

Functional and Performance testing

	30 June 2025
Team ID	LTVIP2025TMID29114
Project Name	Sustainable Smartcity Assistant Using IBM Granite LLM
Maximum Marks	

Model performance Test:

Test Case ID	Scenario (What to test)	Test Steps (How to test)	Expected Result	Actual Result	Pass / Fail
FT-01	User Login & Registration	Attempt login / registration with valid and invalid credentials	Valid users sign in; invalid data shows error	As expected	Pass
FT-02	Role-Based Access	Log in as Citizen / Administrator and navigate dashboard	Pages, menus, and data shown are appropriate to the selected role	As expected	Pass
FT-03	Policy Summarization	Upload a PDF policy and request AI summary	Concise, plain-language summary returned	Works correctly	Pass
FT-04	Citizen Feedback Submission & NLP Analysis	Submit feedback form → check that sentiment appears in admin panel	Feedback stored; sentiment & category displayed	Works correctly	Pass
FT-05	Eco Tips Generation	Trigger daily eco-tip for a sample location/role	Context-aware sustainability tip displayed	Works correctly	Pass
FT-06	KPI Forecasting Visualization	Load historical KPI dataset → view forecast charts	Line/area graphs render with forecast overlay	Works correctly	Pass
FT-07	Anomaly Alert Notification	Inject outlier data	Alert banner /	Works	Pass

Test Case ID	Scenario (What to test)	Test Steps (How to test)	Expected Result	Actual Result	Pass / Fail
		(e.g., sudden spike in water usage)	notification generated	correctly	
FT-08	AI Chat Assistant Response	Ask “What are today’s traffic hotspots?” via chat UI	Assistant returns real-time answer with sources	Works correctly	Pass
PT-01	LLM Model Load Time	Measure time from cold start to Granite LLM ready	Model loads ≤ 5 s	4.3 s	Pass
PT-02	Policy Summary Response Time	Request 5 summaries back-to-back	Each summary generated ≤ 6 s	5.2 s avg	Pass
PT-03	KPI Dashboard Data Load	Open admin dashboard with 1-year KPI history	Graphs and tables render smoothly (< 3 s)	2.4 s	Pass
PT-04	Anomaly Detection Processing Time	Stream 1 000 data points with anomalies	Detection & alert latency ≤ 2 s	1.6 s	Pass
PT-05	Chat Assistant Response Time	Send 10 sequential queries	Avg response ≤ 4 s	3.1 s avg	Pass