GOVERNMENT OF INDIA
NATIONAL TECHNICAL RESEARCH ORGANISATION
BLOCK-III, OLD JNU CAMPUS, NEW DELHI-110067
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N O T I C E

Subject :   Engagement of IT Professionals/Engineers as Consultant.

National Technical Research Organisation invites registration of desirous IT Professionalsfor engagement as Consultant in the following positions purely on contract basis for which the ONLINE registration is scheduled to start on 22.04.2022 **(1100 Hrs) and will remain open till 16.05.2022 (1500 Hrs):-**

(i)Category 'A'

Position (Location)	No of Positions	Maximum Age Limit	Qualification	Working Experience
Cyber Security Analyst (Location : New Delhi/ Bengaluru/ Mumbai/ Kolkata)	(a) 26	**(a) 35 Years** (minimum 3 Years experience)	Essential: BE/ B. Tech (Computer Science/Computer Engineering/ Information Technology/ Electronics/Electronics & Communication/ Electronics & Telecommunication) /MCA with First Division or with minimum 60% marks in aggregate from a recognized University/Institution. Desirable: Security certifications like CISSP or CISA or SOC/SIEM analyst or SOC/SIEM administration or SOC/SIEM threat hunting or SOC/SIEM operations/ configuration or Cisco Certified CyberOps Associate/CompTIA Security+ or CEH or any equivalent certification.	Essential: Experience in Cyber Security in the following domain: Design/implementation of enterprise level IT network or implementation and running OT network or Security Operation Centre (SOC) operations or Security Incident and Event Management (SIEM) operations/ SOAR operations/ Analytical ability to analyze suspicious cyber activities detect threats, find vulnerabilities etc. Desirable: More hands on experience in SOC/SOAR/SIEM environment/Good understanding of MITRE ATT&CK framework/Analytical ability to assess infrastructure security requirement, risks and data/understanding of malware code and propagation techniques/ Ethical hacking skill etc.
	(b) 15	**(b) 45 Years** (minimum 6 Years experience)		

			Essential / Desirable (Qualification)	Essential / Desirable (Experience)
Software Programmer (Location: New Delhi)	05	**(a) 35 Years** (with 4 Years & above experience)	Essential: BE/ B.Tech (Computer Science/ Computer Engineering/ Information Technology/ Electronics & Communication)/MCA with First Class/ Division or with minimum 60% marks in aggregate from a recognized University/ Institution.	Essential: Experience in Cyber Security with specialization in: • Programming languages(JAVA/ PHP/ Python Web Development) and Database management.
			Desirable: Certification from Coursera or edX or Udacity or Codecademy or equivalent in Coding/ Security.	Desirable: Security Tools developed and published at Github/ Bug Bounty winner. Knowledge of DevSecOps.
Risk Analyst (Location: New Delhi)	(a)08 (b)08	**(a) 30 Years** (with 01 years & above experience) **(b) 35 Years** (with 03 years & above experience)	Essential: BE/ B. Tech (Computer Science/ Computer Engineering/ Information Technology/Electronics & Communication)/ MCA with First Class/ Division or with minimum 60% marks in aggregate from a recognized University/Institution. Desirable: Certifications like CEH or equivalent.	Essential: Hands on Experience in: • Vulnerability Assessment and Penetration testing of Web/Mobile applications and Networks. • Knowledge of Python/Java/PhP.

	(c) 05	(c) 45 years (with 05 years & above experience)	Essential: BE/ B. Tech (Computer Science/ Computer Engineering/ Information Technology/ Electronics & Communication) MCA with First Class/ Division or with minimum 60% marks in aggregate from a recognized University/ Institution. Desirable: Certifications like OSCP Certification like CISA/CISSP/CRISK/ ISO, IEC or equivalent standards.	Essential: Hand on experience on VA/PT activities or Cyber Security Audits or ISMS/IS Policy review/implementation. Desirable: Experience in Risk Assessment/ Risk Management Framework and Security Controls/ Analytical skill to assess security requirement, risk and data/ Experience in developing concise oral and written summaries of complex technical scenarios and in presenting across diverse audiences (both for technical and management consumption).
Network Administra tor (Location: New Delhi/ Mumbai, Bengaluru, Kolkata)	09	35 Years (with 4 Years & above experience)	Essential: BE/ B. Tech in Computers/Computer Science/ Computer Technology/ Information Technology/ Electronics/Electronics & Communication with First Class/Division or with minimum 60% marks in aggregate from a recognized University/ Institution. Desirable Certifications like CCNP, CCNA or equivalent.	Essential: Installation, configuration, troubleshooting of servers (preferably RedHat)/ Network devices viz. Router, Manageable Switches and Firewall. Desirable RAID configuration/ Hadoop Cluster Management, configurations & troubleshooting/ Management and configuration of AAA server.

Power & Energy Sector IT & OT Security consultant (Location: New Delhi)	(a) 01	62 Years (Minimum 15 years Power and Energy domain/ industry experience in IT & OT Systems)	Essential: B.Tech/ M.Tech/ MCA or equivalent. Desirable: Certifications like ISA/ IEC 62443 CRAS or Certification in SCADA Security Architect (CSSA) /Certified Lead SCADA Security Manager/Global Industrial Cyber Security Professional (GICSP) or equivalent. MBA/ Diploma in Business Administration.	Essential: At least 05 years Work Experience in IT/OT systems in Power Generation/Transmission/ Grid Operation/ distribution utilities or Energy utilities at mid/top management level. Desirable: Working Experience in more than one domain as mentioned above. Experience of looking after cyber security of IT & OT systems in Power or Energy sector. More experience of working in information security standards & frameworks (e.g. ISO, NIST, etc.), strategy, planning & policy formulation.

		50 Years (Minimum 10 years Power and Energy domain/ industry experience in IT & OT Systems)	Essential: B.Tech/ M.Tech/ MCA or equivalent Desirable: Certifications like ISA/ IEC 62443 CRAS or Certification in SCADA Security Architect (CSSA)/ Certified Lead SCADA Security Manager/Global Industrial Cyber Security Professional (GICSP)or equivalent. MBA/ Diploma in Business Administration	Essential: At least 03 years Work Experience in IT/OT systems in Power Generation/Transmission/ Grid Operation/ Distribution utilities or Energy utilities at mid/top management level. Desirable: Working Experience in more than one domain as mentioned above. Experience of looking after cyber security of IT & OT systems in Power or Energy sector. More experience of working in information security standards & frameworks (e.g. ISO, NIST, etc.), strategy, planning & policy formulation.
	(b) 02			

			Educational Qualification	Work Experience
BFSI Sector IT Security Consultant (Location: New Delhi)	(a) 01	**62 Years** (Minimum 15 years domain/ industry experience in IT/Cyber/ Information Security)	Essential: B.Tech/ M.Tech/ MCA or equivalent Desirable: ISO/IEC 27001:2013/ Lead Auditor/ Lead Implementer Certification or certifications like CISSP or equivalent MBA/ Diploma in Business Administration.	Essential: At least 08 years Work Experience in BFSI Sector utilities IT systems at mid/Top management level. Desirable: Experience of looking after cyber security of IT/ICT systems at BFSI sector. More experience of working information security standards & frameworks (e.g. ISO, NIST, etc.), strategy, planning & policy formulation.
	(b) 02	**50 Years** (Minimum 10 years domain/ industry experience in IT/Cyber/ Information Security)	Essential: B.Tech/ M.Tech/ MCA or equivalent Desirable: ISO/IEC 27001:2013/ Lead Auditor/ Lead Implementer Certification or certifications like CISSP or equivalent MBA/ Diploma in Business Administration.	Essential: At least 05 years Work Experience in IT systems of BFSI Sector utilities at mid/top management level. Desirable: Experience of looking after cyber security of IT/ICT systems at BFSI sector. More experience of working in information security standards & frameworks (e.g. ISO, NIST, etc.), strategy, planning & policy formulation.
Cloud Infrastructure Security Consultant (Location: New Delhi)	01	**45 Years** (Minimum 7 Years' experience in relevant work area)	Essential: BE/ B.Tech (Computer Science/ Computer Engineering/ Information Technology/ Electronics/ Electronics & Communication/ Electronics & Telecommunication)/ MCA with First Division or with minimum 60% marks in aggregate from a recognized University/Institution.	Essential: Experience in managing large organization cloud infrastructure. Setting up architectures using cloud providers like AWS, Microsoft Azure, Google Cloud or others. Desirable: Experience in Cloud Migration Policy development, Cloud Security and Risk Assessment.

			Desirable: Security certifications on Google Cloud Architect or Microsoft Azure Solution Architect Expert or AWS certified Developer or CompTIA Cloud+ or CCSP or equivalent.	
Data Centre Security Consultant (Location: New Delhi)	02	**45 Years** (Minimum 7 years & above experience in relevant work area)	Essential: BE/ B.Tech (Computer Science/ Computer Engineering/ Information Technology/ Electronics & Communication/ Electrical & Electronics/ Electrical)/ MCA with First Class/ Division or with minimum 60% marks in aggregate from a recognized University / Institution. Desirable: Certifications like Certified Data Centre Professional (CDCP)/ Certified Data Centre Specialist (CDCS)/ Certified Data Centre Expert (CDCE) or equivalent.	Essential: Hands on experience in maintaining datacenter equipment (e.g. server, backup etc.), perform updates, maintain data center inventory, disaster recovery process and documentation, troubleshoot data network issues. Desirable: Experience in handling Tier 3 or above data center.

Selection Criteria:-

The evaluation/selection criteria is based on 'Quality & Cost Based Selection Method'(QCBS) of selection in the ratio of 80:20 (80% weightage to quality i.e. qualification, skill set, experience, industry certification, performance in interview etc. & 20% on cost i.e. expected remuneration).

Required job responsibilities/tasks:-

(A) Cyber Security Analyst

(i)   Signature based threat detection

(ii)   Incident Report (IR) generation.

(iii)   Third Party Intelligence Compilation.

(iv)   Management of Whitelist and Lookup Table.

(v)   Dissemination of LoCs generated through Threat Intelligence platform.

(vi)   Behaviour based Anomaly Detection.

(vii)   Traffic Analysis.

(viii) Aggregated Event Analysis.

(ix)   Cyber Threat Hunting.

(x)   Preparation and Dissemination of cyber threat reports.

(xi)   Threat Modeling.

(xii)   Threat Attribution and Campaign Identification Seeking feedback for closing tickets based on cyber threats reported.

(xiii) Policy tuning for cyber Threat detection

(xiv)   Supervising L2 and L1 Analyst.

(xv)   IT/OT security control documentation.

(xvi)   Operate and use relevant toolsets, such as SIEM and SOAR, threat intelligence, cyber forensic, incident management and ticketing tools.

(xvii) Script writing to find key patterns form large system log files.

(xviii) Carry out incident response as per IR SOPs and playbooks.

(xix)   Deep dive into datasets to understand what happened during and after attack and use data visualization tools to provide deeper insights.

(xx)   Analyze multiple data/intelligence sources and sets in order to identify patterns of activity for attribution to threat actors and develop informed recommendations.

(B) Software Programmer

(i)   Design and Development of various software modules for phishing intelligence and Social Engineering protection.

(ii)   Design and Development of software modules and scenarios for Cyber Range and CTF challenges.

(iii)   Automation of NCIIPC IT activities and functions by development of web applications using software packages/ stacks/ frameworks.
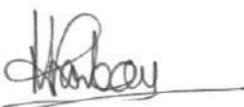
(C) Network Administrator

(i)   Configure/Installation/troubleshooting of enterprise level IT network.

(ii)   Manage and configure layer 2/3 devices and other perimeter security appliances like UTM/Firewall etc. vis ACL configuration, routing tables, VLAN creation etc.

(iii)   Server installation and troubleshooting vis SFTP server, Email server, Web Server etc.

(iv)   AAA server configuration and management.

(v)   Server based AV configuration and management.

(vi)   OS/patch update management.

(vii) Configuration and management of NOC/NMS.

(viii) Data Centre patch cable management and configuration.

(ix)   Configuration of Security protocols over the network like IPSEC etc.

(x)   Identity and role-based access management.

(D) Risk Analyst

(i)   Conduct Vulnerability Analysis and Penetration testing of Web Applications/Mobile Applications/Networks.

(ii)   Review VAPT Reports and suggest remedial measures.

(iii)   Conduct Cyber Security Audit.

(iv)   Conduct review of ISMS/IS policies.

(v)   Conduct Risk assessments and review of Risk Assessment reports.

(vi)   Suggest Risk treatment strategies and plans.

(vii) Review network architecture and identify gaps.

(E) Power & Energy (P&E) and Banking, Financial Services & Insurance (BFSI) Sector Security Consultant

1.   Support NCIIPC sectors and zones in their engagement with Ministries, Regulators and P&E/BFSI Critical Sector Entities (CSEs) as under:

(a)   Build and maintain knowledge base of all CSEs in the region.

(b)   Identification of Critical Information Infrastructure (CII) elements.

(c)   Development of plans, adoption of standards & best practices, refinement of procurement processes with respect to CII protection.

(d)   Threat models, impact assessments, protection, strategies, policies, cyber security & risk management frameworks, vulnerability assessment & auditing methodologies, advisories and audit notes on CII protection and their review in P&E/BFSI sector.

(e)   Share information and expertise on CII across various sectors.

(f)   Forecast all possible threat vectors to P&E/BFSI Sector entities and suggest remedial measures/strategies in advance.

(g)   Assist affected CSEs and various Govt agencies to coordinate response to attack on CII across affected sectors in the region.
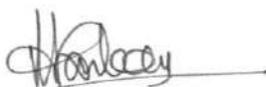
2.   Build domain knowledge and industry expertise at NCIIPC for the P&E/BFSI critical sector. Provide domain knowledge and expertise in interactions with international agencies.

3.   Support National Threat Analytics teams to build situational awareness, analysis, forecasting & assessment of threats to CIIs of the P&E/BFSI critical sector.

4.   Support NCIIP teams to build and manage a pool of highly skilled individuals and niche organisations, who can help NCIIPC in its objectives.

(F)   Cloud Infrastructure Security Consultant

(i)   Review Cloud Migration strategies and suggest appropriate policies/guidelines
(ii) Policy formulation and review on Cloud Infrastructure Security
(iii) Cloud Migration Risk Assessment & suggestion of mitigation measures/strategies
(iv) Cloud incident handling
(v)   Assessment of Cloud based solutions from Cyber and Information Security point of view
(vi) Cloud Architecture view

(G)   Data Centre Security Consultant

(i)   Data Centre Security solution and architecture review

(ii) Data Centre Incident handling and Root cause analysis

(iii) Data Centre Risk Assessment & suggestion of mitigation measures/strategies

(iv) Support NCIIPC sectors and zones in their engagement with Ministries, and Critical Sector Government Entities (CSEs)

(ii)Category 'B'

Position (Location)	No of Positions	Maximum Age Limit	Essential Qualification	Working Experience
Senior Software Engineer (Location: New Delhi	09	40 years	M.Tech/ME/B.Tech/ BE (Computer Science/ Computer Technology/ Information Technology/ Electronics/ Electronics & Communication/ Electrical & Electronics/ Electrical): or MSc (Computer Science/ Electronics): or MCA from a recognized University/ Institute with experience in the required domain from a reputed Company/ Organisation.	3 to 10 years experience in the software design and development in reputed company / Organization
Team Leader (Location: New Delhi	02	45 years		10 to 15 years experience in the software design and development in reputed company / Organization
System Specialist (Location: New Delhi	01	45 years		15 to 20 years experience in the software design and development in reputed company / Organization

Selection Criteria:-

The evaluation/selection criteria is based on 'Quality & Cost Based Selection Method'(QCBS) of selection in the ratio of 60:40 (60% weightage to quality i.e. qualification, skill set, experience, industry certification, performance in interview etc. & 40% on cost i.e. expected remuneration).

Special Skills desired

(a) <u>Senior Software Engineer</u>

Application Developer

- Experience in Angular JS/ReactJS/Advanced Java Scripts (OOPS), HTML5, CSS/CSS3, Bootstrap.
- Experience in at least one popular web framework (jQuery, Spring MVC),
- Microservices experience in either Node. Js or Spring Boot
- Experience in developing custom Elastic Search Java Client wrapper using JEST API
- Good knowledge of DB and NoSQL DBs like HBase, MongoDB
- Should have hands on experience in using Tomcat, JBOSS or other servers.
- Knowledge of Hadoop Technologies like MapReduce/Spark
- Knowledge of distributed programming platforms such as spark or Flink.

ETL Engineer (Talend)

- Hands-on experience working with Hadoop technologies like HDFS, Hive, MapReduce and experience with developing ETL using these technologies (Talend, SQoop and SPARK).
- Must have experience with dataloads in NoSql DBs and RDBMS
- Should have worked on majority of Talend components and can design simple ETL jobs to handle complex Business Logic.
- Should have knowledge of error handling and performance tuning in Talend.

Cluster Administrator

- Well verse with installation and configuration of Hadoop clusters desirably MapR
- Monitoring and tuning cluster performance
- Execute major platform software and operating system upgrades and maintenance across physical environments

(b) Team Leader

ETL Engineer (Talend)

- Hands-on experience working with Hadoop technologies and experience with developing ETL using these technologies (Talend, Sqoop and SPARK).
- Must have experience with dataloads into NoSql DBs and RDBMS
- TalendScriting experience and worked on TAC and TOS.
- Should have worked on majority of Talend components and can design simple ETL jobs to handle complex Business Logic.
- Should have knowledge of error handling and performances tuning in Talend.

Big Data Tester

- Strong Hands on Automation experience in Big Data ecosystem/ Hadoop applications/dashboard
- Data Ware house and Big data testing experience
- Testing of application developed deployed on Spark, Kafka, ETL Server, Hadoop Cluster and custom applications
- Knowledge of data flows, data architecture, ETL and processing of unstructured data, Data Quality
- Exposure to Hbase, Hive ElasticSearch, MapR
- Strong Experience in SQL, back-end testing of Database and /or BI/DW
- Developing test scenarios and test cases from requirements and design specifications and execute the test suites.
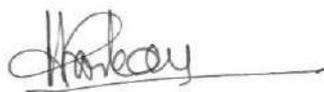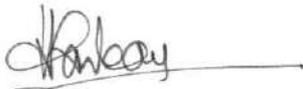
(c) <u>System Specialist</u>

Application Architect & Developer

- Experience in Angular JS/ReactJS/Advanced Java Scripts (OOPS), HTML5, CSS/CSS3, Bootstrap.
- Excellent Spring framework knowledge – Spring Boot, Hibernate, Spring MVC, Struts, Security.
- Microservices experience in either Node.JS or Spring Boot
- Experience working in API development (RESTful and SOAP)
- Experience in developing custom Elastic search Java Client wrapper using JEST API
- Good knowledge of DB and NoSQL DBs like HBase, MongoDB
- Experience with Atlassian tools like JIRA nd Confluence.
- Experience developing in agile & with CI tools like GitHub, GitLab.
- Experience with Jenkins, Junit, test automation & reporting tools,
- Should have hands on experience in using Tomcat, JBOSS or other servers.
- Knowledge of Hadoop Technologies like MapReduce/Spark
- Hands on knowledge of distributed programming platforms such as spark or Flinkl.
- Hands on experience on Java/Scala/PySpark& Big Data Structures (RDD/Data Frame/Data set)

(iii)Category 'C'

Position (Location)	No of Positions	Maximum Age Limit	Essential Qualification	Working Experience
Software Engineer (Location: New Delhi)	10	35 years (with 0 to 5 years experience)	M.Tech/ ME/ B.Tech/ BE/ (Computer Science/ Computer Technology/ Information Technology / Electronics/ Electronics & Communication / Electrical & Electronics/Electrical, or M.Sc (Computer Science/ Electronics); or MCA from a recognized University/ Institute	**Desired skills.** System Programmer. -Well verse with installation and configuration of Operating systems like (Ubuntu, Cent-OS, Windows). - VMware technologies like (EXSi, vSphere, VCenter, NSX-T, Horizon). -Should have hands on experience in using Tomcat, JBOSS or other servers. - Networking & Programming.
Team Leader (Location: New Delhi)	03	35 years (with 5 - 8 years experience)	M.Tech/ME/ B.Tech/ BE/ (Computer Science/ Computer Technology/ Information Technology / Electronics/ Electronics & Communication / Electrical & Electronics/Electrical, or M.Sc (Computer Science/ Electronics); or MCA from a recognized University/ Institute with experience in the required domain of at least 10 years from a reputed company/ Organisation	**Experience** With experience in the system design and development of at least 5 years from a reputed Company / Organisation. **Desired skills.** Cluster Administration. -Good knowledge of DB and NoSQL DBs and Big Data Framework componenets like Hadoop. - Creation & management of local repository on Linux & Centos platform. - Experience in Operating system like Ubuntu, Centos, Windows, - Should have worked on VMware technologies (vSphere, ESXi, V-centre, NSX-t, horizon) -Monitoring and tuning cluster performance -Implement security measures for all aspects of the cluster (SSL, disk encryption, role-based access)

System Specialist (Location: New Delhi	02	40 years (with 8 - 10 years experience)	M.Tech/ME/ B.Tech/ BE/ (Computer Science/ Computer Technology/ Information Technology / Electronics/ Electronics & Communication / Electrical & Electronics/Electrical, or M.Sc (Computer Science/ Electronics); or MCA from a recognized University/ Institute	**Experience** With experience in the system design and development of at least 5 years from a reputed Company / Organisation. **Desired skills**. Cloud Architect. -Develops CI/CD Integrations experience -Strong hands on automation experience in Big data eco system. -Experience with handling unstructured data like text/ images/videos/audio along with other structured data -Should have worked on majority of Kafka components' and can design jobs to handle complex Business Logic. - Should have experience in VMware technologies (vSphere, ESXi, vCentre, NSX-T, horizon.) Design experience in automation and orchestration workflows. - Experience in Docker-Container, Docker-Swarm, Orchestration tool like Kubernetes.

Selection Criteria:-

The evaluation/selection criteria is based on 'Quality & Cost Based Selection Method'(QCBS) of selection in the ratio of 80:20 (80% weightage to quality i.e. qualification, skill set, experience, industry certification, performance in interview etc. & 20% on cost i.e. expected remuneration).

**Responsibilities / Tasks to be performed**

(A) Software Engineer

(i)   Maintenance and configuration of standard VMs (Windows, Linux etc)
(ii)   Maintenance and configuration of Hypervisor, Software defined networking, Virtual Desktop Environment etc.
(iii)   Assist CNS team/ Cat-2 consultants in Configuration management for Virtualization, Orchestration, Service provisioning etc.
(iv)   Writing code snippets in java / pyhthon / javascript etc.

(B) Team Leader

(i)   Management and configuration of Big data frameworks (Hadoop elastic search, MongodB,Cassandra, Kafka, Postgres etdc).
(ii)   Writing code snippets for data pipe line management.
(iii)   Configuration management for Virtualization, Orchestration, Service Provisioning etc.
(iv)   Configuration and management of Data repositories on various platforms.

(C) System Specialist

(i)   Configuration and management of container orchestration.
(ii)   Prepare detailed plan/ design for application containerization.
(iii)   Development of various microservices to run in containersed environment.
(iv)   Integration of the micro services and troubleshooting.
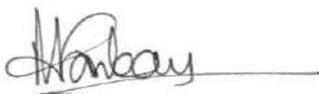
(iv) Category 'D'

Position (Location)	No of Positions	Maximum Age Limit	Essential Qualification	Working Experience & Skills Required
Sr. Software Engineer (Location: Hyderabad)	01	40 years	B. Tech/ B.E/ M. Sc in CSE/ IT/ IS	**Working Experience** 3 to 10 years **Skills Required** (i) Object Oriented, Design & Development. (ii) Data Structure & OS Concepts. (iii) Database Management, MySQL. (iv) Multi-Threaded Applications. (v) QT Programming on Linux for GUI. (vi) Working knowledge of Coding and documentation Standards (vii) SDLC/Rational Tools/UML/SysML Model based Development (viii) documentation, configuration management, quality assurance, verification, validation, joint review, audit and problem resolution as per MIL-STD 498 and IEEE/EIA 12207 standards
Software Programmer (Location: Hyderabad)	02	40 years	B. Tech/ B.E/ M. Sc in CSE/ IT or MCA	**Working Experience** 3 to 10 years **Skills Required** (i) Object Oriented, Design & Development. (ii) Data Structure & OS Concepts. (iii) Database Management, MySQL. (iv) Multi-Threaded Applications. (v) QT Programming on Linux for GUI. (vi) Working knowledge of Coding and documentation Standards (vii) SDLC/Rational Tools/UML/ SysML Model based Development (viii) documentation, configuration management, quality assurance, verification, validation, joint review, audit and problem resolution as per MIL-STD 498 and IEEE/EIA 12207 standards

Sr. Hardware Engineer (Location: Hyderabad)	01	40 years	B. Tech/ B.E in ECE/ CSE/ IT/ IS	**Working Experience** 3 to 10 years **Skills Required** (i) Hand on Experience of System Monitoring, Diagnostics and network Analytics Tools. (ii) Hands on experience working with LAN Administration and System Configuration with specific reference to Hardening from Cyber Security Angle. (iii) Expertise in Hardware, networking, system Administration, Management & Control of LAN, Linux/Windows OS Administration & End-to-End Cyber Security Framework
Hardware Engineer (Location: Hyderabad)	02	30 years	B. Tech/ B.E in ECE/ CSE/IT / IS	**Working Experience** Upto 03 years **Skills Required** (i) Hand on Experience of System Monitoring, Diagnostics and network Analytics Tools. (ii) Hands on experience working with LAN Administration and System Configuration with specific reference to Hardening from Cyber Security Angle. (iii) Expertise in Hardware, networking, system Administration, Management & Control of LAN, Linux/Windows OS Administration & End-to-End Cyber Security Framework

Selection Criteria:-

The evaluation/selection criteria is based on 'Quality & Cost Based Selection Method'(QCBS) of selection in the ratio of 60:40 (60% weightage to quality i.e. qualification, skill set, experience, industry certification, performance in interview etc. & 40% on cost i.e. expected remuneration).
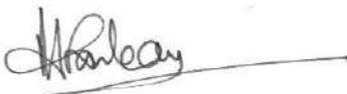
Responsibilities /Tasks

(a) Sr. Software Engineer & Software Programmer

Working under broad guidelines of the Project Officer, the software professional shall be performing following tasks :-

(i) Enunciate specific system requirements specifications for envisaged software modules.

(ii) Bug fixing and testing of MMS system software components.

(iii) Undertake planned operation and maintenance, performance, optimization, system upgradation, etc.

(iv) Handling of software toolkits for design, development , validation, testing implementation and documentation of software/ Embedded software systems/ software sub-modules leading to their integration with respective modules.

(v) Provide assistance to Senior Software Engineer in documenting software artifacts in accordance with software life cycle stages.

(b) Sr. Hardware Engineer & Hardware Engineer

(i) Monitor system performance of IT systems installed for Development of interface Processors.

(ii) Perform network Maintenance and System Upgrades including Service Packs, Hot Fixes and Security Configurations.

(iii) Monitor System Resources Utilisation, Trending & Capacity Planning.

(iv) Assistance in exploring the newly implemented cyber security controls for further value addition and increase robustness.

(v) Implement Security Tools & Policies in conjunction with Cyber Security Team.
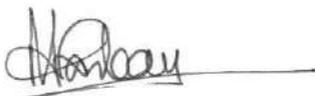
(v) Category 'E'

Position (Location)	No of Positions *	Maximum Age Limit	Essential Qualification	Desirable Working Experience
Consultant. (IT Specialists/ Engineers) (Location: New Delhi)	32	40 years	BE/ B.Tech (Computer Science/ Computer Engineering. Information Technology/ Electronics/ Electronics & Communication/ Electronics & Tele-communications) with minimum 55% marks in aggregate from a recognized University/ Institute	Upto 10 years experience in Cyber Security, network design / implementation/ analysis/ troubleshooting software programming, web applications/design/ development, big data technologies, machine learning and other related fields. (Candidates may also indicate recognized **certification** acquired in the above / related areas).
Consultants (IT Manager/ Senior IT Engineers) (Location: New Delhi)	01	45 years		Above 10 years experience in Cyber Security, network design / implementation/ analysis/ troubleshooting software programming, web applications/design/ development, big data technologies, machine learning and other related fields. (Candidates may also indicate recognized **certification** acquired in the above / related areas).

Selection Criteria:-

The evaluation/selection criteria is based on 'Quality & Cost Based Selection Method'(QCBS) of selection in the ratio of 60:40 (60% weightage to quality i.e. qualification, skill set, experience, industry certification, performance in interview etc. & 40% on cost i.e. expected remuneration).

Responsibilities & skill sets

(i)   To provide specialized analysis of large volumes of digital data.
(ii)   Processing of large volumes of digital data.

(vi) Category 'F'

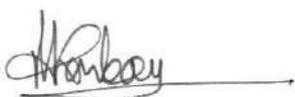| Position (Location)	Noof Positions*	Maximum Age Limit	Essential Educational Qualification	Skill-set
Mobile Security Researcher (Location: New Delhi)	3	~~28 years~~ 32 years (~~minimum experience is 1 year in relevant field.~~) *[signature] 19/04/2022*	B.E./ B.Tech from any reputed and recognised University	**Required Skill-set** 1. Good knowledge of Java 2. Knowledge of Mobile Security 3. Understanding of Android Architecture 4. Knowledge of Android Malware and Rootkits 5. Proficient in android debugging and app revising 6. Basic knowledge of Web Protocols and standards 7. Experience with reverse engineering, hooking and the commonly used tools 8. Experience with static and dynamic binary analysis 9. Knowledge of comman file format and protocols **Desirable:** 1. Knowledge of C++, Scripting Languages (Eg: Python, Ruby, HTML, ECMAScripts) 2. Understanding of Linux Architecture 3. Familiarity with android ProGuard/DexGuard 4. Knowledge of Android structure and Build custom Tools

Position (Location)	Noof Positions*	Maximum Age Limit	Essential Educational Qualification	Skill-set
Payload Development (Location: New Delhi)	3	~~28 years~~ 32 years ~~(minimum experience is 1 year in relevant field.)~~ *Hanbay 19/04/2022*	B.E./ B.Tech from any reputed and recognised University	Required Skill-set 1. Proficient with Computer Language (C/C++/C#), x86 & x 64 assembly, Python, Windows/Linux system API & ABI 2. Sound knowledge of windows Internals 3. Write and test File-Less malware, state-of-art techniques used in malware 4. Understanding of Anti-Virus Functionality and API Hooking 5. In-Depth knowledge of malware components such as persistence, C&C, File-Less, AV-evasion, in-memory attacks. 6. Reverse Engineering, static and dynamic binary analysis with IDA,GHYDRA and Debuggers 7. Understanding of web protocols, standards, TCP/IP protocols. 8. Knowledge of Scripting languages such as Python/HTML/JS 9. Awareness regarding globally arising malware offensive techniques 10. R&D of most advanced malware techniques and counter-measure techniques 11. Understanding of Analysis tools such as SysInternals, Sniffer, Anti-rootkits 12. Certificates such as CEH/CISSP/GREM

Hanbay

Position (Location)	Noof Positions*	Maximum Age Limit	Essential Educational Qualification	Skill-set
Vulnerability Assessment and Penetration Testing (Location: New Delhi)	4	~~28 years~~ 32 years ~~(minimum experience is 1 year in relevant field.)~~ *(signature)* 19/4/2022	B.E./ B.Tech from any reputed and recognised University	Required Skill-set 1. Network VAPT with deep experience in VAPT of Core Routers, Core Switches, Wi-Fi Networks, Windows Servers 2. Web-Application VAPT: String Experience in Web-APP VAPT, Web-Crawling & building custom Scripts for SQL injection and browser exploitation. 3. Cloud Infrastructure and Application Security: Infrastructure vulnerability scans and API testing, Micro-services testing, Container scans, Platform specific testing experience such as AWS, AZURE. 4. Red-Teaming Skills: Phishing Campaign, Parameter breach testing, AD Compromise, Web-App Compromise and Exfiltration, WAF bypassing, EDR bypass testing, Dummy Malware design, Cloud Red teaming, Payload Development using Kali/Cobalt Strike etc, Skills requiring custom malware developments. 5. Knowledge of Commonly used Tools such as: nmap, nessus, Burp-Suite, Masscan, Accunetix, AirCrack-ng, Air Snort, Metasploit, Maltego, Shodan, OWASP ZAP, ADB, Wireshark and other kali tools. 6. Knowledge or Scripting and Languages such as Python, php, bash, Lab Management, Tool License management, New Tool Evaluation.

Position (Location)	Noof Positions*	Maximum Age Limit	Essential Educational Qualification	Desired skill set
Cyber Security Researcher (Location: New Delhi)	10	40 Years (minimum experience is 1 year in relevant field.)	M. Tech / M.E (Computer science / Information Technology / Cyber Security / Information Security / Electronics & Communications / Electronics / Electrical) OR B.E / B. Tech (Information Technology / Computer Science / Electronics & Communications / Electronics / Electrical) OR M. Sc (Information Technology / Cyber Security / Electronics & Communication, Computer science) OR MCA from a recognized university.	System Level Programming for Operating system in C/C++/C#. Proficiency with Reverse Engineering tools like IDA Pro./Ghidra Malware Analysis Root Cause Analysis of software vulnerabilities. Understanding of Exploits and its mitigations.
Red-Team Expert (Location: New Delhi)	5	-do-	-do-	Information Technology Security Assessment & Penetration. Working knowledge of open source cyber security tools and red-team technologies. Working knowledge of softwares to detect vulnerabilities and deploy Red-Team simulations.
Vulnerability Assessment & Penetration Testing Expert (Location: New Delhi)	6	-do-	-do-	Expertise in Pen-testing of Web Applications & IT Network Infrastructures. Knowledge of WAFs and Network Firewalls. Understanding of application security vulnerabilities & attack Techniques. Understanding of network & web related protocols (TCP/IP, UDP/HTTP, HTTPS etc).

Android / IOS Security Researcher (Location: New Delhi)	6	-do-	-do-	**For Android:** Understanding of android architecture, android malwares, rootkits. Proficiency in android debugging and app reversing. Experience with static and dynamic binary analysis. Ability to reverse engineer android apps to identify vulnerabilities within apps. **For IOS:** Experience of developing IOS Apps and publishing it to APP store Knowledge of basic debugging, reverse engineering in IOS / Mac OS environment Knowledge about C, Objective C, swift, hybrid apps and Xcode IDE. Knowledge of IOS and Mac OS architecture and assembly language programming.
Firmware Reverse Engineer (Location: Bengaluru)	2	40 Years (minimum experience is 1 year in relevant field.)	-do-	Experience in reverse engineering firmware. Proficiency with Reverse Engineering tools IDA Pro./ Ghidra.
Software Developer (Location: Bengaluru)	1	40 Years (minimum experience is 1 year in relevant field.)	-do-	Full-stack Software development experience.

Selection Criteria:-

The evaluation/selection criteria is based on 'Quality & Cost Based Selection Method'(QCBS) of selection in the ratio of 80:20 (80% weightage to quality i.e. qualification, skill set, experience, industry certification, performance in interview etc. & 20% on cost i.e. expected remuneration).

(vii) Category 'G'

Position (Location)	No of Positions	Maximum Age Limit	Essential Educational Qualification	Working Experience
Remote Sensing Data Specialist (New Delhi)	02	35 Years	B. Tech / M. Tech (Remote Sensing / GIS / Geoinformatics/ Geomatics/ Computer Science/ Information Technology/ Electronics & Communication) from a recognized University/ Institute.	0-5 years with required skillsets from a reputed Company / Organization. Candidates.
Geospatial Software Engineer (Bangalore)	01	35 Years	B. Tech/ BE/ M. Tech (Remote Sensing/ GIS/ Geoinformatics/ Geomatics/ Computer Science/ Information Technology/ Electronics & Communication); or MCA from a recognized University/Institute.	1-5 years required skillsets in Developing GIS based solution from a reputed Company/ Organization.

Selection criteria:-

The evaluation/selection criteria is based on 'Quality & Cost Based Selection Method'(QCBS) of selection in the ratio of 80:20 (80% weightage to quality i.e. qualification, skill set, experience, industry certification, performance in interview etc. & 20% on cost i.e. expected remuneration).

Desired special skillsets :-

(A) Remote Sensing Data Specialist

(i) Organize data acquired from aircraft, satellites, or ground-based platforms, using statistical analysis software, image analysis software, or Geographic Information Systems (GIS).

(ii) Proficiency in Process and Organize geospatial data sources to create products such as land cover maps, Change detection etc.

(iii) Build databases for remote sensing or related geospatial project information.

(iv) Customize and integrate image relate applications through ANN and Fuzzy logics, image classification techniques, including unsupervised classification, supervised classification etc.

(v) Efficient in using COTS and open source remote sensing software such as ERDAS Imagine, ENVI, QGIS, GRASS etc.

(vi) Proficiency with Image processing, classification and assessment.

(B) Geospatial Software Engineer

(i) Proficiency with front end design languages such as .Net, Java, HTML, CSS, JavaScript and various mapping languages.

(ii) Proficiency with database programming languages such as SQL, R or Python, PostgreSQL.

(iii) Develop mapping applications and tools.

(iv) Experience in Angular JS/React JS/Advanced Java Scripts (OOPS), HTML5, CSS/CSS3, Bootstrap.

(v) Experience in popular web frameworks like jQuery, Spring MVC or any other equivalent.

(viii) Category 'H'

Position (Location)	No. of Positions	Age Limit & Work Experience	Essential Educational Qualification	Desired skills
System Specialist (Location: New Delhi)	01	45 years (with 15 to 20 years working experience)	M.Tech/ME/B.Tech / BE/ MCA (Computer Science/Information Technology/Electronics and Communication) from a recognised University/Institute.	• Angular JS/React JS/Advanced Java Scripts (OOPS), HTML5, CSS/CSS3, Bootstrap. • Strong hands on experience with mNodeJS, ReactsJS, HTML, CSS, JQUERY. • Working knowledge on NodeJS/ExpressJS. • Good knowledge of geospatial libraries such as Leaflet, Mapboxetc • Good knowledge of Geoserver, PostgreSQL, PostGIS • Deployment of applications on the application servers. • Knowledge on Responsive Web Design. • Knowledge of ML and Deep Learning algorithms
Senior Software Engineer (Full Stack Developer) (Location: New Delhi)	01	40 years (with 08 to 10 years working experience)	B.Tech/BE/MCA (Computer Science/Information Technology/Electronics and Communication) from a recognised University/Institute.	
Senior Software Engineer (UI Designing/ Front End Developer) (Location: New Delhi)	01	40 years (with 05 to 07 years working experience)	B.Tech/BE/MCA (Computer Science/Information Technology/Electronics and Communication) from a recognised University/Institute	• Angular JS/ReactJS/Advanced Java Scripts (OOPS), HTML5, CSS/CSS3, Bootstrap. • Strong hands on experience with mNodeJS, ReactsJS, HTML, CSS, JQUERY. • Working knowledge on Responsive Web Design. • Working knowledge on NodeJS/ExpressJS. • Good knowledge of geospatial libraries such as Leaflet, Mapboxetc

Network Engineer (Location: New Delhi)	01	40 years (with 05 to 07 years working experience)	M.Tech/M.E. (Computer Science/Information Technology/Cyber Security/Information Security/Electronics & Communication): or BE/B.Tech (Information Technology/Computer Science/Electronics & Communication/Electrical & Electronics/ Electrical): M.Sc. Electronics/Computer Science); or MCA from a recognised University.	• Installation configuration, troubleshooting of servers (Linux/Network devices viz. Router Manageable Switches and Firewall. • Knowledge on Network Infrastructure Security Assessment and health monitoring. **Desired certification:** • CCNA/MTCNA.
Geospatial Software Engineer (Ocean Data) (Location: New Delhi)	01	40 years (with 05 to 07 years working experience)	Masters degree in Oceans Sciences/Atmospheric Sciences/Climate Sciences/Marine Sciences/Meteorology/Oceonography Physical Oceanography/Physics/Mathematics [or] M.Tech/B.Tech (Remote Sensing/GIS/Geoinformatics/ Geomatics/ Computer Science/Information Technology/Electronics & Communication)	• Ocean observations (in situ, Remote Sensing, ship based), laboratory analysis, processing of high resolution ocean/atmospheric data. • Ocean/atmospheric modelling model parameterization and data assimilation for providing operational services. • Assimilation and representation of World ocean atlas data on GIS applications. • Data analysis software (Ferret, python, GRADS, ODV etc.), programming languages (Matlab, C, Fortan, etc.), • AI&ML applications, Ensemble techniques • GIS Application development using open source GIS tools, Satellite Data processing (SeaDAS).

Geospatial Software Engineer (Location: New Delhi)	01	35 years (with 03 to 05 years working experience)	B.Tech/M.Tech (Remote Sensing/ GIS/Geoinformatics /Geomatics/Compu ter Science/Informatio n Technology/Electro nics & Communication); or MCA from a recognised University/Institute.	• 3-5 years required skillsets in Developing GIS based solution from a reputed Company/Organisation. • Good knowledge of geospatial libraries such as Leaflet, Mapbox etc. • Good knowledge of Geoserver, PostgreSQL, PostGIS

Selection Criteria:-

The evaluation/selection criteria is based on 'Quality & Cost Based Selection Method'(QCBS) of selection in the ratio of 80:20 (80% weightage to quality i.e. qualification, skill set, experience, industry certification, performance in interview etc. & 20% on cost i.e. expected remuneration).

(ix) Category 'I'

Position (Location)	No of Positions	Maximum Age Limit	Qualification
AI/ML Consultant (Location: New Delhi)	6	**35 years** (with 2 years and above experience)	Essential: B.Tech/B.E in Computer Science/Computer Engineering/Information Technology/Data Science/Artificial Intelligence/Machine Learning with First Division or with minimum 60% marks in aggregate from a recognized University/Institution **OR** B.Tech/B.E with First Division or with minimum 60% marks in aggregate from a recognized University/Institution with Certification in Artificial Intelligence (AI)/Machine Learning (ML)/Deep Learning (DL)/Data Science (DS) from Coursera or edX or Udacity or Codecademy or any other online learning or educational platforms **OR** M.Tech/M.E in Artificial Intelligence (AI)/Machine Learning (ML)/Deep Learning (DL)/Data Science (DS) with First Division or with minimum 60% marks in aggregate from a recognized University/Institution **OR** Post Graduate diploma in Artificial Intelligence (AI)/Machine Learning (ML)/Deep Learning (DL)/Data Science (DS) from recognized University/Institution

Selection Criteria:-

The evaluation/selection criteria is based on 'Quality & Cost Based Selection Method'(QCBS) of selection in the ratio of 80:20 (80% weightage to quality i.e. qualification, skill set, experience, industry certification, performance in interview etc. & 20% on cost i.e. expected remuneration).
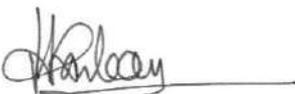
Required job responsibilities/tasks:-

(A) AI/ML Consultant

(i) Build and implement right algorithms/models and tools for Text, Image/Video and Audio analytics

(ii) Train, test and deploy model locally as well as in private cloud.

(iii) Preprocessing and storage of data for training and testing the AI/ML models

(iv) Maintaining all models along with development and updating of code and process documentation.

(v) Verifying data quality and/or ensuring it via data cleaning.

(vi) Finding available datasets in open source domain that could be used for training

(vii) Defining the preprocessing or feature engineering to be done on a given dataset.

(viii) Defining data augmentation pipelines

(ix) Analysing the errors of the model and designing strategies to overcome them

(x) Deploying models to production

Term of engagement: - The period of contractual engagement shall be for a total period of 3 years. Performance of the engaged professional shall be evaluated periodically. Continuance of contract up to total 3 years would depend upon suchperiodical assessment/evaluation of performance and organizational requirement.

Value of the Contract:- Value of the contract for total period of 3 years shall be in the range of Rupees 16 lakhs to 60 lakhs. The value of contract shall be fixed based on educational qualification, relevant experience and requisite skill set possessed by the candidate and his performance as assessed by the selection committee.

(a) **Illustration:** The monthly payout for the value of the contact of Rupees 16 lakhs for a total period of 3 years would be as under:-

     (i)   Rs 41333/- per month for First year.
     (ii)   Rs. 44000/- per month for Second year.
     (iii)   Rs. 48000/- per month for Third year.

(b) The monthly pay out (for each year) for the value of the contract above 16 Lakhs shall be fixed proportionately.

(c) Increase in monthly payout beyond first year are linked with the periodical performance assessment/evaluation as mentioned above.
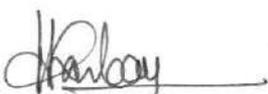
2.	Desirous candidates may visit the website **https://ntro.gov.in**for **ONLINE Registration**.During online registration, the candidates are required to fill up the relevant field giving **details of experience/skill set/industry certification** possessed by them. They are also requested to bring the print out of their ONLINE Registration Form at the time of interview/selection. Those who have not registered online will not be allowed to appear for selection. The dates for ONLINE Registration mentioned above are tentative and the organization reserves its right for any change of date, re-schedule or cancel the recruitment exercise, which would be notified in the above mentioned website.

3.	The candidates who have either appeared or appearing shortly for the final year/final semester examination of the essential qualification can also apply indicating their percentage/CGPA (upto their latest semester examination results), provided they possess the requisite experience, if any, prescribed for the position(s) applied for. In case of their selection they are required to produce their final pass result marksheet and/or Degree certificate for processing the matter further.

4.	Mere registration will not entitle the candidate to be called for further selection. **The registered candidates are required to email legible scanned copy (PDF) of their (1) Matriculation / 10th Certificate (2) BE/ B.Tech/ M. Tech / MCA Certificate/ 7th Semester Marksheet (for those have appeared in final semester) (in support of claim on Essential Educational Qualification), and (3) Photo ID (AADHAR / PAN Card) at recruitment.adm@ntro.gov.in from their registered email ID by 05:30 PM of the last date of Registration of applicantion, failing which their registration will be treated as invalid.** Suitable criteria will be adopted by the organisation for short listing of candidates having valid registrations to be called for further selection.

5.	The candidates are advised to choose the 'Category' and'Position' thereincarefully for which he/she meets the eligibility criteria, required experience/skill sets to apply for such position. A candidate can register for maximum for two positions. The earlier registration would be treated as First Preference and the subsequent registration would be treated as Second preference.

6.	The venue, date & time for reporting of the shortlisted candidates for selection will be uploaded in the said website. **The candidates are requested to regularly check the website** for updates.

7.	This consultancy engagement will be purely on contracts basis.The person so engaged, **will not have any claim or right for either regularization or absorption** in the organization at any point of time. The candidates selected, will have to sign an agreement accepting the detailed terms and condition of the engagement.

8.	Consultant(s) engaged on contract intends to resign during the term ofengagement period, will have to give one month notice and also required to deposit with NTROan amount equivalent to ONE MONTH OF LASTPAYOUT, before acceptance of such resignation. In the event of seeking acceptance of resignation beforeexpiry of one month notice period, thenhe/shewould be required to deposit with NTROan additional amount equivalent to one monthlastpayout in addition to other clearances / NDC.

9.   At the time of appearing for selection, the candidates are required to bring **two sets of self attested photocopy of the following documentsalong with two recent passport size colour photographs, ONLINE Registration Form duly signed by him/her:-**

(a) Matriculation/10th Certificate.
(b) Certificate & Mark sheets in support of educational qualification (candidates mentioned at Para-3 above are required to submit Mark Sheets up to the last semester).
(c) AADHAR or PAN Card.
(d) Experience Certificates in support of his/her claim.
(e) Other desirable certificate(s)/technical proficiency certificate(s)/Industry Certification(s)claimed,if any.

NOTE: The candidates may please note that if any information given during registration or photocopy of certificates is found to be wrong or false or incorrect at any stage of selection process or thereafter, their candidature will be cancelled/rejected forthwith without assigning any reasonand, if selected, action will be initiated as deemed necessary.

10.   NTRO reserves sole right to relax/modify any of the above criteria, if candidate is found otherwise suitable for engagement.NTRO reserves sole right to discontinue/terminate the services of person so engaged, at any time, without assigning any reason and also reserves the right to cancel the selection process without intimation and assigning any reason.

11.   No TA/DA will be admissible to the candidates for appearing for selection.

12.   Electronic Devices, including Mobile phone, are strictly prohibited and candidates will not be allowed to carry with them any such items to the assessment room.

13.   For any difficulty facedduring ONLINE Registration,the candidate(s) may email at **recruitment.adm@ntro.gov.in** for technical assistance.

14.   Canvassing in any form will disqualify the candidate.

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