

Government of Pakistan
Ministry of Information Technology and Telecommunication

TERMS OF REFERENCE

Ministry of Information Technology and Telecommunication is entrusted to formulate policies aimed at improving the National Information and Communication Technology (ICT) infrastructure and services to transform Pakistan into a knowledge-based economy by ensuring provision of reliable and affordable ICT enabled services. In this regard, this Ministry invites applications from dynamic professionals for following SPPS posts as per details given below:

S#	Positions	SPPS	Posts
1	Expert Emerging Tech (Quantum Computing)	SPPS-III	1
2	Expert Emerging Tech (Blockchain)	SPPS-III	1
3	Expert Emerging Tech (IOT)	SPPS-III	1
4	Research Associate (Quantum Computing)	SPPS-IV	1
5	Research Associate (Blockchain)	SPPS-IV	1
6	Research Associate (IOT)	SPPS-IV	1
7	Research Associate (AI & ML)	SPPS-IV	1

1. Expert Emerging Tech (Quantum Computing), SPPS-III

Qualification:

Masters or equivalent in a relevant field (e.g., Quantum Computing, Physics, Computer Science, Electronics, Engineering, or related disciplines).

Experience:

Minimum of 7 years of professional experience in quantum computing research, policy development, or emerging technology strategy, preferably in public and/or private sector.

The candidate's professional experience should include the following:

- Quantum computing research or technology development
- Policy and strategy support for quantum-tech adoption
- National and international coordination on quantum research
- Collaborations with academia and research labs

- Understanding of quantum cryptography, simulation, and algorithms

Job Description:

- Conduct and support research on quantum computing trends, capabilities, and national readiness.
- Assist in developing national strategy and frameworks for quantum technologies, including cybersecurity and advanced computing.
- Engage with leading global quantum research centers and tech companies for collaboration.
- Identify opportunities for national capacity building, including academic and industry skill development.
- Provide analytical support on quantum computing implications and its economic sectors.
- Support national quantum-related initiatives
- Tasks assigned by the Advisor (Emerging Technologies Research)

2. Expert Emerging Tech (Blockchain), SPPS-III

Qualification:

Masters or equivalent in a relevant field (e.g., Computer Science, Cryptography, Blockchain Engineering or Distributed Systems, or related ICT disciplines).

Experience:

Minimum of 7 years of professional experience in blockchain and distributed ledger systems, preferably in public and/or private sector.

The candidate's professional experience should include the following:

- Leading blockchain or Web3 initiatives
- Researching distributed-ledger solutions
- Developing policy frameworks for blockchain adoption
- Collaborating with fintech, virtual assets, regulators, tech ecosystem and other stakeholders
- Understanding cryptography, tokenization, smart-contracts

Job Description:

- Conduct advanced research on blockchain, virtual assets, Web3, and distributed ledger technologies.

- Support policy development, governance frameworks, digital identity, and secure ledger systems for public sector use.
- Engage with financial institutions, private sector, and academia for blockchain ecosystem growth.
- Monitor and evaluate global blockchain adoption trends for national strategic alignment.
- Support national projects in secure data infrastructure, digital transactions, and trusted networks.
- Tasks assigned by the Advisor (Emerging Technologies Research)

3. Expert Emerging Tech (IoT), SPPS-III

Qualification:

Masters or equivalent in a relevant field (e.g., Computer Science, Information Technology, Telecom & Networks Engineering, IoT Engineering, Electronics, Telecommunications and ICT related disciplines).

Experience:

Minimum of 7 years of professional experience in IoT systems, smart infrastructure, or digital transformation, preferably in public and/or private sector.

The candidate's professional experience should include the following:

- Researching and benchmarking IoT strategies/policies and frameworks
- Policy and standards development for IoT security and interoperability
- Smart infrastructure and emerging tech ecosystem coordination
- Collaboration with industry, academia and other stakeholders
- Understanding of cybersecurity implications for IoT

Job Description:

- Conduct research and provide recommendations for national IoT adoption and integration in key sectors (agriculture, manufacturing, cities, transport).
- Support development of national IoT frameworks, standards, and cybersecurity protocols.
- Coordinate with stakeholders to promote local IoT innovation and industry involvement.
- Monitor global trends and support national capacity-building programs.
- Assist in government smart-systems projects and IoT pilots.
- Tasks assigned by the Advisor (Emerging Technologies Research)

4. Research Associate (Quantum Computing), SPPS-IV

Qualification:

Masters / 16 years of education in Quantum Computing, Physics, Computer Science, Engineering, Technology Policy, Management Science, Innovation Management, Digital Transformation, or related disciplines.

Experience:

Minimum of 3 years of professional experience in research or technology analysis, preferably in public and/or private sector.

The candidate's professional experience should include the following:

- Assisting in research related to quantum algorithms, QML, or quantum cryptography
- Supporting academic/industry collaboration initiatives on emerging quantum technologies
- Participating in feasibility studies and technology reports on national quantum adoption

Job Description:

- Conduct research on quantum technologies and global adoption landscape.
- Support quantum-tech strategy development, documentation, and analysis.
- Track emerging developments in quantum cryptography, computing, and simulation.
- Assist in academic and industry coordination and skill development programs.
- Prepare reports, briefs, and advisory material.
- Perform tasks assigned by the Expert Emerging Tech (Quantum Computing)

5. Research Associate (Blockchain), SPPS-IV

Qualification:

Masters / 16 years of education in Computer Science, IT, Cryptography, Technology Policy, Management Science, Innovation Management, Digital Transformation, or related disciplines.

Experience:

Minimum of 3 years of professional experience in blockchain or distributed systems research, preferably in public and/or private sector.

The candidate's professional experience should include the following:

- Supporting research and technical analysis on blockchain platforms and applications

- Assisting in pilot initiatives on secure digital identity, supply-chain or fintech use cases
- Conducting literature review and contributing to blockchain standards/policy notes

Job Description:

- Conduct research on blockchain, Web3 models, and secure digital systems.
- Support blockchain policy, standards drafting, and regulatory review.
- Track global blockchain adoption and prepare analytical reports.
- Assist in stakeholder engagement and national blockchain initiatives.
- Support data management, pilots, and capacity-building efforts.
- Perform tasks assigned by the Expert Emerging Tech (Blockchain)

6. Research Associate (IoT), SPPS-IV

Qualification:

Masters / 16 years of education in Computer Science, Information Technology, IoT Engineering, Computer Engineering, Telecom, Electronics, Technology Policy, Management Science, Innovation Management, Digital Transformation, or related ICT disciplines.

Experience:

Minimum of 3 years of professional experience in IoT or digital systems research, preferably in public and/or private sector.

The candidate's professional experience should include the following:

- Supporting IoT solution evaluation, prototyping and data analysis
- Assisting in research studies for IoT standards, smart systems, and national adoption plans
- Coordinating with academia/industry for research inputs and technology insights

Job Description:

- Conduct research on IoT standards, applications, and emerging use-cases.
- Support IoT policy, cybersecurity frameworks, and infrastructure planning.
- Monitor global IoT adoption trends and prepare reports and briefs.
- Assist in IoT ecosystem development and stakeholder coordination.
- Prepare documentation and support capacity-building programs.
- Perform tasks assigned by the Expert Emerging Tech (IoT)

7. Research Associate (AI & ML), SPPS-IV

Qualification:

Masters / 16 years of education in Computer Science, AI, Data Science, Machine Learning, Technology Policy, Management Science, Innovation Management, Digital Transformation, or related ICT disciplines with demonstrated exposure to AI/ML applications.

Experience:

Minimum 3 years of professional experience preferably in:

- AI/ML research, applied AI initiatives, or AI-enabled digital transformation projects.
- Technology policy research, AI ecosystem development, or AI product development
- Data-driven analysis, benchmarking, or regulatory strategy relating to AI and emerging technologies.

Job Description:

- Conduct research on AI and ML applications, ethical frameworks, and policy impact.
- Support documentation, analysis, and development of AI policy and standards.
- Track global AI trends and prepare briefing notes, reports, and presentations.
- Support coordination with stakeholders including academia, private sector, and government.
- Assist in AI capacity-building and innovation initiatives.
- Tasks assigned by the Expert Emerging Tech (AI & ML).