S.#	Designation	Roles & Responsibilities
1	**Head Of Technology**	**1. Team Leadership and Management** • Hiring & Staffing: Recruit, train, and manage software development staff. • Team Development: Foster a collaborative team environment, provide mentorship, and conduct performance evaluations. • Resource Allocation: Assign tasks and responsibilities to team members based on their skills and project requirements. **2. Project Management** • Project Planning: Define project scope, timelines, and deliverables in collaboration with stakeholders. • Progress Tracking: Monitor project milestones, timelines, and team productivity. • Risk Management: Identify potential risks, develop mitigation strategies, and adapt to changing project requirements. **3. Technical Oversight** • Code Review & Quality Assurance: Ensure adherence to coding best practices, including clean code, testing, and code reviews. • Architecture & Design Decisions: Provide guidance on software architecture and high-level technical decisions. • Technical Guidance: Resolve complex technical challenges and mentor junior developers. **4. Collaboration & Communication** • Cross-Functional Coordination: Collaborate with Management, UX/UI, QA, and other departments to align software deliverables with business objectives. • Client/Stakeholder Interaction: Serve as the primary point of contact for stakeholders, communicate project progress, and gather requirements. • Reporting: Provide regular project updates and performance reports to senior management. **5. Process Improvement** • Agile/Development Practices: Oversee the adoption and implementation of Agile, Scrum, and other software development methodologies. • Continuous Improvement: Identify opportunities to optimize development processes, enhance team productivity, and reduce technical debt. • Tool Selection: Recommend appropriate tools and technologies to improve operational efficiency and project outcomes. **6. Performance & Delivery** • On-Time Delivery: Ensure projects are delivered within agreed timelines while meeting business and quality requirements. • Client Satisfaction: Ensure final products meet client expectations, business objectives, and technical specifications.

S.#	Designation	Roles & Responsibilities
2	**Database Administrator**	**Role:** A Database Administrator (DBA) is responsible for the installation, configuration, management, security, performance optimization, backup, and recovery of databases to ensure data availability, integrity, reliability, and confidentiality. **Responsibilities:** **1. Database Administration and Maintenance** • Install, configure, and maintain Database Management Systems (DBMS). • Manage database instances, schemas, tables, indexes, and storage allocation. • Perform routine database maintenance, patching, upgrades, and version management. • Ensure database availability, stability, and operational continuity. **2. Database Performance Optimization** • Monitor database performance, resource utilization, and overall system health. • Optimize SQL queries, indexing strategies, and execution plans. • Identify and resolve performance bottlenecks, latency issues, and database errors. • Conduct capacity planning to support increasing workloads and data growth. **3. Backup, Recovery, and Disaster Recovery** • Develop, implement, and maintain database backup and recovery procedures. • Perform regular database backups and periodically test data restoration. • Implement database disaster recovery and business continuity plans. • Ensure compliance with defined Recovery Point Objectives (RPO) and Recovery Time Objectives (RTO). **4. Database Security and Access Control** • Implement database security policies, user authentication, and role-based access controls. • Manage database users, privileges, permissions, and access rights. • Apply security patches, encryption, auditing, and vulnerability remediation. • Ensure data confidentiality, integrity, and compliance with applicable policies and regulations. **5. Data Integrity and Availability**

S.#	Designation	Roles & Responsibilities
		• Maintain data consistency, accuracy, and integrity across database systems. • Monitor database replication, synchronization, and high-availability configurations. • Identify and resolve database corruption, failed transactions, and data inconsistencies. • Ensure continuous availability of databases supporting critical business applications. **6. Monitoring, Troubleshooting, and Reporting** • Monitor database health, logs, alerts, connections, and resource consumption. • Diagnose and resolve database failures, connectivity issues, and operational incidents. • Maintain database documentation, configuration records, and operational reports. • Establish proactive monitoring and alerting mechanisms to minimize service interruptions. **7. Collaboration and Technical Support** • Work closely with software developers, system administrators, network teams, and application support teams. • Coordinate database changes, schema modifications, migrations, and deployments. • Provide technical support for database-related issues and application integration. • Develop and maintain Standard Operating Procedures (SOPs), technical documentation, and database administration guidelines. • Provide technical guidance and support to relevant IT personnel. **8. Compliance and Continuous Improvement** • Ensure adherence to organizational IT policies, database standards, and security requirements. • Support internal and external audits by maintaining database access logs and audit trails. • Implement database lifecycle management, archival, and data retention policies. • Evaluate database technologies and recommend improvements in reliability, scalability, security, and operational efficiency.

S.#	Designation	Roles & Responsibilities
3	**DevOps Engineer + Cyber Security**	**1. DevOps and CI/CD Pipeline Management** • Design, implement, and maintain Continuous Integration and Continuous Deployment (CI/CD) pipelines. • Automate software build, testing, deployment, and release management processes. • Manage source code repositories, version control, and branching strategies. • Integrate security testing and quality checks into development and deployment workflows. **2. Infrastructure and Configuration Management** • Deploy, configure, and maintain development, testing, staging, and production environments. • Manage Linux/Windows servers, virtual machines, containers, and infrastructure resources. • Implement Infrastructure as Code (IaC) and configuration management practices. • Support containerization and orchestration technologies, including Docker and Kubernetes, where applicable. **3. Cybersecurity Implementation and Hardening** • Implement security controls to protect servers, applications, networks, and deployment pipelines. • Perform system hardening, security patching, vulnerability remediation, and secure configuration management. • Apply the principle of least privilege and manage privileged access to infrastructure and development tools. • Implement secure secrets management, encryption, multi-factor authentication (MFA), and access control mechanisms. **4. Application and Pipeline Security** • Integrate Static Application Security Testing (SAST), Dynamic Application Security Testing (DAST), and Software Composition Analysis (SCA) into CI/CD pipelines. • Identify and remediate vulnerabilities in application code, dependencies, containers, and infrastructure configurations. • Support secure software development practices in coordination with software development teams. • Ensure secure deployment practices and prevent unauthorized changes to production environments. **5. Monitoring, Logging, and Incident Response** • Configure infrastructure monitoring, centralized logging, and security alerting. • Monitor systems for suspicious activities, service disruptions, and potential security incidents. • Coordinate with IT operations and cybersecurity teams to investigate and resolve security incidents. • Support the implementation of Endpoint Detection and Response (EDR), Security Information and Event Management (SIEM), and other security monitoring solutions.

S.#	Designation	Roles & Responsibilities
		6. Cloud, Container, and Infrastructure Security • Implement security controls for cloud platforms, virtualized infrastructure, and containerized applications. • Secure container images, registries, deployment configurations, and orchestration environments. • Manage infrastructure availability, scalability, resource utilization, and secure connectivity. • Support backup, recovery, high availability, and disaster recovery arrangements. **7. Compliance, Documentation, and Risk Management** • Ensure compliance with organizational cybersecurity policies, secure development standards, and applicable regulatory requirements. • Support the implementation of ISO/IEC 27001, NIST Cybersecurity Framework, and relevant security best practices. • Maintain technical documentation, deployment procedures, security configurations, and incident records. • Participate in vulnerability assessments, security audits, risk assessments, and remediation tracking. **8. Collaboration and Technical Support** • Collaborate with software developers, database administrators, system administrators, network engineers, and cybersecurity teams. • Provide technical support for deployment failures, infrastructure issues, and security-related incidents. • Develop and maintain Standard Operating Procedures (SOPs) for DevOps, deployment, system hardening, and security operations. • Recommend improvements in automation, security posture, operational efficiency, and service reliability.

S.#	Designation	Roles & Responsibilities
4	**Sr. Software Engineer**	**Role:** A Senior Software Engineer is responsible for designing, developing, testing, deploying, and maintaining scalable, secure, and high-performance software applications using the Microsoft .NET technology stack. The role involves developing enterprise-grade applications, integrating databases and APIs, ensuring software quality, and providing technical guidance to development team members. **Responsibilities:** **1. Software Design and Development** • Design, develop, and maintain enterprise-level applications using .NET, C#, ASP.NET Core, and related technologies. • Develop scalable web applications, RESTful APIs, and backend services in accordance with organizational requirements. • Implement clean architecture, object-oriented programming (OOP), design patterns, and reusable software components. • Translate business and technical requirements into reliable and maintainable software solutions. **2. Database Design and Integration** • Develop and optimize database operations using Microsoft SQL Server or other relevant Relational Database Management Systems (RDBMS). • Write and optimize SQL queries, stored procedures, functions, and database transactions. • Implement Entity Framework Core (EF Core) and other suitable data access technologies. • Ensure data integrity, consistency, security, and efficient interaction between applications and databases. **3. Application Security and Performance Optimization** • Implement secure coding practices and follow established application security standards. • Apply authentication, authorization, role-based access control (RBAC), and secure API design. • Identify and resolve software vulnerabilities, performance bottlenecks, and application errors. • Optimize application response times, memory utilization, database interactions, and overall system performance. **4. Software Testing and Quality Assurance** • Develop and maintain unit tests, integration tests, and automated testing procedures. • Conduct code reviews and ensure compliance with coding standards and development guidelines. • Troubleshoot, debug, and resolve application defects and production issues. • Ensure software reliability, maintainability, scalability, and compatibility across supported environments. **5. API Development and System Integration**

S.#	Designation	Roles & Responsibilities
		• Design, develop, document, and maintain RESTful APIs and web services. • Integrate applications with internal systems, third-party services, and external data sources. • Implement appropriate API validation, exception handling, logging, and versioning mechanisms. • Support interoperability and secure data exchange between organizational applications. **6. Deployment and Application Maintenance** • Support application deployment across development, testing, staging, and production environments. • Collaborate with DevOps engineers to implement CI/CD pipelines and automated release processes. • Manage application configuration, environment variables, dependency updates, and release versioning. • Monitor production applications, investigate incidents, and implement corrective and preventive measures. **7. Technical Documentation and Standards** • Prepare and maintain software architecture documents, technical specifications, API documentation, and deployment guides. • Follow established Software Development Life Cycle (SDLC) processes and organizational IT policies. • Maintain source code repositories and ensure proper version control and change management. • Recommend improvements in application architecture, development tools, frameworks, and engineering practices. **8. Collaboration and Technical Leadership** • Collaborate with business analysts, project managers, database administrators, DevOps engineers, and cybersecurity teams. • Participate in requirement analysis, solution design, technical planning, and project estimation. • Provide technical guidance and mentorship to junior software engineers and developers. • Review technical deliverables and support the adoption of coding standards, reusable components, and best practices. • Contribute to continuous improvement of software quality, development efficiency, and application delivery.

S.#	Designation	Roles & Responsibilities
5	**Sr. Software Developers (UI/UX)**	**Role:** A Senior Software Developer (UI/UX) is responsible for designing, developing, and maintaining user-friendly, responsive, accessible, and visually consistent user interfaces for web and software applications. The role combines user interface (UI) development, user experience (UX) design, usability optimization, and frontend engineering to deliver intuitive digital services aligned with organizational and user requirements. **Responsibilities:** **1. UI/UX Design and Prototyping** • Design intuitive, user-friendly, and visually appealing interfaces for web applications, portals, dashboards, and digital services. • Conduct user research, requirement analysis, and usability assessments to identify user needs and improve application experience. • Develop wireframes, mockups, interactive prototypes, and user journey maps using appropriate UI/UX design tools. • Establish and maintain design systems, reusable components, style guides, and consistent visual standards. **2. Frontend Development** • Develop responsive and interactive user interfaces using HTML5, CSS3, JavaScript, TypeScript, and modern frontend frameworks such as React, Angular, or Vue.js. • Translate approved UI/UX designs and prototypes into functional, maintainable, and reusable frontend components. • Ensure cross-browser compatibility and responsive layouts across desktops, tablets, and mobile devices. • Integrate frontend components with backend services and RESTful APIs. **3. User Experience Optimization** • Analyze user workflows and interactions to identify usability issues and improve application navigation. • Conduct usability testing and incorporate feedback from stakeholders and end users. • Simplify complex processes and design interfaces that improve user satisfaction, accessibility, and task completion. • Optimize page loading speed, responsiveness, and interaction performance. **4. Accessibility and Design Standards** • Ensure compliance with applicable web accessibility standards, including Web Content Accessibility Guidelines (WCAG). • Implement accessible navigation, readable typography, appropriate contrast, and keyboard-friendly interactions. • Maintain consistency in layouts, color schemes, typography, icons, and interface behavior.

S.#	Designation	Roles & Responsibilities
		• Follow organizational branding guidelines and established UI/UX design standards. **5. Frontend Performance and Quality Assurance** • Optimize frontend code, assets, rendering performance, and application loading times. • Identify and resolve UI defects, layout inconsistencies, browser compatibility issues, and functional errors. • Perform frontend testing across supported browsers, devices, and screen resolutions. • Collaborate with QA teams to validate interface functionality, usability, and visual consistency before release. **6. Application Integration and Security** • Integrate user interfaces with backend APIs, authentication services, and data-driven application components. • Implement secure handling of user inputs, session-related interactions, and frontend application data. • Follow secure coding practices and coordinate with backend and cybersecurity teams to address frontend vulnerabilities. • Ensure appropriate error messages, form validations, and user feedback mechanisms. **7. Documentation and Maintenance** • Maintain UI/UX design files, component libraries, frontend documentation, and implementation guidelines. • Document reusable components, design decisions, interaction patterns, and interface specifications. • Maintain frontend source code using version control systems such as Git. • Update existing interfaces to accommodate new requirements, improve usability, and maintain compatibility with evolving technologies. **8. Collaboration and Technical Leadership** • Collaborate with software engineers, business analysts, project managers, QA engineers, and other stakeholders. • Translate business requirements into effective interface designs and technical implementation plans. • Provide technical guidance and mentorship to junior UI/UX designers and frontend developers. • Participate in design reviews, sprint planning, code reviews, and software release activities. • Recommend improvements in user experience, frontend architecture, accessibility, and digital service delivery.

S.#	Designation	Roles & Responsibilities
6	**QA / Test Engineers**	**Role** A QA / Test Engineer is responsible for ensuring the quality, functionality, security, performance, and reliability of software applications through comprehensive testing, vulnerability assessment, penetration testing, defect identification, and validation. The role includes planning and executing manual and automated tests, assessing application security, identifying exploitable weaknesses within the authorized scope, and coordinating remediation with development, DevOps, and cybersecurity teams. **Responsibilities** **1. Test Planning and Strategy** • Develop test plans, test strategies, test scenarios, and test cases based on approved business and technical requirements. • Define testing scope, objectives, acceptance criteria, test coverage, and execution timelines. • Identify functional, technical, security, and operational risks throughout the Software Development Life Cycle (SDLC). • Prepare test data, configure testing environments, and maintain requirements traceability. **2. Functional and Manual Testing** • Perform functional, integration, regression, system, smoke, and User Acceptance Testing (UAT). • Validate application workflows, business logic, forms, reports, dashboards, and user permissions. • Verify software functionality against approved requirements and expected outcomes. • Identify defects, inconsistencies, and deviations from functional specifications. **3. Automation Testing** • Develop, maintain, and execute automated test scripts using appropriate testing tools and frameworks. • Automate repetitive functional and regression test cases to improve testing efficiency. • Integrate automated testing into CI/CD pipelines in coordination with DevOps engineers. • Improve test coverage and reliability through continuous evaluation of automation tools and frameworks. **4. Application Security Testing and Penetration Testing** • Conduct security testing and authorized penetration testing of web applications, web portals, mobile applications, APIs, and related components within the approved scope. • Identify and validate vulnerabilities, including SQL Injection, Cross-Site Scripting (XSS), Broken Access Control, authentication weaknesses, insecure session management, and security misconfigurations.

S.#	Designation	Roles & Responsibilities
		• Perform security assessments aligned with OWASP Top 10, OWASP Web Security Testing Guide (WSTG), and other applicable security testing standards. • Test authentication, authorization, role-based access controls, session handling, input validation, and sensitive data exposure. • Assess API security, business logic vulnerabilities, insecure file uploads, and access-control bypasses. • Conduct vulnerability verification and controlled exploitation only where explicitly authorized and necessary to demonstrate risk. • Retest identified vulnerabilities after remediation and validate the effectiveness of corrective measures. • Coordinate with cybersecurity teams to prioritize findings according to severity, exploitability, and business impact. **5. Penetration Testing Scope and Methodology** • Define and document the penetration testing scope in coordination with authorized stakeholders before commencing testing activities. • Identify in-scope assets, including application URLs, domains, IP addresses, APIs, mobile application interfaces, authentication mechanisms, and supporting components, as applicable. • Perform reconnaissance, attack-surface identification, vulnerability analysis, controlled exploitation, and post-testing validation within the approved scope. • Conduct authenticated and unauthenticated testing, including role-based and privilege-escalation assessments, where authorized. • Validate identified findings with sufficient technical evidence while avoiding unnecessary service disruption, data exposure, or modification of production information. • Exclude out-of-scope systems, third-party assets, destructive testing, denial-of-service testing, and social engineering unless separately and explicitly authorized. • Maintain testing logs, evidence, timestamps, affected assets, reproduction steps, risk ratings, and remediation recommendations. **6. API and Database Testing** • Test RESTful APIs and web services for functionality, data accuracy, response codes, validation, and error handling. • Validate database transactions, stored procedures, data integrity, and consistency across integrated systems. • Verify secure data exchange between frontend applications, backend services, and external systems. • Use appropriate API testing tools and SQL queries to investigate application behavior and identify data-related defects.

S.#	Designation	Roles & Responsibilities
		7. Performance and Load Testing • Conduct performance, load, stress, and scalability testing using appropriate tools. • Measure response times, throughput, concurrent-user handling, and resource utilization. • Identify application bottlenecks and potential capacity limitations. • Coordinate performance testing schedules and safeguards with infrastructure and operations teams, particularly for production systems. **8. Defect Management and Remediation** • Identify, document, classify, and prioritize functional defects and security vulnerabilities. • Maintain defect records using approved issue-tracking and test-management systems. • Collaborate with developers and cybersecurity personnel to investigate root causes and implement corrective measures. • Conduct retesting and regression testing to verify fixes and prevent recurrence. • Track security findings until remediation or formally approved risk acceptance. **9. Reporting and Documentation** • Prepare comprehensive test reports, penetration testing reports, and vulnerability assessment reports. • Document findings with severity ratings, affected assets, technical evidence, reproduction steps, business impact, and remediation recommendations. • Map security findings to relevant OWASP categories, CWE identifiers, and CVSS scores, where appropriate. • Maintain test cases, automation scripts, evidence repositories, test coverage metrics, and defect-tracking records. • Submit executive summaries and technical reports to the designated project or IT management authority. **10. Collaboration and Continuous Improvement** • Collaborate with software developers, UI/UX designers, database administrators, DevOps engineers, and cybersecurity teams. • Participate in requirement reviews, sprint planning, code reviews, security reviews, and release-readiness assessments. • Recommend improvements in testing methodologies, secure software development practices, and automation coverage. • Support UAT, security audits, compliance assessments, and application release approvals. • Contribute to continuous improvement of SDLC, Quality Assurance (QA), and application security processes.

S.#	Designation	Roles & Responsibilities
7	**Mobile / Web Developer**	**Role:** Responsible for designing, developing, and maintaining Android and iOS mobile applications using Flutter, Kotlin, Swift, React Native, or other relevant technologies. Develop responsive and user-friendly mobile interfaces and integrate applications with RESTful APIs, backend services, and databases. Implement mobile device features, push notifications, authentication, and secure data handling. Perform application testing, debugging, performance optimization, and deployment to Google Play Store and Apple App Store. Ensure application security, reliability, scalability, and continuous improvement. **Responsibilities:** **1. Mobile Application Design and Development** • Design, develop, and maintain high-quality mobile applications for Android and iOS platforms. • Develop cross-platform mobile applications using Flutter, React Native, or other relevant mobile development frameworks. • Develop native Android applications using Kotlin or Java and native iOS applications using Swift. • Translate business requirements, functional specifications, and UI/UX designs into functional mobile applications. • Implement modular architecture, reusable components, and industry-standard mobile application development practices. **2. Mobile UI/UX Implementation** • Develop intuitive, responsive, and user-friendly mobile application interfaces. • Implement mobile application layouts, navigation, forms, dashboards, menus, and interactive components. • Ensure consistent user experience across different screen sizes, resolutions, and mobile devices. • Implement platform-specific design guidelines, including Material Design for Android and Human Interface Guidelines for iOS. • Optimize application navigation, usability, accessibility, and overall user experience. **3. Mobile API and Backend Integration** • Integrate mobile applications with RESTful APIs, web services, and backend systems. • Implement secure communication between mobile applications and server-side applications. • Integrate mobile applications with databases, authentication services, and third-party platforms. • Implement API requests, response handling, data parsing, synchronization, and error handling. • Integrate third-party services such as Google Maps, Firebase, payment gateways, and social login services, where required.

S.#	Designation	Roles & Responsibilities
		4. Mobile Device Features and Platform Integration • Implement mobile device functionalities, including GPS, location tracking, camera, microphone, and file storage. • Integrate push notifications, SMS services, deep linking, and background processing. • Implement biometric authentication, including fingerprint and facial recognition, where supported. • Develop functionalities for offline data access, local storage, caching, and background data synchronization. • Integrate device sensors, Bluetooth, QR/barcode scanning, and other hardware capabilities as required. **5. Mobile Application Security** • Implement secure authentication, authorization, and session management mechanisms. • Protect sensitive application data using encryption, secure storage, and appropriate data protection techniques. • Implement secure API communication using HTTPS and appropriate authentication mechanisms. • Prevent common mobile application security vulnerabilities, including insecure data storage, unauthorized access, and improper input validation. • Follow OWASP Mobile Application Security Verification Standard (MASVS) and applicable mobile security best practices. • Implement application integrity checks, secure configuration, and protection against unauthorized access. **6. Mobile Application Performance and Optimization** • Optimize application loading time, responsiveness, memory consumption, and battery utilization. • Identify and resolve performance bottlenecks, application crashes, and unexpected behavior. • Optimize network requests, API communication, image processing, and local database operations. • Ensure smooth application navigation, rendering, animations, and overall user interaction. • Monitor application performance and stability across different devices and operating system versions. **7. Testing, Deployment, and Release Management** • Perform functional, integration, compatibility, regression, and usability testing of mobile applications. • Test applications across different Android and iOS devices, operating system versions, and screen resolutions. • Identify, troubleshoot, and resolve application defects, crashes, and compatibility issues. • Manage application builds, signing certificates, provisioning profiles, versioning, and release configurations.

S.#	Designation	Roles & Responsibilities
		• Publish and maintain applications on Google Play Store and Apple App Store. • Manage application updates, release notes, production monitoring, and post-deployment support. **8. Maintenance, Documentation, and Collaboration** • Maintain, upgrade, and enhance existing mobile applications based on business requirements and user feedback. • Monitor mobile application crashes, errors, and user-reported issues and implement corrective measures. • Maintain source code repositories using version control systems such as Git. • Prepare and maintain technical documentation, application architecture, API integration details, and deployment procedures. • Collaborate with UI/UX designers, backend developers, database administrators, QA engineers, and DevOps teams. • Evaluate emerging mobile technologies, frameworks, and development tools to improve application quality, scalability, security, and performance.

S.#	Designation	Roles & Responsibilities
8	**System Analyst**	**Role:** Masters or Bachelor's (Hons.) in Computer Science/ IT or related field from a foreign or local university recognized by HEC. RHEL/MCSE with knowledge of virtualization in VMware and Hyper-V will be preferred. **Responsibilities:** **1. Hyper-Converged Infrastructure (HCI) Management** • Administer, monitor, and support enterprise Hyper-Converged Infrastructure (HCI) platforms and clusters. • Manage HCI nodes, clusters, virtual machines, resource allocation, and workload distribution. • Monitor cluster health, CPU, RAM, storage utilization, and infrastructure performance. • Perform virtual machine provisioning, configuration, migration, snapshots, and lifecycle management. • Monitor HCI alerts, hardware health, cluster status, and infrastructure events. • Support HCI upgrades, firmware updates, patch management, and infrastructure maintenance. • Coordinate with vendors for technical support, troubleshooting, and infrastructure optimization. • Ensure high availability, fault tolerance, and efficient utilization of HCI resources. **2. Virtualization and Server Administration** • Administer and maintain VMware, Microsoft Hyper-V, and other enterprise virtualization platforms. • Manage virtual machines, hypervisors, templates, snapshots, and virtual resource allocation. • Administer Windows Server and Red Hat Enterprise Linux (RHEL) operating systems. • Perform server installation, configuration, patching, upgrades, and troubleshooting. • Monitor physical and virtual server performance, resource consumption, and service availability. • Support workload migration, server consolidation, and virtualization optimization. • Maintain server configurations and ensure operational stability of hosted environments. **3. Enterprise Storage and Data Centre Infrastructure** • Monitor and manage enterprise storage systems integrated with HCI and server infrastructure. • Monitor storage capacity, performance, availability, and resource utilization. • Support storage provisioning, allocation, expansion, and migration. • Monitor hardware health, disk performance, and infrastructure alerts.

S.#	Designation	Roles & Responsibilities
		• Support integration of servers, storage, network, and virtualization platforms. • Participate in Data Centre infrastructure expansion, upgrades, and capacity enhancement. • Maintain infrastructure inventories, configurations, and technical architecture documentation. **4. Data Centre Operations and Application Hosting** • Support day-to-day operations of the Data Centre infrastructure hosting critical organizational applications and services. • Ensure availability and performance of infrastructure resources supporting production, development, testing, and staging environments. • Coordinate with application and database teams for infrastructure requirements, application hosting, and deployment activities. • Monitor infrastructure resource consumption against application workloads and identify performance bottlenecks. • Support application migrations, server deployments, and workload distribution across virtualized environments. • Ensure infrastructure changes are implemented through approved change management procedures. • Coordinate with relevant teams to minimize service interruptions and maintain operational continuity. **5. Infrastructure Monitoring, Capacity Planning and Optimization** • Monitor infrastructure performance through approved monitoring and management tools. • Monitor CPU, RAM, storage, network utilization, cluster health, and virtual machine performance. • Identify infrastructure bottlenecks, resource constraints, and abnormal system behavior. • Conduct root cause analysis of infrastructure-related incidents and recommend corrective actions. • Prepare periodic infrastructure health, performance, and resource utilization reports. • Perform capacity planning based on application growth, user requirements, and workload demands. • Recommend infrastructure optimization measures to improve performance, scalability, and cost efficiency. **6. Backup, High Availability and Disaster Recovery** • Support implementation and monitoring of infrastructure backup and recovery mechanisms. • Monitor virtual machine backups, snapshots, replication, and restoration operations. • Support Disaster Recovery (DR) infrastructure, including virtual machine replication and workload recovery. • Participate in periodic disaster recovery drills and restoration testing.

S.#	Designation	Roles & Responsibilities
		• Support implementation of High Availability (HA), redundancy, and business continuity arrangements. • Maintain recovery procedures and technical documentation. • Assist in meeting defined Recovery Point Objectives (RPO) and Recovery Time Objectives (RTO). **7. System Security and Compliance** • Implement operating system hardening, security patches, and approved system configurations. • Support security management of Windows and Linux servers and virtualized environments. • Coordinate with cybersecurity teams for vulnerability assessment and remediation. • Monitor system logs, access activities, and infrastructure alerts. • Support access control, privileged access management, and secure administration practices. • Ensure compliance with organizational IT policies, security standards, and Data Centre operational procedures. **8. Business Analysis and Requirements Gathering** • Gather and analyze business, operational, and technical requirements from relevant departments and stakeholders. • Assess application hosting requirements, infrastructure dependencies, resource demands, and scalability needs. • Analyze existing IT infrastructure and identify gaps, performance limitations, and opportunities for improvement. • Translate business and operational requirements into technical infrastructure specifications. • Prepare Business Requirement Documents (BRDs), technical requirement documents, and functional specifications where required. • Develop infrastructure workflows, system diagrams, and solution proposals. • Evaluate proposed IT solutions based on technical feasibility, scalability, security, performance, and cost-effectiveness. • Coordinate with software, database, network, and infrastructure teams to ensure requirements are properly addressed. **9. Technical Documentation, Reporting and Change Management** • Maintain HCI architecture diagrams, virtualization configurations, server inventories, and infrastructure documentation. • Document cluster configurations, virtual machine allocations, storage resources, and system dependencies. • Prepare technical reports, infrastructure assessments, capacity utilization reports, and management briefs. • Maintain Standard Operating Procedures (SOPs) for infrastructure administration and Data Centre operations. • Document infrastructure changes, upgrades, migrations, and maintenance activities.

S.#	Designation	Roles & Responsibilities
		• Support infrastructure audits, technical assessments, and compliance reviews. • Maintain proper change records and ensure traceability of infrastructure modifications. **10. Stakeholder Coordination and Continuous Improvement** • Coordinate with application developers, database administrators, network administrators, cybersecurity teams, and Data Centre operations personnel. • Act as a coordination point between business stakeholders and technical teams for infrastructure-related requirements. • Participate in infrastructure planning, technical evaluations, project implementation, and DR exercises. • Coordinate with vendors and service providers for infrastructure deployment, maintenance, and technical support. • Identify opportunities for infrastructure modernization, automation, optimization, and improved service delivery. • Evaluate emerging HCI, virtualization, and Data Centre technologies and recommend suitable improvements. • Provide technical guidance and knowledge sharing to relevant IT personnel.

S.#	Designation	Roles & Responsibilities
9	**Network/ System Administrator**	**Role:** A Network / System Administrator is responsible for the installation, configuration, operation, monitoring, maintenance, and security of the organization's IT infrastructure, including servers, networks, virtualization platforms, storage systems, and associated services. The role ensures reliable connectivity, secure system access, high availability, and uninterrupted delivery of IT services in accordance **Responsibilities:** **1. Network Administration and Management** • Install, configure, manage, and maintain enterprise network infrastructure, including routers, switches, firewalls, wireless access points, and network security appliances. • Configure and manage VLANs, IP addressing, routing, switching, VPNs, DNS, DHCP, and network access controls. • Monitor network availability, bandwidth utilization, latency, packet loss, and overall network performance. • Troubleshoot and resolve network connectivity issues, hardware failures, and service interruptions. • Maintain network diagrams, IP address inventories, configuration backups, and network documentation. **2. Server Administration and Management** • Install, configure, administer, and maintain Windows Server and Linux-based operating systems. • Manage server services, including Active Directory, Group Policy, DNS, DHCP, file services, and authentication services. • Perform operating system patching, security updates, software installation, and routine maintenance. • Monitor server health, CPU utilization, memory consumption, storage capacity, and service availability. • Troubleshoot operating system issues, service failures, and server performance bottlenecks. **3. Virtualization and Data Center Operations** • Administer virtualized infrastructure, hypervisors, virtual machines, and associated resource allocations. • Support the operation and maintenance of Hyper-Converged Infrastructure (HCI), virtualization clusters, and enterprise server platforms, where applicable. • Manage virtual machine provisioning, resource utilization, snapshots, and lifecycle operations in accordance with approved procedures. • Monitor hardware health, storage utilization, cluster status, and infrastructure alerts. • Coordinate with vendors and senior IT personnel for infrastructure upgrades, troubleshooting, and technical support.

S.#	Designation	Roles & Responsibilities
		4. System Security and Access Control • Implement system hardening, security patches, antivirus, Endpoint Detection and Response (EDR), and approved security configurations. • Manage user accounts, groups, permissions, privileged access, and authentication policies. • Configure and maintain firewall rules, VPN access, network segmentation, and secure remote administration. • Review system logs and security alerts to identify suspicious activities and potential security incidents. • Coordinate with cybersecurity teams to remediate vulnerabilities and implement security recommendations. **5. Backup, Recovery, and Disaster Recovery** • Configure, monitor, and maintain system, configuration, and data backup processes. • Perform periodic restoration tests to validate backup integrity and recoverability. • Support disaster recovery arrangements, replication, and recovery of servers and critical IT services. • Maintain recovery procedures and operational documentation in accordance with approved policies. • Assist in meeting defined Recovery Point Objectives (RPO) and Recovery Time Objectives (RTO). **6. Monitoring and Troubleshooting** • Monitor network devices, servers, services, and infrastructure resources using approved monitoring tools. • Investigate system alerts, connectivity failures, performance degradation, and service outages. • Perform root cause analysis and implement corrective and preventive measures. • Maintain incident records and coordinate resolution with relevant application, database, security, and service provider teams. • Support capacity planning and proactive maintenance to minimize service disruptions. **7. Storage and Infrastructure Resource Management** • Administer server storage, shared storage, Network Attached Storage (NAS), and Storage Area Networks (SAN), where applicable. • Monitor disk utilization, storage performance, capacity thresholds, and hardware health. • Manage storage allocation, access permissions, and data retention configurations. • Support storage expansion, migration, and infrastructure lifecycle management. • Coordinate hardware replacement, warranty claims, and vendor support activities.

S.#	Designation	Roles & Responsibilities
		8. IT Service Management and Documentation • Follow established IT Service Management (ITSM) processes for incident, problem, change, and configuration management. • Maintain Standard Operating Procedures (SOPs), technical documentation, configuration records, and asset inventories. • Record infrastructure changes, maintenance activities, incidents, and service interruptions. • Support the implementation and monitoring of Service Level Agreements (SLAs). • Ensure infrastructure changes are implemented through approved change management procedures. **9. Collaboration and Technical Support** • Coordinate with software developers, database administrators, cybersecurity teams, application support personnel, and external service providers. • Provide technical support for server, network, connectivity, authentication, and infrastructure-related issues. • Assist in infrastructure deployment, application hosting, system migrations, and production releases. • Coordinate with Internet Service Providers (ISPs) and other vendors for connectivity and infrastructure services. • Provide technical guidance to relevant IT personnel and support knowledge transfer. **10. Business Continuity and Continuous Improvement** • Support high availability, redundancy, fault tolerance, and business continuity arrangements. • Identify infrastructure risks and recommend improvements in security, reliability, scalability, and performance. • Participate in infrastructure audits, vulnerability remediation, capacity reviews, and compliance assessments. • Evaluate new technologies and recommend cost-effective infrastructure improvements. • Ensure IT infrastructure remains stable, secure, documented, and aligned with organizational operational requirements.

S.#	Designation	Roles & Responsibilities
10	**Jr. Software Engineer**	**1. Web Application Development** • Develop, maintain, and enhance web applications, portals, dashboards, and digital services using PHP and related technologies. • Write clean, readable, reusable, and maintainable code in accordance with established coding standards. • Work with PHP frameworks such as Laravel, CodeIgniter, or other approved frameworks. • Develop server-side application logic, form processing, validation, and business functionality. • Implement frontend components using HTML5, CSS3, JavaScript, and Bootstrap or other suitable UI frameworks. **2. Database Development and Integration** • Develop and maintain database-driven applications using MySQL, MariaDB, PostgreSQL, or other approved database systems. • Write SQL queries and assist in developing database tables, views, and stored procedures where required. • Integrate PHP applications with databases using appropriate data access methods. • Ensure data accuracy, consistency, validation, and reliable transaction handling. • Coordinate with Database Administrators (DBAs) to resolve database connectivity and data-related issues. **3. API Development and Integration** • Develop, consume, and maintain RESTful APIs and web services. • Integrate applications with internal systems, third-party services, and external data sources. • Implement request validation, response handling, error management, and API authentication as required. • Support data exchange between web applications, mobile applications, and backend services. • Maintain API documentation and assist in troubleshooting integration issues. **4. Application Security and Secure Coding** • Follow secure coding practices and applicable OWASP security guidelines. • Implement server-side input validation, output encoding, and parameterized database queries. • Apply appropriate authentication, authorization, session management, and access control mechanisms. • Help prevent common vulnerabilities, including SQL Injection, Cross-Site Scripting (XSS), Cross-Site Request Forgery (CSRF), and insecure file uploads. • Address vulnerabilities identified during code reviews, security assessments, and authorized penetration testing.

S.#	Designation	Roles & Responsibilities
		• Protect sensitive application data and follow organizational security and privacy policies. **5. Software Testing and Debugging** • Perform unit testing, functional testing, and basic integration testing of developed features. • Identify, troubleshoot, and resolve application errors, bugs, and unexpected behavior. • Assist QA/Test Engineers in reproducing and resolving reported defects. • Conduct regression testing after implementing fixes or enhancements. • Ensure application features meet approved requirements and acceptance criteria. **6. Application Maintenance and Support** • Maintain and enhance existing PHP applications based on approved business requirements. • Investigate application errors, database issues, and functionality-related incidents. • Implement bug fixes, minor enhancements, and compatibility updates. • Support application deployment and configuration across development, testing, staging, and production environments. • Coordinate with senior developers and IT operations personnel to resolve production issues. **7. Version Control and Development Practices** • Use Git or other approved version control systems for source code management. • Follow established branching, commit, code review, and release management procedures. • Participate in code reviews and implement feedback provided by senior developers. • Follow Software Development Life Cycle (SDLC) practices and approved development workflows. • Assist in maintaining CI/CD pipelines and automated deployment processes in coordination with DevOps engineers. **8. Performance and Code Optimization** • Identify and resolve basic application performance issues and inefficient code. • Optimize SQL queries, database interactions, and application processing where appropriate. • Implement pagination, caching, and other performance improvements under technical guidance. • Ensure applications remain responsive and reliable under expected workloads. • Assist in identifying memory usage issues and unnecessary resource consumption.

S.#	Designation	Roles & Responsibilities
		9. Documentation and Reporting • Prepare and maintain technical documentation for application features, code changes, APIs, and configurations. • Document bug fixes, known issues, deployment steps, and troubleshooting procedures. • Maintain records of assigned tasks, development progress, and resolved defects. • Assist in preparing technical reports and application maintenance records. • Ensure documentation remains updated as application functionality evolves. **10. Collaboration and Professional Development** • Work closely with Senior Software Engineers, System Analysts, Database Administrators, UI/UX Developers, and QA/Test Engineers. • Translate assigned requirements and technical specifications into functional software components. • Participate in team meetings, requirement discussions, sprint planning, and development reviews. • Seek technical guidance when addressing complex development or security issues. • Continuously improve PHP programming, database development, debugging, application security, and software engineering skills.

S.#	Designation	Roles & Responsibilities
11	**Coordination and Stakeholder Engagement Officer**	**Role:** The Coordination and Stakeholder Engagement Officer shall be responsible for effective coordination among PMIU, SED, District Education Authorities, the World Bank and other partners, and for leading the Program's communication, outreach, awareness and advocacy activities at provincial and district level. **Responsibilities:** **1. Program Planning and Coordination** • Plan and coordinate program activities and organize coordination, steering, and review meetings. • Ensure effective coordination among relevant stakeholders for timely execution of program activities. **2. Stakeholder Engagement and Coordination** • Liaise with the School Education Department (SED), district authorities, line departments, and development partners for timely approvals, data sharing, and joint implementation. • Prepare and update stakeholder mapping and the Stakeholder Engagement Plan. • Conduct stakeholder consultations and maintain an updated stakeholder database. **3. Awareness and Outreach Activities** • Promote program activities through awareness, communication, and outreach initiatives. • Design and manage awareness and advocacy campaigns to ensure effective program outreach and stakeholder participation. **4. Events and Campaign Management** • Organize seminars, workshops, meetings, and other program-related events. • Coordinate participant mobilization, event arrangements, and stakeholder participation. • Prepare and maintain post-event reports and documentation. **5. Media and Communication Management** • Ensure compliance with World Bank visibility, communication, and reporting requirements. • Coordinate with media organizations and the Directorate General Public Relations (DGPR), Punjab, for program-related communication and publicity activities. **6. Grievance Redress Mechanism (GRM)** • Support the implementation and promotion of the Grievance Redress Mechanism (GRM). • Disseminate GRM-related information to communities and relevant stakeholders to facilitate awareness and accessibility. **7. Reporting and Documentation** • Prepare monthly and quarterly program progress reports, briefs, and presentations for the Project Director (PD).

S.#	Designation	Roles & Responsibilities
		• Maintain records of stakeholder engagement, awareness activities, meetings, workshops, and program communication initiatives. **8. Additional Responsibilities** • Provide coordination and administrative support for effective program implementation. • Perform any other task assigned by the Project Director (PD).

END