# Job Description

Project Name: OCN Software

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 (10<sup>th</sup>, 12th and B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university).

# **Eligibility Criteria:**

#### Job Description

Project Name: OCN Software

Post code: 02

No. of Post(s): 4

Location: New Delhi

#### **Roles and Responsibilities:**

- Identify and analysis of software requirements
- Design & Development of software modules using C/C++
- > Design & Development of quality software to enhance software reusability & scalability
- Coding, Code reviews, unit testing and Release management Integration of Software modules & System Integration testing

#### **Skills and Abilities:**

- Must have knowledge of building application in Linux environment, Knowledge of Makefile
- ➤ In-depth understanding and working knowledge of C & C++
- > Object oriented design using C++, understanding of OOP principles and design patterns
- In-depth knowledge of data structure & algorithms and it's application in software design & development
- Working knowledge of database management system
- Knowledge of code profiling
- Good understanding and knowledge of Linux IPCs, TCP/IP internals, network programming and concepts of networking devices
- > Familiarity with system calls, wrapper functions and library routines
- Proficient in Software design & development in multi-threaded environment
- > Knowledge and use of debugging tools for debugging of multithreaded application
- ➢ Knowledge of scripting languages like shell, Python
- Knowledge of building application for Packet Optical Transport Platform(POTP)/application for Broadcom Switches shall be an added advantage
- Excellent problem solving and debugging skills
- Proficient in software version maintenance tools such as Git, SVN or any other release management system
- Excellent problem solving and debugging skills

Familiarity with continuous integration/continuous deployment, Testing & Integration of software modules.Excellent communicator, team player who can work independently also

#### **Minimum Qualifications:**

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

#### **Eligibility Criteria:**

## Job Description

Project Name: OCN Software

Post code: 03

**<u>No. of Post(s)</u>:** 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 (10<sup>th</sup>, 12th and B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university).

# **Eligibility Criteria:**

## Job Description

## Project Name: OCN Software

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 (10<sup>th</sup>, 12<sup>th</sup> and B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university).

# **Eligibility Criteria:**

#### Job Description

Project Name: OCN Software

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 (10<sup>th</sup>, 12th and B.E/B.Tech in Computer Science & Engineering or equivalent degree from a recognized college/university).

# **Eligibility Criteria:**

## Job Description

Project Name: OCN Software

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:**

Project Name: CEIR Project

Post code: 07

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

 $\bullet$  Min 65% in (10<sup>th</sup>, 12th and B.E/B.Tech in Computer Science & Engineering/IT/ECE from a recognized college/university)

#### **Eligibility Criteria:**

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:**

 $\bullet$  Min 65% in (10<sup>th</sup>, 12<sup>th</sup> and B.E/B.Tech in Civil Engineering from a recognized college/university)

# **Eligibility Criteria:**

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

# 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 (10<sup>th</sup>, 12th <sup>,</sup>B.E/B.Tech in Computer Science & Engineering/IT/ECE or equivalent degree from a recognized college/university)

# **Eligibility Criteria:**

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:**

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

# Post code: 11

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

 $\bullet$  Min 65% in (10<sup>th</sup>, 12<sup>th</sup> ,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.

#### 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
  - eases, excerting test cases, opening bugs, verifying
- Mobile App, iOS, Android, React Native.

#### **Minimum Qualifications:**

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

#### **Eligibility Criteria:**

# 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 (10<sup>th</sup>, 12th ,B.E/B.Tech in Computer Science & Engineering/IT/ECE or equivalent degree from a recognized college/university).

# **Eligibility Criteria:**

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

Post code: 14

**<u>No. of Post(s):</u>** 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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in CSE/IT/ECE or equivalent degree from a recognized college/university).

#### **Eligibility Criteria:**

## 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:

 $\bullet$  Min 65% in (10<sup>th</sup>, 12<sup>th</sup> ,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.

# Job Description

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 (10<sup>th</sup>, 12<sup>th</sup> ,B.E/B.Tech in ECE or equivalent degree from a recognized college/university).

# **Eligibility Criteria:**

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

**Post code**: 17

**No. of Post(s):** 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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in ECE from a recognized college/university).

# **Eligibility Criteria:**

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 (10<sup>th</sup>, 12<sup>Th</sup>, B.E/B.Tech in ECE from a recognized college/university).

#### **Eligibility Criteria:**

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. Monitoring of 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 (10<sup>th</sup>, 12TS<sup>th</sup>, 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.

# Job Description

#### **Project Name:**

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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in CSE/ ECE /IT or equivalent degree from a recognized college/university).

# **Eligibility Criteria:**

#### Project Name:

a. QKD Software	
b. OAAS (GPON) Soft	tware

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:**

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

#### **Eligibility Criteria:**

# 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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in CSE /IT or equivalent degree from a recognized college/university).

# **Eligibility Criteria:**

#### Project Name:

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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in CSE/ ECE /IT or equivalent degree from a recognized college/university).

#### **Project Name:**

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:**

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

#### **Eligibility Criteria:**

## Job Description

#### Project Name:

1. QKD Software
2. OAAS (GPON) Software

Post code: 25

<u>No. of Post(s</u>): 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 (10<sup>th</sup>, 12<sup>th</sup>, 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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in Computer Science from a recognized college/university).

#### **Eligibility Criteria:**

## Job Description

#### <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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in Computer Science from a recognized college/university).

#### **Eligibility Criteria:**

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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in Computer Science from a recognized college/university).

#### **Eligibility Criteria:**

## Job Description

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

Post code: 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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in Computer Science/ECE from a recognized college/university).

#### **Eligibility Criteria:**

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

# Project Name: Quantum Key Distribution

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 (10<sup>th</sup>, 12<sup>th</sup>, B.Tech. ECE / B.Tech (Engineering Physics) / M.Sc. (Physics) 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:**

# Job Description

# Project Name: Quantum Key Distribution

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 (10<sup>th</sup>, 12<sup>th</sup> 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:**

## Job Description

<u>Project Name:</u> a) Quantum Key Distribution b) TWDM-PON

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 (10<sup>th</sup>, 12<sup>th</sup>,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:**

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

## Job Description

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

Post code: 33

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

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 (10<sup>th</sup>, 12<sup>th</sup>, 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

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 (10<sup>th</sup>, 12<sup>th</sup>, 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

**<u>No. of Post(s):</u>** 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 (10<sup>th</sup>, 12<sup>th</sup>, 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 (10<sup>th</sup>, 12<sup>th</sup>, 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 (10<sup>th</sup>, 12<sup>th</sup> ,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

<u>No. of Post(s):</u> 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 (10<sup>th</sup>, 12<sup>th</sup>, 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 (10<sup>th</sup>, 12<sup>th</sup>, 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 (10<sup>th</sup>, 12<sup>th</sup>, B.E/B.Tech in ECE from a recognized college/university).

# **Eligibility Criteria:**

# 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 (10<sup>th</sup>, 12<sup>th</sup>, 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

 $\bullet$  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 (10<sup>th</sup>, 12<sup>th</sup>, 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 (10<sup>th</sup>, 12<sup>th</sup>, 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 (10<sup>th</sup>, 12<sup>th</sup>, 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 (10<sup>th</sup>, 12<sup>th</sup>, 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 / 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 (10<sup>th</sup>, 12<sup>th</sup>, 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

<u>No. of Post(s):</u>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 (10<sup>th</sup>, 12<sup>th</sup>,BE/B.Tech in Electronics & Communication Engineering or equivalent degree from a recognized college/university)

# **Eligibility Criteria:**

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