

Annex 3.5 – Standard Staff Categories, Qualification, Functions/Speciality and Responsibilities

1. Standard Staff Categories for Service Categories 1, 2 and 3

Category	Qualification (Note (a))	Function / Speciality
Category 1	At least two years of information technology (IT) experience in the relevant function/speciality	Network system engineer Technical support engineer
Category 2	At least four years of IT experience in the relevant function/speciality	Senior network system engineer Technical support engineer Network consultant Network specialist
Category 3	At least one year of IT experience in the relevant function/speciality	Programmer Web designer
Category 4	At least two years of IT experience in the relevant function/speciality	Analyst programmer System programmer/support Web designer Web developer Web master
Category 5	At least four years of IT experience including at least two years of experience in the relevant function/speciality	System analyst System programmer/support Database administrator/designer Data communication network designer/engineer Quality assurance analyst Trainer Technical writer
Category 6	At least five years of IT experience	System analyst

Category	Qualification (Note (a))	Function / Speciality
	including at least three years of experience in the relevant function/speciality	System programmer/support Systems administrator Database administrator/designer Data communication network designer/engineer Quality assurance analyst Trainer Technical writer Web manager
Category 7	At least six years of IT experience including at least four years of experience in the relevant function/speciality	Systems support manager Network manager Network consultant Network specialist
Category 8	At least eight years of IT experience including at least four years of experience in the relevant function/speciality	IT/IS manager Network manager Project manager Systems support manager IT specialist
Category 9	At least nine years of IT experience including at least five years of experience in the relevant function/speciality	IT/IS manager Network manager Project manager Systems support manager IT specialist
Category 10	At least eleven years of IT experience including at least six years of experience in the relevant function/speciality	IT/IS manager Project manager IT consultant

Category	Qualification (Note (a))	Function / Speciality
		IT specialist
Category 11	At least fifteen years of IT experience including at least seven years of experience in the relevant function/speciality	IT consultant
Category 12	At least eleven years of experience in the field of the subject matter	Subject matter expert

Note :

- a) Only full-time involvement in IT job positions is counted as IT experience. The following are not counted as IT experience under the requirements of SOA-QPS3.
- Time spent on full-time undergraduate or full-time postgraduate programmes;
 - Time spent on sandwich training in full-time undergraduate or full-time postgraduate programmes;
 - Sales or marketing of IT related products and services; and
 - Teaching of IT related subjects.
- b) Certification of professional staff recognised by the IT industry on the relevant skills, where applicable, is preferred.

2. Standard Staff Categories for Service Category 4

Category	Qualification (Note (a))	Function / Speciality
Category 1	At least two years of IT experience including at least one year of experience specializing in the relevant function/speciality	Security engineer Tester
Category 2	At least four years of IT experience including at least two years of experience specializing in the relevant function/speciality	Security engineer Security consultant Tester Testing lead
Category 3	At least six years of IT experience including at least three years of experience specializing in the relevant function/speciality	Security consultant Testing coordinator Testing lead

Category	Qualification (Note (a))	Function / Speciality
Category 4	At least eight years of IT experience including at least four years of experience specializing in the relevant function/speciality	Manager Security consultant Testing manager Testing coordinator
Category 5	At least eleven years of IT experience including at least six years of experience specializing in the relevant function/speciality	Manager IT security specialist Testing manager Testing specialist
Category 6	At least fifteen years of IT experience including at least seven years of experience specializing in the relevant function/speciality	IT security specialist Testing specialist

Note:

- a) Only full-time involvement in IT job positions is counted as IT experience. The following are not counted as IT experience under the requirements of SOA-QPS3.
 - Time spent on full-time undergraduate or full-time postgraduate programmes;
 - Time spent on sandwich training in full-time undergraduate or full-time postgraduate programmes;
 - Sales or marketing of IT related products and services; and
 - Teaching of IT related subjects.
- b) Certification of professional staff recognised by the IT industry on the relevant skills, where applicable, is preferred.

3. Description of Major Functional Roles and Responsibilities

The list of functions/specialities and responsibilities given are for illustrative purpose only and are not exhaustive. Specific skills may be required as specified in individual Brief.

For Service Categories 1, 2 and 3

Function/Speciality	Responsibility
Analyst programmer	<p>Participate in the development of programs and ensure program testing meets user requirements</p> <p>Produce and maintain well documented programs that adhere to standards and satisfy user requirements, provide end-user support services in computer related matters</p> <p>Assist in the systems analysis and design</p> <p>Produce project reports and specifications in accordance with the standards approved by the Government</p>
Data communication network designer / engineer	<p>Analyze and interpret user requirements to provide viable network solutions</p> <p>Provide high level and detailed networking advice to system developers</p> <p>Implement and support data communication networks</p> <p>Liaise with vendors in product development, evaluation and conformance</p> <p>Provide pre-installation and post-installation support to computer networks</p> <p>Provide support for resolving network troubles, tracking network performance and managing growth</p> <p>Determine specifications for equipment needed to manage and monitor networks</p> <p>Perform studies on the optimization of network availability</p>
Database administrator / designer	<p>Design, implement, and support databases and database programs to meet user requirements</p> <p>Provide technical database support on data analysis and modelling, database definitions and design, monitoring and advice to the development team</p> <p>Evaluate and recommend available DBMS products after matching user requirements with system capabilities</p>

Function/Speciality	Responsibility
	Prepare and deliver presentations on DBMS concepts
IT / IS / Project manager	<p>Schedule and assign duties to subordinates</p> <p>Lead feasibility and optimization studies, analyze and specify complex system</p> <p>Plan and control all phases of computer project including feasibility study, systems analysis and design, procurement and installation of computer systems, programming, implementation, system nursing and maintenance</p> <p>Plan and manage multiple project teams and technologies</p> <p>Manage the operations of computer centres and data preparation installations</p> <p>Deliver projects within budget and time</p> <p>Establish procedures and automated performance measurement capability to monitor the technical accomplishment and progress of projects</p> <p>Liaise with Programme Manager and Government project team and management team on day-to-day work</p> <p>Develop project management plans and quality control parameters</p>
IT consultant	<p>Provide specialist advice and consultation in specific business areas, IT strategic planning, IT benchmarking, best practices studies, business process re-engineering, specific information technologies, etc.</p> <p>Prepare business and IT strategy plans and re-engineering plans to satisfy corporate and business objectives, identify critical success factors, and conduct organisational and structure analysis</p> <p>Provide consultancy services in adoption and application of specific information technologies in Government</p> <p>Assist the Government in selecting tools and/or developing procedures for planning, controlling and tracking program activities and assessing goals and objectives</p>

Function/Speciality	Responsibility
IT specialist	<p>Provide specialist advice and consultation in IT areas such as data analysis and modelling, network, methodologies, quality, security, disaster recovery planning, IT benchmarking, best practices studies etc.</p> <p>Design and implement quality procedures and processes for an organisation including workflow and document management</p> <p>Undertake quality audit work</p> <p>Provide data analysis and data modelling techniques</p>
Network manager	<p>Schedule and assign duties to subordinates</p> <p>Plan and manage multiple project teams and technologies</p> <p>Co-ordinate with all working parties in projects</p> <p>Resolve technical and non-technical issues and disputes in projects</p> <p>Deliver projects within budget and time</p> <p>Establish procedures and automated performance measurement capability to monitor the technical accomplishment and progress of projects</p> <p>Liaise with Programme Manager and Government project team and management team on day-to-day work</p> <p>Develop project management plans and quality control parameters</p>
Network specialist / Network consultant	<p>Provide specialist advice and consultation on network infrastructure in Government</p> <p>Develop and review network infrastructure standards and guidelines</p> <p>Prepare deliverables such as network requirement report, guidelines and procedures for the daily operations of installed WAN/LAN</p>

Function/Speciality	Responsibility
	<p>Perform quality control and quality assurance in network implementation</p> <p>Monitor and manage the network utilization and growth</p> <p>Develop course materials and conduct training and education on networking</p> <p>Assist the Government in selecting networking tools</p>
Network system engineer / Technical support engineer	<p>Participate in the configuration and installation of popular office automation application, network operating systems, network equipment and networking software</p> <p>Participate in the system and network support, scheduling and monitoring computer equipment installation/relocation</p> <p>Diagnose and resolve problems encountered during network implementation</p> <p>Prepare guidelines and procedures for the daily operations of installed WAN/LAN</p> <p>Develop programs and ensure program testing meets user requirements for office systems</p> <p>Produce and maintain documentation of office systems</p> <p>Develop course materials and conduct user training of the developed office systems</p>
Programmer	<p>Participate in the development of programs and ensure program testing meets user requirements</p> <p>Produce and maintain well documented programs that adhere to standards and satisfy user requirements, provide end-user support services in computer related matters</p>
Quality assurance analyst	<p>Participate in the development and implementation of quality assurance related policies, standard and procedures</p> <p>Review the standards and methods in use and advise on the appropriateness of various quality assurance checkpoints in system development</p>

Function/Speciality	Responsibility
	<p>Advise on areas of services provided by the Government department where quality assurance is necessary</p> <p>Recommend measures to identify defect-prone processes</p> <p>Identify and install/develop automated quality assurance tools</p> <p>Conduct quality assurance training</p>
Senior network system engineer	<p>Analyze and interpret user requirements on networking and produce the respective proposals and specifications</p> <p>Liaise with other hardware and software vendors on product selection and evaluation leading to a recommendation on cost effective network solutions</p> <p>Supervise and lead the work of network engineers working in the same team</p> <p>Provide support for resolving network troubles, tracking network performance and managing growth</p> <p>Perform quality control and quality assurance in network implementation</p> <p>Analyze user requirements and produce design specifications for office systems</p> <p>Prepare and conduct system test and user acceptance test for the office systems</p>
Subject matter expert	<p>Provide specialist advice and consultation in specific subject matters</p>
System programmer / support	<p>Evaluate and recommend hardware and system software based on project requirements and standards approved by the Government</p> <p>Provide advisory support on hardware including installation standards and acceptance guidelines, and provide system programming support including software installation, customization, tuning, capacity planning, maintenance and problem resolution, to application developers, users and operation staff</p>

Function/Speciality	Responsibility
Systems administrator	<p>Participate in the user accounts management and system backup/restoration</p> <p>Administer the system to provide stable and reliable operating environment</p> <p>Apply patches on network operating systems and installed server software, and update virus signature files</p> <p>Diagnose and resolve network system problems</p> <p>Prepare guidelines, procedures on daily operations of installed WAN/LAN</p>
Systems analyst	<p>Provide supervisory, technical and administrative direction for personnel performing system implementation tasks</p> <p>Analyze, design and specify program components of complex systems to meet user requirements</p> <p>Prepare and conduct system testing and user acceptance</p> <p>Produce project reports and specifications in accordance with the standards approved by the Government</p> <p>Monitor the performance of his/her subordinates</p> <p>Review work for correctness, for adherence to the design concepts and user requirements, and for all progress in accordance with schedules</p> <p>Assure conformance to standards and quality control procedures</p> <p>Prepare and deliver presentations on the system concepts to colleagues, subordinates and Government representatives</p> <p>Able to play a full role in all phases of computer projects including requirement and feasibility studies, system analysis and design, procurement and installation of computer system, programming, implementation, system nursing and maintenance</p>
Systems support manager	Schedule and assign duties to subordinates

Function/Speciality	Responsibility
	<p>Provide daily management of the systems support function</p> <p>Co-ordinate operational activities and support services</p> <p>Plan and manage multiple system support teams and technologies</p> <p>Deliver system support within budget and time</p> <p>Establish procedures and automated performance measurement capability to monitor the technical accomplishment and progress of projects</p> <p>Liaise with Programme Manager and Government project team and management team on day-to-day work</p> <p>Develop project management plans and quality control parameters</p>
Technical writer	<p>Compile reports, papers, documentation and specifications relevant to the system and taking minutes of meeting</p> <p>Interpret technical documentation standards and prepare documentation accordingly</p> <p>Assist in the preparation of briefs in respect of operational matters as called for so that users are kept aware of the current situation</p>
Trainer	<p>Study, plan and develop course and instructional materials to educate technical and non-technical Government staff</p> <p>Gather and assemble information pertaining to subject matter, organise and condense material, prepare course outline, handouts, and visual aid materials</p> <p>Deliver training courses as required</p>
Web designer	<p>Participate in the design of web sites using web development tools and software</p> <p>Provide creative direction and design web templates with appropriate features fulfilling prevailing web accessibility requirements for personnel performing the design and</p>

Function/Speciality	Responsibility
	<p>implementation tasks</p> <p>Create graphics, multimedia assets for the web sites</p> <p>Produce and maintain documentation</p> <p>Prepare and deliver presentations on the design of web sites to colleagues and Government representatives</p>
Web developer	<p>Participate in the development of programs using web development tools and software and ensure program testing meets user requirements as well as prevailing web accessibility requirements</p> <p>Produce and maintain well documented programs that adhere to standards and satisfy user requirements</p> <p>Provide daily support services for the web sites</p> <p>Produce and maintain documentation</p>
Web manager	<p>Schedule and assign duties to subordinates</p> <p>Plan and manage multiple project teams and technologies</p> <p>Deliver projects within budget and time</p> <p>Establish procedures and automated performance measurement capability to monitor the adherence to government standards, technical accomplishment and progress of projects</p> <p>Liaise with Programme Manager and Government project team and management team on day-to-day work</p> <p>Maintain cross-platform and cross-browser compatibility of the web sites</p> <p>Develop project management plans and quality control parameters</p>
Web master	<p>Manage the content of web sites and assist the Government in validating web sites to web accessibility conformance</p> <p>Integrate multimedia assets and applications into the web</p>

Function/Speciality	Responsibility
	<p>sites</p> <p>Organise, maintain and enhance the web sites</p> <p>Maintain cross-platform and cross-browser compatibility of the web sites</p> <p>Provide daily support services for the web sites</p> <p>Capture and provide statistics on web site usage and workload</p>

For Service Category 4

Function/Speciality	Responsibility
IT security specialist	<p>Provide specialist advice and consultation in IT security</p> <p>Provide consultancy services in formulating security strategy and designing security framework and architecture with regard to corporate and business requirements, environment and constraints</p>
Manager	<p>Schedule and assign duties to subordinates</p> <p>Plan and manage multiple project teams and technologies</p> <p>Deliver projects within budget and on time</p> <p>Establish procedures and automated performance measurement capability to monitor the technical accomplishment and progress of projects</p> <p>Liaise with Programme Manager and Government project team and management team on day-to-day work</p> <p>Develop project management plans and quality control parameters</p>
Security consultant	<p>Perform security risk assessment, security audit, and penetration testing</p> <p>Identify and recommend security safeguards and solutions, and provide general and technical security consultation and advice to user</p>

Function/Speciality	Responsibility
	<p>Develop and review security policies, standards, guidelines and procedures</p> <p>Define the approach, methodology and tools used in various security services</p> <p>Prepare deliverables such as security requirement report, security risk assessment report, security policies, standards, guidelines and procedures etc., and deliver presentations</p> <p>Develop course materials and conduct training and education on IT security awareness and IT security skills</p> <p>Perform network and host intrusion monitoring and detection</p> <p>Provide on-site investigation, containment, eradication and recovery for information security incident response support</p>
Security engineer	<p>Perform network and host intrusion monitoring and detection</p> <p>Assist in performing security risk assessment, security audit, and penetration testing</p> <p>Assist in on-site investigation, containment, eradication and recovery for information security incident response support</p>
Testing specialist	<p>Provide specialist advice and consultation in testing</p> <p>Provide consultancy services in testing with regard to corporate and business requirements, environment and constraints</p> <p>Advise the Government in selecting testing tools</p>
Testing manager	<p>Schedule and assign duties to subordinates</p> <p>Plan and manage testing process</p> <p>Resolve technical and non-technical issues and disputes related to the testing process</p> <p>Establish procedures and automated performance measurement capability to monitor the progress of testing.</p> <p>Liaise with Programme Manager and Government project team and management team on day-to-day work</p>

Function/Speciality	Responsibility
	Develop project management plans and quality control parameters
Testing coordinator	<p>Schedule and assign testing tasks to team members</p> <p>Assist in setting up testing environment</p> <p>Co-ordinate with all working parties in projects</p> <p>Define the approach, methodology and tools used in testing</p> <p>Perform quality control and quality assurance in testing process</p> <p>Prepare test scenarios and produce documentation</p> <p>Provide support and troubleshoot problems in testing process.</p> <p>Provide status of progress and defects to testing manager</p> <p>Assure conformance to standards and testing procedures</p>
Testing lead	<p>Supervise and lead the work of testing in the same team</p> <p>Assign testing tasks to testers and assist in test execution when required.</p> <p>Produce and maintain the testing status documentation</p>
Tester	<p>Conduct testing according to testing procedures</p> <p>Produce and maintain testing documentation</p>