job Description

Project Name: 4G RAN PROJECT

Post code: 35

<u>No. of Post(s</u>): 02

Location: Bengaluru

Roles and Responsibilities:

- Develop test procedures and strategies to carry out system testing
- Development of Validation plans for testing 4GRAN and 5GRAN systems
- Testing and Validation of 4GRAN,5GRAN systems
- Debugging and maintaining the 4GRAN,5GRAN systems
- Generating and Analyzing the Test Reports and Validation Reports
- Generation and Review of Specifications for 4G and 5G systems
- Review test result data to ensure that actual performance meets expected requirements
- Provide technical support in performing RF system testing
- Design test fixtures and develop and calibrate test equipment.

Skills and Abilities:

- Hands-on experience with RF equipment is an advantage (signal analyzers, oscilloscopes, signal generators, power meters)
- Knowledge of 3GPP specification is an advantage
- Experience in test automation (perl/python)
- Solid knowledge of 4G/5G standard, especially air interface
- Solid Knowledge on Antenna testing and debugging
- Moderate to Expert level knowledge Antenna subsystem of 4G / 5G Systems.
- Debugging and Analysing skills when facing problem with RF parameters or RF Set-up.
- Moderate to Expert level knowledge on 4G/5G Base Station RF Conformance tests.
- Knowledge on TEC specifications and 3GPP specifications.
- Moderate to Expert level knowledge on RF components like Attenuators, Adopters, cables
- Moderate knowledge of Test-Automation will be an added advantage
- Analyze and troubleshoot RF test equipment in a timely and accurate manner
- Understand customer requirements and accordingly prepare test specifications.
- Knowledge of UNIX/Linux environment and command line
- Understanding of technical documentation and technical writing skills

Minimum Qualifications:

• Min 65% in (10th, 12th,B.E/B.Tech in Electronics & Communication Engineering or equivalent degree from a recognized college/university)

Eligibility Criteria:

Project Name: 5G RAN PROJECT

Post code: 36

No. of Post(s): 03

Location: Bengaluru

Roles and Responsibilities:

- Design, Develop and Build Test Automation frameworks
- Design and Development of Test suites for the 4G and 5G system.
- Write, design, and execute automated tests by creating scripts that run testing functions automatically
- Maximize test coverage for the most critical features of the system
- Determine the priority for test scenarios and create execution plans to implement these scenarios

Skills and Abilities:

- Comprehensive knowledge in the field of software development
- Knowledge of Artificial Intelligence / Machine Language
- Knowledge on Cloud computing, CI/CD tools like Jekins
- Understanding the Industry Standards : 3gpp standards, Tec standards
- Moderate Knowledge on simulators : 2G/3G/4G node Simulators, UE simulators
- Moderate knowledge on Software testing tools: Wire shark, Scripting languages.
- Linux administration and Linux networking
- Programming expertise: High level languages C,C++,Java and Python
- Moderate knowledge on Databases: SQL, ORACLE etc.
- Knowledge on Andriod OS to Support Mobile-Telephone Automations
- Full stack developers for Test Automation of Validation Test Cases Execution, Configuration, monitoring and maintaining the Test Environment

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university)

Eligibility Criteria:

Project Name: 5G RAN PROJECT

Post code: 37

<u>No. of Post(s):</u> 03

Location: Bengaluru

Roles and Responsibilities:

- Enable to the Hardware electronics systems and test equipment to integrate in Test Automation frameworks
- Design and Development of Test suites scenarios for the 4G and 5G system.
- Write, design, and execute automated tests by creating scripts that run testing functions automatically
- Maximize test coverage for the most critical features of the system
- Determine the priority for test scenarios and create execution plans to implement these scenarios

Skills and Abilities:

- Comprehensive knowledge in the field of hardware development and testing
- Understanding the Industry Standards : 3gpp standards, Tec standards
- Moderate Knowledge on simulators : 2G/3G/4G node Simulators,UE simulators,Channel Emulators, Driver test tools and basic electronic system testing measuring tools
- Moderate knowledge on Software testing tools: Wire shark, Scripting languages.
- Linux administration and Linux networking

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Electronics & Communication Engineering or equivalent degree from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: CAS-STB enhancement and support

Post code: 38

No. of Post(s): 1

Location: Bengaluru

Roles and Responsibilities:

Shall be capable of working on

- 1. Android OS and its app development using Android SDK and Android Studio
- 2. REST and JSON.
- 3. Database
- 4. React, HTML, XML, JAVA, Kotlin and Gradle
- 5. UI development using XML and JSON
- 6. Android Interactivity and UI framework
- 7. Publishing of mobile apps on Play Store
- 8. Live app operation, maintenance and update

Skills and Abilities:

- 1. JAVA 8 or above, Javascript ES6
- 2. Mobile App development, Android, React
- 3. REST Apps,
- 5. Hosting and maintaining Apps in play store

Minimum Qualifications:

 \bullet Min 65% in (10th, 12th ,B.E/B.Tech in CSE /IT/ECE or equivalent degree from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: 4G Radio Access Network

Post code: 39

No. of Post(s): 4

Location: Bengaluru

Roles and Responsibilities:

- Development of EMS Features
- Handling Integration activities
- Automation of test plans
- Migration of 4G EMS to 5G complaint EMS (Element Management System)
- Testing and Trials

Skills and Abilities:

• Knowledge of Wireless Technologies, Computer Networking, Data Networking, Signal Processing

- Wireless network system architecture and subsystem design
- Testing and debugging tools
- Configuration Management, Scripting, Build and Development environment

• Able to work with Product integration and testing like functional testing, load testing, Stability testing, Regression testing etc

- Comfortable with organization processes
- C/C++ programming skills along with scripting.
- Unix Network Programming
- Data Structures and Algorithms
- JAVA Language
- Web Developement (JSP, JavaScript, AJAX, HTML, Application Server, Web Server
- Database (Knowledge of Oracle or MySql orPostgres)
- ORM Framework
- Framework (Sping Boot, Structs, BOOTSTRAP)

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in CSE from a recognized college/university).

Eligibility Criteria:

Project Name: 4G Radio Access Network

Post code: 40

No. of Post(s): 6

Location: Bengaluru

Roles and Responsibilities:

Platform Software/ Firmware/ Operating Systems/ Drivers Development, Testing and Trials

Skills and Abilities:

• Knowledge of Wireless Technologies, Computer Networking, Data Networking, Signal Processing

- Wireless network system architecture and subsystem design
- System Engineering Aspects,
- Testing and debugging tools, Signal generator/analyzers, Logic Analyzers
- Configuration Management, Scripting, Build and Development environment

• Able to work with Product integration and testing like functional testing, load testing, Stability testing, Regression testing etc

- Comfortable with organization processes
- Processors, Devices, SoCs, FPGA, on-board devices and interface devices.
- Operating Systems, distributions, packaging, devices, kernels, device drivers, data plane development, uboot, compilation, linking, loading
- C/C++ programming skills along with scripting.
- Power-on self-test.

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in CSE /ECE from a recognized college/university).

Eligibility Criteria:

Project Name: 4G Radio Access Network

Post code: 41

No. of Post(s): 6

Location: Bengaluru

Roles and Responsibilities:

RAN/RRH related development in FPGA, System level testing, and Trials

Skills and Abilities:

• Knowledge of Wireless Technologies, Computer Networking, Data Networking, Signal Processing

- Wireless network system architecture and subsystem design
- Computer Architecture, Digital Logic, Processor/FPGA/SoC interfacing

• Knowledge in hardware design (Circuit Design and Analysis, PCB, Devices, Signal and power integrity, interface with CAD/VDG/EPG)

• Expertise in FPGA Development – Tools for FPGA development, Timing analysis, Languages (VHDL/Verilog), Simulation, Modeling, Programming

- Matlab and Simulink and equivalent tools
- Ability to learn and use RF analysis and design tools
- Testing and debugging tools, Signal generator/analyzers, Logic Analyzers
- SDR concepts, Waveforms, Digital Filters, Interfacing with IP from other vendors.
- Knowledge of industry standards, standardization
- Comfortable with organization processes
- Good understanding of 3GPP wireless standards

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in ECE from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: 4G Radio Access Network

Post code: 42

No. of Post(s): 6

Location: Bengaluru

Roles and Responsibilities:

RRH Analog & RF Hardware and System Level Testing, Trials

Skills and Abilities:

• Knowledge of Wireless Technologies, Computer Networking, Data Networking, Signal Processing

- Wireless network system architecture and subsystem design
- Computer Architecture, Digital Logic, Processor/FPGA/SoC interfacing
- Expertise in hardware design (Circuit Design and Analysis, PCB, Devices, Signal and power integrity, interface with CAD/VDG/EPG)
- Ability to learn and use RF analysis and design tools
- Testing and debugging tools, Signal generator/analyzers, Logic Analyzers
- Knowledge of industry standards, standardization
- Comfortable with organization processes
- Good understanding of 3GPP wireless standards

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in ECE from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: 4G Radio Access Network

Post code: 43

No. of Post(s): 8

Location: Bengaluru

Roles and Responsibilities:

LTE/NBIOT/5GNR Layer 2, Layer 3, RRM, SON Development, Testing, Trials

Skills and Abilities:

• Knowledge of Wireless Technologies, Computer Networking, Data Networking, Signal Processing

- Wireless network system architecture and subsystem design
- Testing and debugging tools
- Configuration Management, Scripting, Build and Development environment

• Able to work with Product integration and testing like functional testing, load testing, Stability testing, Regression testing etc

- Comfortable with organization processes
- C/C++ programming skills along with scripting.
- Unix Network Programming
- Data Structures and Algorithms
- Design Patterns
- Familiarity with Protocol Stack Development
- Good understanding of 3GPP wireless standards

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in ECE/CSE from a recognized college/university). Preference will be given to candidates from CSE background.

Eligibility Criteria:

Project Name: 4G Radio Access Network

Post code: 44

No. of Post(s): 6

Location: Bengaluru

Roles and Responsibilities:

LTE/NBIOT/5GNR Layer 2, Layer 3, RRM, SON Development, Testing, Trials

Skills and Abilities:

• Knowledge of Wireless Technologies, Computer Networking, Data Networking, Signal Processing

• Knowledge of LTE / UMTS / WCDMA / HSDPA/ 5G or WLAN standards in the physical layer and future developments within 3GPP, OFDM, MIMO

- Wireless network system architecture and subsystem design
- Testing and debugging tools

• Experience with handling of specific test equipment (signal generator, signal analyser, logic analyser and pattern generator) is beneficial

• Expertise in FPGA Development – Tools for FPGA development, Timing analysis, Languages (VHDL/Verilog), Simulation, Modeling, Programming

- Matlab and Simulink and equivalent tools
- DSP Programming skillset preferred
- Comfortable with organization processes
- C/C++ programming skills along with scripting.
- Unix Network Programming
- Data Structures and Algorithms
- Good understanding of 3GPP wireless standards

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in ECE/CSE from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: 4G Radio Access Network

Post code: 45

No. of Post(s): 6

Location: Bengaluru

Roles and Responsibilities:

- Hardware Development, Integration Testing
- BOM preparation and verification
- Card level documentation
- QA Validation
- Card testing and Card level reworks
- Development, Testing and Trials

Skills and Abilities:

- Knowledge of Wireless Technologies, Computer Networking, Data Networking, Signal Processing
- Wireless network system architecture and subsystem design
- Computer Architecture, Digital Logic, Processor/FPGA/SoC interfacing
- Expertise in hardware design (Circuit Design and Analysis, PCB, Devices, Signal and power integrity, interface with CAD/VDG/EPG)
- Testing and debugging tools, Signal generator/analyzers, Logic Analyzers
- Knowledge of industry standards, standardization
- Comfortable with organization processes
- Good understanding of 3GPP wireless standards

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in ECE from a recognized college/university).

Eligibility Criteria:

Job Description

Project Name: 4g Field trial for Railways and Roll out for BSNL for South India

Post code: 46

<u>No. of Post(s):</u> 5

Location: Bengaluru /Hyderabad

Roles and Responsibilities:

- Installation, commissioning and day to day activities to be performed at Railway 4G Proof of Concept Sites (Secunderabad) and BSNL/Railway sites PAN India.
- Conducting Field trial activities for Railway 4G up gradation, which includes 4G Core maintenance, up gradation and integration with enodeB and IP/MPLS backbone.
- CORE and 4G RAN System integration and testing in C-DOT lab and at various PAN India sites.
- Interfacing with various government and non-government customers for resolution of issues coming in their network

Skills and Abilities:

- Candidate shall have experience of installation, deployment and support of different elements of 2G/3G/4G network
- Candidate shall have experience of working on Network management and troubleshooting.
- Hands-on experience of working on UNIX/Linux environment, shell scripting will be an additional advantage
- Candidate shall have experience of working on Cloud environment and loading/configuring the Servers.
- Knowledge of Architecture of EPC & IMS as well as different Call flows in 4G/Volte Network
- Having 4G RAN architecture knowledge will be preferred.
- Good grasp on different Debugging Tools like Wireshark, Tcpdump, Tethereal
- Knowledge of VOIP, SIP, Megaco, Diameter, MAP, GTP etc.
- Knowledge of Networking Protocols i.e. OSPF, BGP, ACL, MPLS etc.
- Comfortable with frequent Travelling/Field Visit at Customer sites. Good verbal and oral communication skills and able to analyse/present using Powerpoint/Excel.

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Computer Science & Engineering/IT/ECE or equivalent degree from a recognized college/university). **Eligibility Criteria:**

• 0-3 years of professional work experience post qualification, preferably in telecom industry.

Job Description

Project Name: MAXNG Support

Post code: 47

No. of Post(s): 3

Location: Hyderabad/Pune/Bhopal

Roles and Responsibilities:

- Handling routine maintenance issues at NGN CORE and related access sites.
- Upgrading and testing the new software release and patches as and when available.
- Conducting periodic audit on CORE elements and updating health status.
- Interfacing with various BSNL nodal agencies for resolution of issues coming in their network.
- Conducting periodic switchover from PR to GR CORE site.
- Checking all type of call scenarios and call detail record (CDR)

Skills and Abilities:

- Must have good knowledge of Switching and IP domain telecom network
- Hands-on experience of working on UNIX/Linux environment, shell scripting will be an additional advantage
- Having experience of working on Cloud environment and loading/configuring the Servers in LINUX/UBUNTU environment.
- Good grasp on different Debugging Tools like Wireshark, Tcpdump, Tethereal
- Knowledge of VOIP, SIP, Megaco, Diameter, MAP, GTP etc.
- Knowledge of Networking Protocols i.e. OSPF, BGP, ACL, MPLS etc.
- Comfortable with frequent Travelling/Field Visit at Customer sites. Good verbal and oral communication skills and able to analyse/present using Powerpoint/Excel.

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Computer Science & Engineering/IT/ECE or equivalent degree from a recognized college/university).

Eligibility Criteria:

• 0-3 years of professional work experience post qualification, preferably in telecom industry.

Project Name: MIS Support

Post code: 48

<u>No. of Post(s</u>): 03

Location: New Delhi(02)/ Bengaluru(01)

Roles and Responsibilities:

- Providing Support for Management Information System (MIS) and ERP activities.
- Automation of internal processes.
- Development of new software packages for MIS and ERP
- Development of web portals and Mobile Applications.

Skills and Abilities:

- Hands on experienced in software design, development, testing and debugging of web applications.
- Working Knowledge of JAVA technologies Net/Java, ASP/JSP/PHP, SQL, PL-SQL, HTML, Java Script,
- Working Knowledge of databases Oracle / Sql Server / MySql
- Working experience in Operating systems Windows/Linux.
- Working Knowledge of Mobile APP development.
- Working Knowledge of Oracle ERP

Minimum Qualifications:

• Min 65% in (10th, 12th, B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university)

Eligibility Criteria:

Project Name: POC/ FIELD TRIAL SUPPORT-4G RAN

Post Code: 49

No. of Post(s): 04

Location: Railways (Secunderabad)

Roles and Responsibilities:

- Support the Field trails/PoCs of the 4GRAN-eNodeB
- Deploy and Integrate the 4GRAN systems in the Field as needed
- Solve the EUTRAN technical issues in bringing up and operating in the Field
- Support and guidance to customers for operations and maintenance of 4G Network
- Network coverage test using Network analyzers, Drive test tools and other tools.
- To execute the test cases for the 4GRAN network in the field
- Support to 4GRAN deployment and field support all over India
- Travel to anywhere all over India for 4GRAN field support and field trails.

Skills and Abilities:

- Hands-on working experience and expert knowledge of 4G/5G telecommunication systems is preferred
- Understanding principles of mobile communication network and main protocols. Knowledge about Protocols of 4G/5G will be added advantage
- Wide knowledge of testing approaches
- Knowledge of Linus OS, Linux Administration and Linux networking
- knowledge of RF measurement tools
- Excellent communicator, Team Player Attitude who can work independently also

Minimum Qualifications:

• Min 65% in (10th, 12th,BE/B.Tech in Electronics & Communication Engineering or equivalent degree from a recognized college/university)

Eligibility Criteria:

• 0-3 years of professional work experience post qualification. Preference will be given any cellular (2G/3G/4G) wireless deployment field experience.