August 2025

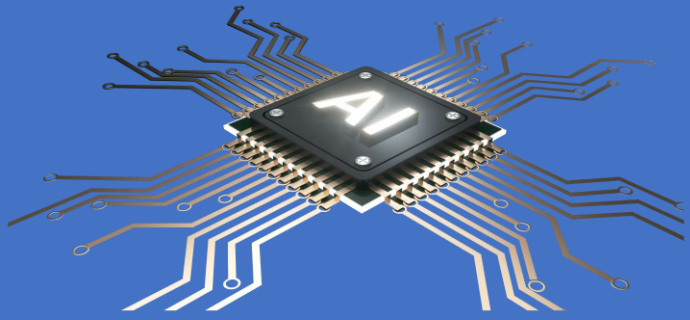
Training Manual

Code: C-01-V1-25



Course on Artificial Intelligence and Prompt Engineering

For Enhancing Efficiency and Professionalism



Kashmir Institute of Management
Muzaffarabad

www.kim.ajk.gov.pk

August 2025

TRAINING MANUAL

Code: C-01-V2-25

Course

on

Artificial Intelligence and Prompt Engineering

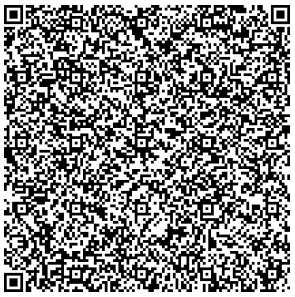
For better performance &

Professionalism in AJK

Kashmir Institute of Management

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Manual Details

- **Code**: C-01-V1-25
- **Title**: One-Day Artificial Intelligence and Prompt Engineering Manual
- **Version**: 1.0
- **Duration**: one Days (6 Contact Hours)
- **Target Audience**: For government officers, officials, and individuals with a general interest in AI Professionalism
- **Cohort Size**: 25–30 participants
- **Implementation Ready**: August 2025
- **Last Updated**: August 2025
- **Next Review Date**: December 2025

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Preface

In an era defined by rapid technological evolution, the role of government officials is no longer confined to ensuring administrative efficiency. It now extends to leveraging digital tools for improved service delivery, enhanced citizen engagement, and data-driven decision-making.

Recognizing this transformative shift, the **Kashmir Institute of Management (KIM), Muzaffarabad** is proud to present this training manual: **"Artificial Intelligence and Prompt Engineering for Better Performance & Professionalism in AJK."**

This course has been thoughtfully designed to introduce and train government officers and officials (from BS-7 to BS-20) in the **practical and ethical application of Large Language Models (LLMs)** such as *ChatGPT, Gemini, Grok,* and *DeepSeek*, along with **25 specialized AI tools** curated for professional use. These models and tools are revolutionizing both public service and the private sector by enabling smarter policy drafting, streamlined communication, and efficient data analysis.

Beyond capacity building for civil servants, the course also aims to **guide and inspire the youth of AJK**. As a first-of-its-kind initiative in the public sector, it represents a **low-cost yet high-impact investment** in human resource development—specifically for AJK, and more broadly for Pakistan. This is the **inaugural version** of the course, and KIM is committed to **continuous improvement**. Future editions of this manual will incorporate emerging innovations and offer enhanced utility to practitioners and policymakers alike.

The launch of this course **coincides with the National AI Policy 2025**, highlighting the AJK Government's resolve to adopt and adapt to the rapidly changing global technological landscape.

This **six-hour training course** integrates five core **prompt engineering strategies** with ten hands-on exercises, each carefully aligned and will be steered by **Mrs. Mehmooda Zia**, a faculty member of KIM and an Information Technology graduate from **NUST**.

This manual represents a **step toward embedding digital intelligence** into the fabric of AJK's governance. It is my sincere hope that this initiative empowers our officers not merely to adapt to the future—but to **lead and shape it**.

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August 5, 2025

Table of Contets

Basic

1) PART1 ARTIFICIAL INTELLIGENCE AND 5
2) THREE STRATEGIES OF ADVANCED PROMPT TECHNIQUES 16

Advanced

3) PART-2 ADVANCED AI PROMPT ENGINEERING FOR GOVERNMENT OF AZAD JAMMU & KASHMIR 21
4) STRATEGY 1: ROLE-BASED PROMPTING 21
5) STRATEGY 3: ZERO-SHOT PROMPTING 24
6) STRATEGY 4: FEW-SHOT PROMPTING 25
7) STRATEGY 5: CONTEXT ENRICHMENT 27
8) STRATEGY 6: ITERATIVE REFINEMENT 29
9) STRATEGY 7: PERSONA CREATION 31
10) STRATEGY 8: CONSTRAINT-BASED PROMPTING 33
11) 4. IMPLEMENTATION GUIDELINES 34
12) 5. PROGRESSIVE LEARNING PATH 35
13) CONCLUSION 36

Annexures

14) EXCECISE NO 1: BEGINNERS: USING COMMON PROMPTS 37
15) EXCECISE NO: 2 FOR ADVANCED LEARNERS: 41
16) EXERCISE 3: THREE ADVANCED STRATEGIES IN PROMPT ENGINEERING 42
17) AN INTRODUCTION TO LARGE LANGUAGE MODEL 44
18) ADVANCED AI PROMPT ENGINEERING TRAINING 47
19) COMPARATIVE ANALYSIS OF 6 BEST AI –LLM MODELS 52
20) 10 MOST POPULAR AI PLATFORMS 58
21) SPECIALIZED 75 AI TOOLS, APPS, AND WEBSITES 66

Training Course on Artificial Intelligence and Prompt Engineering

Course Overview

This 6-hour training course equips government officers and Officials in Azad Jammu and Kashmir (AJK) with the skills to effectively use ChatGPT and apply prompt engineering techniques to enhance productivity, decision-making, and public service delivery. The course covers 5 key prompt engineering strategies and includes 10 practical exercises tailored to AJK's governance challenges, such as policy drafting, public communication, and data analysis.

Course Information

Attribute	Details
Duration	6 hours
Target Audience	AJK government officers (BS-7 to BS-20) and workers in policy, administration, or public services
Prerequisites	Basic computer literacy and familiarity with text-based interfaces
Format	Hands-on training with practical exercises

Learning Objectives

Upon completion of this course, participants will be able to:

- Understand capabilities and limitations of ChatGPT, Gemini, Grok, and DeepSeek in public sector applications
- Master 5 prompt engineering strategies to generate accurate and relevant outputs
- Apply prompt engineering to AJK-specific tasks through 10 hands-on exercises
- Enhance efficiency in report writing, stakeholder communication, and data summarization

1. Introduction to AI Prompt Engineering

Welcome to the world of AI Prompt Engineering - a crucial skill for modern government professionals. This manual is specifically designed for civil servants, policy makers, and administrative staff of Azad Jammu & Kashmir to harness the power of artificial intelligence in daily governance tasks.

What is AI Prompt Engineering?

Prompt engineering is the art and science of crafting effective instructions for AI systems to produce desired outcomes. Think of it as learning to communicate clearly with a highly intelligent assistant who can help with research, writing, analysis, and problem-solving.

Why This Matters for AJK Government

- **Efficiency**: Reduce time spent on routine tasks
- **Quality**: Improve the quality of reports, policies, and communications
- **Innovation**: Explore new solutions to governance challenges
- **Service Delivery**: Enhance citizen services through better planning and execution

2. Core Concepts & Fundamentals

Key Principles

1. **Clarity**: Be specific about what you want
2. **Context**: Provide relevant background information
3. **Structure**: Organize your requests logically
4. **Iteration**: Refine prompts based on results

Basic Components of a Good Prompt

- **Task**: What you want the AI to do
- **Context**: Background information
- **Format**: How you want the output structured
- **Constraints**: Limitations or requirements

Course Structure

PART 1 : BASIC AI and Prompt Engineering

Session 1.1: Welcome and Course Objectives *(10 minutes)*

- Overview of AI relevance to AJK's public sector
- Importance of prompt engineering for precise outputs

Session 1.2: Understanding AI for Government Work *(10 minutes)*

What is ChatGPT?

- AI model by OpenAI built on GPT architecture for conversational tasks
- **Capabilities:** Drafting reports, summarizing data, answering queries, generating public communications
- **Limitations:** Potential factual inaccuracies, token limits (~8,000 tokens for GPT-4), requires clear prompts
- **AJK Applications:** Policy briefs,office communication and drafting, public notices, disaster response plans

PART 2 : Advanced AI and Prompt Engineering

- Covers prompt engineering for major issues facing the AJK Government.

Why AI Matters for Government

Use Case	Benefit
Policy Drafting	Faster creation, consistent tone
Legal & Official Letters	Grammar and formatting accuracy
Citizen Services	Chatbots and multilingual help
Data Analysis	Summarize and extract trends quickly
Training & Upskilling	Personalized learning content
Digital Transformation	Automate repetitive documentation

Primary Platforms:

- **ChatGPT:** https://chatgpt.com/
- **Grok:** https://grok.com/
- **Gemini:** https://gemini.google.com/
- **Claude:** https://claude.ai/
- **DeepSeek:** https://chat.deepseek.com/
- **Mistral AI** **https://mistral.ai/**

Module 2: Basic Prompt Engineering *(120 minutes)*

Session 2.1: Foundational Exercises *(60 minutes)*

Exercise Set 1: Progressive Text Improvement

1. **Grammar Correction**

```
Prompt: "Correct grammar: He iis mmy son, shee is my dahter, my hous broken
in last rain, I live in Muzafrrrabad I want to built my home but I dosnot
have money as I am ill, I am 50 year old"
```

2. **Draft Improvement**

```
Prompt: "Improve draft (copy & paste output of previous prompt)"
```

3. **Draft Expansion**

```
Prompt: "Expand draft (copy & paste output of previous prompt)"
```

4. **Coherence and Logic**

Prompt: "Make draft coherent and logical requesting govt to help me in constructing house (copy & paste output of previous prompt)"

5. **Persuasive Enhancement**

Prompt: "Make draft coherent, logical, and persuasive (copy & paste output of previous prompt)"

Exercise Set 2: Government Communication –

6. **Formal Letter (English)**

Prompt: "Write a letter to the Secretary S&GAD AJK requesting my promotion (My name is Tariq Gilani, service length: 15 years, Grade 16, education: MBA,expert in IT, currently posted in AJK PPRA, age: 42)"

7. **Formal Letter (Urdu)**

Prompt: "Write a letter in Urdu to the Secretary S&GAD AJK requesting my promotion My name is Tariq Gilani, service length: 15 years, Grade 16, education: MBA,expert in IT, currently posted in AJK PPRA, age: 42

8. **Legal Tone Letter**

Prompt: "Write a legal letter to the Secretary S&GAD AJK requesting my promotion My name is Tariq Gilani, service length: 15 years, Grade 16, education: MBA,expert in IT, currently posted in AJK PPRA, age: 42

9. **Courteous Letter**

Prompt: "Write a courteous letter to the Secretary S&GAD AJK requesting my promotion My name is Tariq Gilani, service length: 15 years, Grade 16, education: MBA,expert in IT, currently posted in AJK PPRA, age: 42

10. **Response Letter**

Prompt: "Write a reply to the attached letter, promising that the matter will be resolved in three days

11. **Policy Proposal**

Prompt: "Create a comprehensive policy proposal for the promotion of tourism in Neelum Valley"

12. Financial Advisory

Prompt: "Imagine you are the Financial Advisor to the Minister of Finance AJK; suggest how to reduce the budget deficit in AJK in 2026"

13. Marketing Material

Prompt: "Create a brochure for a hotel in Neelum Valley AJK to attract tourists from Islamabad, Rawalpindi, and Lahore"

14. Research Paper

Prompt: "Create a Research paper on Operation Bunyan Marsoos (Conflict between India and Pakistan during 7 to 10 may 2028) from Pakistan Perspective"

15. Reply of letter

Prompt: Read the attach pdf file (uploaded) of letter and create reply of the letter promising that your problem will resolved within a week.

16. Table conversion, summary & Data Analysis

- Read the attached file (uploaded) , convert the data into text and analyze
- Make summary of 10 points of the attached pdf (upload file)

You should repeat above in all

1. **ChatGPT:** https://chatgpt.com/
2. **Grok:** https://grok.com/
3. **Gemini:** https://gemini.google.com/
4. **Claude:** https://claude.ai/
5. **DeepSeek:** https://chat.deepseek.com/
6. **Mistral AI** **https://mistral.ai/**

16 Most Common and easy Prompts (Sample) (keep this table for future use)

1. Correct grammar (He iis mmy son, shee is my dahter, my hous broken in last rain, I live in Muzafrrrabad I want to built my home but I dosnot have money as I am ill , I am 50 year old)
2. Improve draft (copy & paste output of previous prompt)
3. Expand draft (copy & paste output of previous prompt)
4. Make draft coherent and logical requesting govt to help me in constructing house (copy & paste output of previous prompt)
5. Make draft coherent, logical, and persuasive (copy & paste output of previous prompt)
6. Write a letter to the Secretary S&GAD AJK requesting my promotion (My name is Tariq Gilani, service length: 15 years, Grade 16, education: MBA, expert in IT, currently posted in AJK PPRA, age: 42)
7. Write a letter in Urdu to the Secretary S&GAD AJK requesting my promotion (My name is Tariq Gilani, service length: 15 years, Grade 16, education: MBA, expert in IT, currently posted in AJK PPRA, age: 42)
8. Write a legal letter to the Secretary S&GAD AJK requesting my promotion (My name is Tariq Gilani, service length: 15 years, Grade 16, education: MBA, expert in IT, currently posted in AJK PPRA, age: 42)
9. Write a courteous letter to the Secretary S&GAD AJK requesting my promotion (My name is Tariq Gilani, service length: 15 years, Grade 16, education: MBA, expert in IT, currently posted in AJK PPRA, age: 42)
10. Write a reply to the attached letter, promising that the matter will be resolved within one week
11. Create a policy proposal for the promotion of tourism in Neelum Valley
12. Imagine you are the Financial Advisor to the Minister of Finance AJK; suggest how to reduce the budget deficit in AJK in 2026
13. Create a brochure for a hotel in Neelum Valley AJK to attract tourists from Islamabad, Rawalpindi, and Lahore
14. Create a Research paper on Operation Bunyan Marsoos (Conflict between Indian and Pakistan during 7 to 10 may 2028) from Pakistan Perspective
15. Read the attach pdf file (uploaded) of letter and create reply of the letter promising that your problem will resolved within a week.
16. Read the attached file (uploaded) , convert the data into text and analyze the data
17. Make summary of 10 points of the attached pdf (upload file)

Exercise 2: (60 minutes)

Beginner's Guide to the SMART Strategy for Prompt Engineering

The SMART strategy transforms vague requests into precise, actionable prompts that generate high-quality, professional-grade content. When developing training materials for government officers, this approach ensures consistency, relevance, and practical applicability.

SMART Framework:

- **S**pecific: Clear, detailed requirements
- **M**easurable: Quantifiable outcomes and criteria
- **A**chievable: Realistic scope and expectations
- **R**elevant: Context-appropriate and purposeful
- **T**ime-bound: Clear deadlines and timeframes

Step 1: Run all the prompts below (both incorrect and correct), compare the results of each, and discuss them in pairs (groups of two).

1. Specific

Be clear and detailed about what you want. Vague prompts lead to vague answers.

Examples:

1. ☒ *Tell me about climate change.*

   ☑ *Explain the impact of climate change on agriculture in South Asia.*

2. ☒ *Write something on leadership.*

   ☑ *Write a speech introducing servant leadership to mid-level civil servants.*

3. ☒ *Give tips on productivity.*

   ☑ *List 5 proven productivity tips for remote software developers.*

---

2. Measurable

Request a defined output (number of points, word count, format, etc.).

Examples:

1. ☒Write an article on AI.

   ☑Write a 300-word article on the benefits of AI in education.

2. ☒Give examples of soft skills.

   ☑List 10 soft skills important for public sector managers.

3. ☒ Explain inflation.

   ☑Explain inflation *in 5 bullet points suitable for school students.*

---

3. Action-oriented

Use active verbs that direct the model clearly (e.g., list, compare, summarize, draft).

Examples:

1. ☒ *AI in healthcare?*

   ☑*Summarize how AI is transforming healthcare in 3 paragraphs.*

2. ☒ *History of Pakistan.*

   ☑*Outline the key events in Pakistan's history from 1947 to 1971.*

3. ☒*Career advice.*

   ☑ *Suggest 5 career paths for an economics graduate with interest in data analysis.*

---

4. Relevant

Ensure the prompt is aligned with your context or goals.

Examples:

1. ☒ *Tips for interview.*

   ☑*Share tips for a policy expert preparing for an interview at ADB.*

2. ☒ *Training module.*

   ☑*Design a 2-day training module on public policy evaluation for civil servants.*

3. ☒ *Presentation on education.*

   ☑ *Create a PowerPoint outline for a talk on TVET reforms in Pakistan.*

---

5. Time-bound

Specify a time frame if it matters to your prompt.

Examples:

1. ☒*Future of energy.*

   ☑*Describe the future of renewable energy by 2030 in South Asia.*

2. ☒*Technological changes.*

   ☑*Summarize major tech trends in education over the past 5 years.*

3. ☒ *Policy proposal.*

   ☑*Draft a short-term (6-month) TVET policy action plan for Punjab.*

By applying the SMART strategy, your prompts will become more effective, yielding precise and useful responses from ChatGPT or any LLM.

Step 2: Run this prompt in Chat GPT:

Prompt: `Create three prompts in Each category of SMART prompt engineering technique to explore the [environment, policy and implementation] dimensions of [Tourism in AJK] as an exercise in prompt engineering, using the 'SMART' strategy for prompt design to obtain better results from ChatGPT or any LLM. Provide three examples for each component of the SMART framework.`

Step 3: Analyze the output generated from the previous prompt. Participants group of two to discuss the results and identify how ChatGPT applied the SMART framework in creating the prompt. Focus on understanding the role of each SMART component in shaping the quality and clarity of the response.

Step 4: Run all prompts created as output by Chat GPT in the steps 2

Step 5: Discuss the results in the group of two

Step 6:

Run Prompt one : Create a prompts to explore the [Employment of youth and technical skills] dimensions of [Education sector in AJK] as an exercise in prompt engineering, applying the SMART strategy for prompt design to achieve higher-quality results from ChatGPT or any LLM.

Run Prompt two: Create three prompts in each category of SMART prompt engineering strategy to explore the [Employment of youth and technical skills] dimensions of [Education sector in AJK] as an exercise in prompt engineering, applying the SMART strategy for prompt design to achieve higher-quality results from ChatGPT or any LLM.

Step 6: Compare and discuss results of the above two prompts in the group of two

Step 7: Follow-up Activity:

Rerun the following prompt after incorporating the following context–topic combinations,:

Run Prompt one : `Create one prompt to explore the [ context ] dimensions of [ topic ] as an exercise in prompt engineering, applying the SMART strategy for prompt design to achieve higher-quality results from ChatGPT or any LLM.`

Run Prompt two: `Create three prompts in each category of SMART prompt engineering strategy to explore the [ context] dimensions of [topic] as an exercise in prompt engineering, applying the SMART strategy for prompt design to achieve higher-quality results from ChatGPT or any LLM.`

Rerun the following prompt after incorporating the following context–topic combinations,:

1. **Context:** Employment of youth and technical skills
   Topic: Education sector in AJK
2. **Context:** Safety measures
   Topic: Floods and earthquakes in AJK
3. *(Leave intentionally blank for participant's own choice)*
4. **Context:** Mental health of youth
   Topic: Family stability and culture in Pakistan
5. **Context:** Web designing and digital marketing
   Topic: Freelancing for income generation
6. **Topics and context of your own interest**

Hour 2: Three Strategies of Advanced Prompt Techniques

10 minutes: Advanced Prompt Engineering Techniques

- **Chain-of-Thought (CoT) Prompting:** Encourage step-by-step reasoning for complex tasks.
    - Example: "Analyze the steps to implement a clean water initiative in AJK, explaining each step."
- **Role-Based Prompting**: Assign a persona for tailored outputs.
    - Example: "As an AJK economic advisor, recommend three strategies to boost local trade in 200 words."
- **Prompt Chaining**: Break tasks into multiple prompts for better results.
    - Example: First prompt for a draft policy, second for a public summary.

10 minutes: Exercises 6–8 (Hands-On Practice to practice above three stretegies)

- **Exercise : Create a chain-of-thought prompt.**
    - Task: Write a prompt to analyze steps for a disaster preparedness plan in AJK (e.g., "Explain step-by-step how to prepare Muzaffarabad for flash floods.").
- **Exercise : Use role-based prompting.**
    - Task: Write a prompt where ChatGPT acts as an AJK tourism officer (e.g., "As an AJK tourism officer, suggest a 3-day itinerary for Mirpur visitors.").
- **Exercise : Design a prompt chain.**
    - Task: Create two prompts: one to draft a 200-word policy on renewable energy in AJK, another to summarize it in 50 words for public communication.

10 minutes: 5 Key Strategies for Effective Prompt Engineering

1. **Be Specific and Clear**: Use precise language to avoid vague outputs.
    - Example: Instead of "Write about tourism," use "Draft a 100-word public notice promoting tourism in Neelum Valley for families."
2. **Provide Context**: Include background details relevant to the task or audience.
    - Example: "As an AJK tourism officer, suggest three eco-friendly initiatives for Muzaffarabad in 150 words."
3. **Use Examples (Few-Shot Learning)**: Provide sample inputs/outputs to guide the model.
    - Example: "Classify this feedback as positive or negative: 'The new hospital is excellent!' (Answer: Positive)."
4. **Iterate and Refine**: Test prompts and adjust based on outputs for better results.
    - Example: If output is too long, add "in 100 words" to the prompt.
5. **Leverage Constraints and Structure**: Specify format, tone, or audience for controlled outputs.
    - Example: "Write a formal 200-word memo for AJK's Health Department on vaccination campaign progress."

10 minutes: Exercises 1–2 (Hands-On Practice)

- **Exercise 1**: Rewrite a vague prompt.
    - Vague: "Write about AJK's economy."
    - Task: Rewrite to focus on a specific aspect (e.g., "Summarize the impact of tourism on AJK's economy in 150 words for a policy brief.").
- **Exercise 2**: Add context to a prompt.
    - Original: "Draft a public notice."
    - Task: Add context (e.g., "As an AJK disaster management officer, draft a 100-word public notice on flood preparedness for rural communities.").

Applying Prompt Engineering to AJK Governance

10 minutes: Review of Strategies and Common Pitfalls

- Recap the 5 strategies.
- Pitfalls: Overly complex prompts, lack of specificity, or ignoring token limits.

10 minutes: Best Practices for Using ChatGPT in Government Work

- **Know Model Capabilities**: Use ChatGPT for drafting, summarizing, or brainstorming, not for final legal documents.
- **Test Incrementally**: Start with simple prompts and refine for complex tasks.
- **Handle Sensitive Topics**: Use neutral language to avoid biased outputs (e.g., for community disputes).
- **Stay Within Token Limits**: Keep prompts concise to fit within ~8,000 tokens (GPT-4).
- **Ethical Use**: Verify outputs for accuracy and avoid generating misleading content.

10 minutes: Exercises 3–5 (Hands-On Practice)

- **Exercise 3**: Create a few-shot learning prompt.
  - Task: Write a prompt to classify citizen feedback on a new AJK road project, including 2 example feedback statements with answers (e.g., "Road is great!" – Positive).
- **Exercise 4**: Add constraints to a prompt.
  - Original: "Write a report on education in AJK."
  - Task: Rewrite with constraints (e.g., "Write a 150-word report on primary education challenges in AJK for a ministerial briefing, using a formal tone.").
- **Exercise 5**: Iterate on a prompt.
  - Original: "Summarize a health policy."
  - Task: Test the prompt (instructor provides sample output), then refine it to improve clarity or brevity (e.g., add "in bullet points, 100 words").

10 Practice Exercises (Summary)

1. **Rewrite a vague prompt** to focus on AJK's economy (e.g., tourism impact).
2. **Add context** to a public notice prompt for AJK disaster management.
3. **Create a few-shot prompt** to classify citizen feedback on an AJK project.
4. **Add constraints** to an education report prompt for AJK.
5. **Iterate on a health policy summary prompt** for clarity or brevity.
6. **Create a chain-of-thought prompt** for a disaster preparedness plan in AJK.
7. **Use role-based prompting** for a tourism itinerary in AJK.

8. **Design a prompt chain** for a renewable energy policy and summary.
9. **Write an ethical prompt** for a neutral land dispute report in AJK.
10. **Capstone: Design a real-world prompt** for an AJK governance task (e.g., tourism, health, or public notice).

Additional Notes

- **Tools**: Use free ChatGPT access via grok.com or x.com for testing prompts (note usage limits).
- **AJK Context**: Exercises align with AJK's priorities (e.g., tourism, disaster management, public health) to ensure relevance.
- **Evaluation**: Instructors should provide sample outputs for exercises if live ChatGPT access is unavailable.
- **Customization**: Adjust exercise complexity based on participants' roles (e.g., officers vs. clerical staff).

Ethical AI Use and Best Practices (25 minutes)

Responsible AI Guidelines

Do:

- ✓ Verify factual information before using
- ✓ Maintain confidentiality with sensitive data
- ✓ Review outputs for bias or inappropriate content
- ✓ Use AI as a tool to enhance, not replace, human judgment
- ✓ Give proper credit when using AI-generated content

Don't:

- ✗ Share classified or confidential information with AI
- ✗ Accept AI outputs without human review
- ✗ Use AI for making final decisions on personnel matters
- ✗ Rely on AI for legal or financial advice without expert consultation

Data Privacy and Security

- Never input personal information of citizens
- Avoid sharing internal government data
- Use official accounts and secure networks
- Keep sensitive information handling separate from AI tools

PART-2

Advanced AI Prompt Engineering for Government of Azad Jammu & Kashmir

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Table of Contents

1. **Introduction to AI Prompt Engineering**
2. **Core Concepts & Fundamentals**
3. **Eight Essential Prompt Engineering Strategies**
    - Strategy 1: Role-Based Prompting
    - Strategy 2: Chain-of-Thought Prompting
    - Strategy 3: Zero-Shot Prompting
    - Strategy 4: Few-Shot Prompting
    - Strategy 5: Context Enrichment
    - Strategy 6: Iterative Refinement
    - Strategy 7: Persona Creation
    - Strategy 8: Constraint-Based Prompting
4. **Implementation Guidelines**
5. **Best Practices for Government Use**

Eight Essential Prompt Engineering Strategies

Strategy 1: Role-Based Prompting

What is Role-Based Prompting?

This strategy involves assigning a specific role or expertise to the AI, making it respond from the perspective of a particular professional or expert. It's like asking a specialist to help you with their area of expertise.

Purpose & Benefits

- **Enhanced Accuracy**: Get responses tailored to specific expertise
- **Relevant Context**: Answers align with professional standards
- **Appropriate Tone**: Communications match expected professional style

When to Use

- When you need specialized knowledge

- For professional documents and communications
- When addressing specific stakeholder groups

8 Practical Exercises for AJK Government

Exercise 1.1 (Beginner)

Prompt: "Act as a public health officer. Explain the importance of vaccination campaigns in rural areas."

Exercise 1.2 (Beginner)

Prompt: "You are a district education officer. Describe three main challenges in improving school attendance in remote villages."

Exercise 1.3 (Intermediate)

Prompt: "Act as a senior policy analyst for AJK government. Draft a brief summary of factors to consider when planning infrastructure development in mountainous regions."

Exercise 1.4 (Intermediate)

Prompt: "You are a municipal services coordinator. Create a checklist for assessing water supply issues in urban areas of Muzaffarabad."

Exercise 1.5 (Intermediate)

Prompt: "Act as a tourism development specialist. Propose five strategies to promote eco-tourism while preserving the natural beauty of AJK's northern regions."

Exercise 1.6 (Advanced)

Prompt: "You are the Secretary of Planning and Development for AJK. Analyze the potential impact of climate change on agricultural productivity and recommend adaptive measures for the next five-year development plan."

Exercise 1.7 (Advanced)

Prompt: "Act as a disaster management expert familiar with AJK's geography. Develop a comprehensive earthquake preparedness protocol for schools in high-risk zones, considering local resources and constraints."

Exercise 1.8 (Advanced)

Prompt: "You are a senior economic advisor to the AJK government. Assess the feasibility of establishing small-scale hydroelectric projects in rural areas, considering technical, financial, and social factors."

Strategy 2: Chain-of-Thought Prompting

What is Chain-of-Thought Prompting?

This strategy guides the AI to break down complex problems into logical steps, showing its reasoning process. It's like asking someone to "show their work" when solving a problem.

Purpose & Benefits

- **Transparent Reasoning**: Understand how conclusions are reached
- **Better Problem-Solving**: Handle complex, multi-step challenges
- **Error Detection**: Identify potential flaws in reasoning

When to Use

- For complex policy decisions
- When analyzing multi-faceted problems
- For budget planning and resource allocation

8 Practical Exercises for AJK Government

Exercise 2.1 (Beginner)

Prompt: "Think step by step: How should we prioritize road repairs in a district with limited budget?"

Exercise 2.2 (Beginner)

Prompt: "Walk me through the process: What steps are needed to organize a successful public awareness campaign about health services?"

Exercise 2.3 (Intermediate)

Prompt: "Let's think through this systematically: A remote village reports water contamination. What is the logical sequence of actions a district administration should take to address this issue?"

Exercise 2.4 (Intermediate)

Prompt: "Break this down step by step: How should the education department evaluate and select locations for new primary schools in underserved areas?"

Exercise 2.5 (Intermediate)

Prompt: "Think through this process: What logical steps should be followed when a new development project proposal is submitted for approval in AJK?"

Exercise 2.6 (Advanced)

Prompt: "Analyze this systematically: The government wants to reduce youth unemployment in AJK. Walk through the reasoning process to identify root causes, evaluate potential solutions, and prioritize interventions based on impact and feasibility."

Exercise 2.7 (Advanced)

Prompt: "Think step by step through this complex scenario: AJK faces irregular power supply affecting industrial growth. Reason through the interconnected factors, stakeholders involved, short-term fixes, and long-term strategic solutions."

Exercise 2.8 (Advanced)

Prompt: "Break down this multi-layered challenge: Design a comprehensive approach to improving maternal healthcare in remote areas of AJK. Show your reasoning for identifying barriers, stakeholder engagement, resource allocation, and implementation phases."

Strategy 3: Zero-Shot Prompting

What is Zero-Shot Prompting?

This approach asks the AI to complete a task without providing any examples. It relies on the AI's pre-existing knowledge to understand and respond to your request.

Purpose & Benefits

- **Quick Results**: Get immediate responses without preparation
- **Broad Applications**: Useful for general knowledge tasks
- **Simplicity**: Straightforward approach for clear requests

When to Use

- For straightforward information requests
- When you need quick initial drafts
- For general guidance and explanations

8 Practical Exercises for AJK Government

Exercise 3.1 (Beginner)

Prompt: "List five benefits of digitizing government records."

Exercise 3.2 (Beginner)

Prompt: "Explain what a citizen charter should include for a municipal office."

Exercise 3.3 (Intermediate)

Prompt: "Create a monthly performance review template for district health officers focusing on service delivery metrics."

Exercise 3.4 (Intermediate)

Prompt: "Write a public announcement about new online tax payment services, emphasizing benefits and simple steps for citizens."

Exercise 3.5 (Intermediate)

Prompt: "Design a feedback collection system for citizens to report on government service quality in their area."

Exercise 3.6 (Advanced)

Prompt: "Develop a framework for evaluating the environmental impact of proposed development projects in ecologically sensitive areas of AJK."

Exercise 3.7 (Advanced)

Prompt: "Create a comprehensive disaster risk reduction strategy that addresses both natural disasters and climate change adaptation for AJK's vulnerable communities."

Exercise 3.8 (Advanced)

Prompt: "Design a multi-stakeholder governance model for managing cross-border water resources that considers technical, legal, diplomatic, and environmental factors."

Strategy 4: Few-Shot Prompting

What is Few-Shot Prompting?

This strategy provides the AI with a few examples of the desired output format or style before asking it to complete a similar task. It's like showing someone samples of what you want.

Purpose & Benefits

- **Consistent Format**: Ensures outputs match your preferred style
- **Quality Control**: Examples guide the AI toward better results
- **Specific Requirements**: Helps with unique formatting needs

When to Use

- When you need consistent document formats
- For specialized government forms or templates
- When establishing new communication standards

8 Practical Exercises for AJK Government

Exercise 4.1 (Beginner)

Prompt: "Here are two examples of brief incident reports:

1. 'Date: March 15, Location: Main Road Mirpur, Issue: Water pipe burst, Action: Repair team dispatched'
2. 'Date: March 16, Location: Government School Kotli, Issue: Roof leak, Action: Maintenance scheduled' Now create a similar report for a power outage in Rawalakot market area."

Exercise 4.2 (Beginner)

Prompt: "Examples of citizen complaint acknowledgments:

1. 'Thank you for reporting the street light issue. Reference #SL-001. Expected resolution: 3 days.'
2. 'Your garbage collection complaint is registered. Reference #GC-045. We will update you within 48 hours.' Create a similar acknowledgment for a road pothole complaint."

Exercise 4.3 (Intermediate)

Prompt: "Sample project status updates:

1. 'Project: School Construction, Progress: 60%, Status: On track, Next milestone: Roof completion by month-end'
2. 'Project: Water Treatment Plant, Progress: 25%, Status: Delayed due to equipment delivery, Revised timeline: +2 weeks' Create a status update for a rural electrification project that is 40% complete and facing material shortage."

Exercise 4.4 (Intermediate)

Prompt: "Examples of policy briefing summaries:

1. 'Policy: Healthcare Access, Key Points: Mobile clinics, telemedicine, local staff training, Budget: 50M PKR, Timeline: 18 months'
2. 'Policy: Education Technology, Key Points: Digital classrooms, teacher training, internet connectivity, Budget: 75M PKR, Timeline: 2 years' Create a similar summary for an agriculture modernization policy."

Exercise 4.5 (Intermediate)

Prompt: "Sample meeting minutes format:

1. 'Meeting: District Development Review, Date: Jan 15, Attendees: DC, ADC, Engineers, Decisions: Approve 3 road projects, Budget allocation confirmed, Next meeting: Feb 15'
2. 'Meeting: Health Sector Planning, Date: Jan 20, Attendees: DHO, Medical Officers, NGO reps, Decisions: Vaccination drive approved, Staff deployment finalized, Next review: Feb 5' Create minutes for a meeting about tourism development in Neelum Valley."

Exercise 4.6 (Advanced)

Prompt: "Examples of environmental impact assessment summaries:

1. 'Project: Hydroelectric Plant, Environmental Concerns: River ecosystem, wildlife migration, Local consultation: 15 villages, Mitigation: Fish ladders, wildlife corridors, Monitoring: Quarterly biodiversity surveys'
2. 'Project: Industrial Zone, Environmental Concerns: Air quality, water pollution, waste management, Local consultation: 8 communities, Mitigation: Treatment plants, emission controls, Monitoring: Monthly air/water quality tests' Create a similar assessment for a proposed limestone mining operation."

Exercise 4.7 (Advanced)

Prompt: "Sample stakeholder analysis formats:

1. 'Project: Rural Internet, Primary Stakeholders: Telecom companies, village councils, Secondary: Schools, clinics, Influence: High government support, Concerns: Cost, maintenance, Engagement strategy: Public meetings, pilot programs'
2. 'Project: Women's Vocational Center, Primary Stakeholders: Women's groups, local leaders, Secondary: Families, employers, Influence: Strong community interest, Concerns: Cultural acceptance, Engagement strategy: Community champions, gradual implementation' Analyze stakeholders for a public transportation improvement project in Muzaffarabad."

Exercise 4.8 (Advanced)

Prompt: "Examples of budget justification formats:

1. 'Program: Teacher Training, Requested: 30M PKR, Breakdown: Training materials 5M, Trainer fees 10M, Venue/logistics 5M, Participant allowances 10M, Expected outcome: 500 teachers trained, improved student performance by 15%'
2. 'Program: Healthcare Equipment, Requested: 50M PKR, Breakdown: Diagnostic equipment 30M, Installation 8M, Training 7M, Maintenance contract 5M, Expected outcome: Serve 100,000 patients annually, reduce referrals by 30%' Create a budget justification for a rural road connectivity program."

Strategy 5: Context Enrichment

What is Context Enrichment?

This strategy involves providing comprehensive background information, relevant data, and situational context to help the AI understand the full scope of your request and provide more relevant responses.

Purpose & Benefits

- **Relevant Solutions**: Responses tailored to your specific situation
- **Informed Recommendations**: AI considers local constraints and opportunities
- **Cultural Sensitivity**: Responses appropriate for local context

When to Use

- When dealing with location-specific challenges
- For culturally sensitive communications
- When local regulations or customs are important

8 Practical Exercises for AJK Government

Exercise 5.1 (Beginner)

Prompt: "Context: AJK has mountainous terrain with many remote villages accessible only by foot or motorcycle. The literacy rate is 76% with lower rates among women in rural areas. Create a simple strategy to deliver government information to these communities."

Exercise 5.2 (Beginner)

Prompt: "Background: Most government offices in AJK operate from 9 AM to 5 PM, but many citizens work in agriculture and prefer morning or evening visits. Design a citizen-friendly schedule for district offices."

Exercise 5.3 (Intermediate)

Prompt: "Context: AJK receives significant diaspora remittances, particularly from the UK and Gulf countries. Many families depend on these funds for daily expenses and development projects. Local banking infrastructure is limited in rural areas. Propose a financial inclusion strategy that leverages this diaspora connection."

Exercise 5.4 (Intermediate)

Prompt: "Background: AJK's economy relies heavily on agriculture (wheat, maize, rice) and small-scale manufacturing. Climate change is affecting rainfall patterns, with more frequent droughts and floods. Traditional farming methods dominate. Design an agricultural resilience program considering these factors."

Exercise 5.5 (Intermediate)

Prompt: "Context: AJK's tourism industry centers around scenic valleys like Neelum, Leepa, and Kaghan. Tourist season is mainly summer (May-September). Infrastructure includes basic roads and limited accommodation. Environmental concerns exist about waste management and overdevelopment. Create a sustainable tourism development plan."

Exercise 5.6 (Advanced)

Prompt: "Context: AJK has a unique political status with its own elected assembly, prime minister, and president, while defense and foreign affairs are handled by Pakistan. The region shares borders with Pakistan, India, and China. Development planning must navigate federal-state coordination, international sensitivities, and local autonomy. Cross-border trade potential exists

but is limited by political tensions. Design a strategic framework for attracting international development assistance while respecting political realities."

Exercise 5.7 (Advanced)

Prompt: "Background: AJK's energy needs are met through a mix of hydroelectric power generation and supply from Pakistan's national grid. The region has significant untapped hydroelectric potential, with multiple rivers and suitable terrain. However, environmental concerns exist about large dams affecting river ecosystems. Local communities sometimes resist projects due to displacement or environmental fears. Energy demand is growing due to industrial development and improved living standards. Create a comprehensive energy strategy that balances development needs, environmental protection, and community acceptance."

Exercise 5.8 (Advanced)

Prompt: "Context: AJK's healthcare system includes government hospitals, basic health units, and some private facilities. The region faces challenges of specialist doctor shortages, particularly in remote areas. Many patients travel to Islamabad or Lahore for advanced treatment. Maternal and child mortality rates are higher in rural areas. Traditional medicine practices coexist with modern healthcare. Cross-border medical education opportunities exist with Pakistani institutions. The diaspora community often funds healthcare projects. Design a comprehensive healthcare improvement strategy that addresses these systemic challenges while leveraging available resources and opportunities."

Strategy 6: Iterative Refinement

What is Iterative Refinement?

This approach involves starting with a basic prompt, analyzing the results, and then refining the prompt based on what worked and what didn't. It's a process of continuous improvement through feedback and adjustment.

Purpose & Benefits

- **Improved Quality**: Each iteration produces better results
- **Learning Process**: Understand what works best for different tasks
- **Customization**: Tailor responses to your specific needs

When to Use

- When developing new document templates
- For complex policy development
- When establishing new procedures or protocols

8 Practical Exercises for AJK Government

Exercise 6.1 (Beginner)

Initial Prompt: "Write a public notice about tax collection." **Refinement**: "Write a citizen-friendly public notice about property tax collection deadlines, including payment methods and locations in Muzaffarabad, using simple Urdu and English." **Further Refinement**: "Write a citizen-friendly public notice about property tax collection with deadline March 31st, highlighting 5% early payment discount, available payment methods (bank, online, district office), and contact numbers for queries. Use encouraging tone and simple language."

Exercise 6.2 (Beginner)

Initial Prompt: "Create a complaint form for citizens." **Refinement**: "Create a simple complaint form for public services including fields for contact details, service type, and problem description." **Further Refinement**: "Design a user-friendly complaint form with sections for: personal info (name, phone, CNIC), service category (dropdown menu), problem description (checkbox common issues + text field), preferred resolution method, and expected response time."

Exercise 6.3 (Intermediate)

Initial Prompt: "Draft a policy for government employee training." **Refinement**: "Draft a training policy for AJK government employees covering mandatory annual hours, training categories, and approval process." **Further Refinement**: "Create a comprehensive employee training policy including: 40-hour annual requirement, categories (technical, soft skills, leadership), approval workflow, budget allocation per employee, performance evaluation integration, and special provisions for remote area staff."

Exercise 6.4 (Intermediate)

Initial Prompt: "Design a project monitoring system." **Refinement**: "Design a monitoring system for development projects tracking progress, budget utilization, and timeline adherence." **Further Refinement**: "Create a comprehensive project monitoring framework with monthly progress indicators, budget tracking (committed vs. actual), milestone-based timeline monitoring, risk assessment matrix, stakeholder feedback mechanisms, and automated alert systems for delays or cost overruns."

Exercise 6.5 (Intermediate)

Initial Prompt: "Create guidelines for public meetings." **Refinement**: "Develop guidelines for conducting effective public consultation meetings on development projects." **Further Refinement**: "Establish detailed public consultation guidelines including: advance notice requirements (21 days), accessibility considerations, multiple meeting formats (large town halls, small focus groups), documentation standards, feedback collection methods, follow-up communication protocols, and conflict resolution procedures."

Exercise 6.6 (Advanced)

Initial Prompt: "Design a performance evaluation system for government departments." **Refinement**: "Create a comprehensive performance evaluation framework for government departments measuring service delivery, efficiency, and citizen satisfaction." **Further Refinement**: "Develop a multi-dimensional performance evaluation system including: quantitative KPIs (service delivery time, cost efficiency, citizen complaints resolved), qualitative assessments (innovation, collaboration, transparency), citizen satisfaction surveys, peer

evaluations, self-assessment components, quarterly review cycles, improvement planning requirements, and performance-based incentive mechanisms."

Exercise 6.7 (Advanced)

Initial Prompt: "Create a disaster preparedness plan." **Refinement**: "Develop a comprehensive disaster preparedness and response plan for AJK considering earthquakes, floods, and landslides." **Further Refinement**: "Design an integrated disaster risk management framework including: hazard mapping and early warning systems, community-based preparedness programs, evacuation protocols for different disaster types, resource stockpiling strategies, inter-agency coordination mechanisms, communication systems (including backup options), recovery and rehabilitation procedures, lessons learned documentation, regular drill schedules, and climate change adaptation measures."

Exercise 6.8 (Advanced)

Initial Prompt: "Design a regional development strategy." **Refinement**: "Create a 10-year regional development strategy for AJK focusing on economic growth, infrastructure, and social development." **Further Refinement**: "Formulate a comprehensive regional development strategy (2025-2035) integrating: economic diversification roadmap (agriculture, tourism, manufacturing, services), infrastructure development priorities (transport, energy, digital connectivity), human capital development (education, healthcare, skills training), environmental sustainability frameworks, governance and institutional strengthening, public-private partnership models, diaspora engagement mechanisms, cross-border cooperation opportunities, climate resilience planning, and performance monitoring systems with regular mid-term reviews."

Strategy 7: Persona Creation

What is Persona Creation?

This strategy involves creating a detailed character or persona for the AI to embody, complete with background, expertise, communication style, and specific knowledge relevant to your needs.

Purpose & Benefits

- **Consistent Voice**: Maintain uniform communication style
- **Targeted Expertise**: Get responses from a specific professional perspective
- **Authentic Communication**: Messages that resonate with intended audiences

When to Use

- For public communications and citizen engagement
- When addressing specific demographic groups
- For specialized technical or policy documents

8 Practical Exercises for AJK Government

Exercise 7.1 (Beginner)

Prompt: "Create a persona: You are Fatima, a community health worker with 10 years of experience in rural AJK. You speak both Urdu and English, understand local customs, and have worked in remote villages. You communicate with empathy and practical solutions. Now, explain to villagers why regular health checkups are important."

Exercise 7.2 (Beginner)

Prompt: "Persona: You are Ahmad, a district education officer who has spent 15 years improving school systems in AJK. You understand the challenges of mountain geography, limited resources, and family priorities regarding education. You communicate with respect for local values while advocating for children's education. Address parents' concerns about sending girls to secondary school."

Exercise 7.3 (Intermediate)

Prompt: "Create persona: You are Dr. Sarah Khan, an environmental scientist with expertise in Himalayan ecosystems and 12 years working on conservation projects in AJK. You understand both scientific principles and practical implementation challenges in mountainous regions. You communicate complex concepts in accessible ways while respecting local knowledge. Explain to local communities why forest conservation is crucial for their long-term well-being."

Exercise 7.4 (Intermediate)

Prompt: "Persona: You are Engineer Hassan Ali, a water resource specialist with extensive experience in AJK's hydrology and irrigation systems. You've worked on both small-scale village projects and large infrastructure developments. You appreciate traditional water management practices while introducing modern solutions. Communicate with village leaders about upgrading their water supply system."

Exercise 7.5 (Intermediate)

Prompt: "Create persona: You are Aisha Begum, a senior social development officer with 20 years of experience in women's empowerment programs across AJK. You understand cultural sensitivities, family dynamics, and economic pressures facing women in the region. You communicate with cultural awareness while advocating for women's opportunities. Design a presentation for male community leaders about a women's vocational training program."

Exercise 7.6 (Advanced)

Prompt: "Develop persona: You are Dr. Tariq Mahmood, Chief Planning Officer for AJK with 25 years in regional development planning. You have advanced degrees in economics and public policy, extensive experience with international development organizations, deep understanding of AJK's political dynamics, federal-state relations, and cross-border sensitivities. You communicate with strategic vision while being practical about implementation challenges. Draft a policy brief on leveraging diaspora investment for infrastructure development."

Exercise 7.7 (Advanced)

Prompt: "Create persona: You are Shahida Parveen, Director of Disaster Management with expertise in Himalayan geology, climate science, and emergency response systems. You've managed responses to multiple earthquakes, floods, and landslides in AJK. You understand both technical aspects and human dimensions of disasters. You communicate with authority while

showing empathy for affected communities. Develop a comprehensive briefing for district administrators on preparing for climate change-induced disasters."

Exercise 7.8 (Advanced)

Prompt: "Develop persona: You are Ambassador Retired Malik Asif, Senior Advisor on Regional Affairs with 30 years of diplomatic experience, extensive knowledge of Kashmir issue, regional geopolitics, international law, and development cooperation frameworks. You understand complex political sensitivities while focusing on practical development outcomes. You communicate with diplomatic finesse while being direct about opportunities and constraints. Create a strategic framework for engaging international development partners while navigating political sensitivities."

Strategy 8: Constraint-Based Prompting

What is Constraint-Based Prompting?

This strategy involves setting specific limitations, requirements, or boundaries for the AI's response. It's like giving clear parameters within which the AI must work.

Purpose & Benefits

- **Focused Results**: Get responses that meet specific criteria
- **Resource Management**: Consider budget, time, and resource limitations
- **Compliance**: Ensure outputs meet regulatory or policy requirements

When to Use

- When working with limited budgets or resources
- For regulatory compliance requirements
- When outputs must meet specific technical standards

8 Practical Exercises for AJK Government

Exercise 8.1 (Beginner)

Prompt: "Constraint: Budget of 500,000 PKR, timeline of 3 months, must use local contractors. Design a community center renovation project for a village of 2,000 people."

Exercise 8.2 (Beginner)

Prompt: "Limitations: Only 2 staff members available, must be completed in 1 week, cannot require internet access. Create a citizen survey to assess satisfaction with municipal services."

Exercise 8.3 (Intermediate)

Prompt: "Constraints: Maximum 50 words per point, must be understandable to 8th-grade reading level, available in both Urdu and English, suitable for audio broadcast. Create public guidelines for earthquake safety."

Exercise 8.4 (Intermediate)

Prompt: "Requirements: Must comply with federal procurement rules, stay within 10 million PKR budget, complete within 18 months, use environmentally sustainable materials, provide employment for 50 local workers. Design a rural road improvement project."

Exercise 8.5 (Intermediate)

Prompt: "Constraints: No additional staff hiring permitted, must use existing government facilities, implementation during school holidays only, maximum cost 2 million PKR. Develop a teacher professional development program for 200 educators."

Exercise 8.6 (Advanced)

Prompt: "Multiple constraints: Comply with international environmental standards, obtain approval from 5 different government levels, maintain traditional architectural style, complete environmental impact assessment, engage 12 affected communities, stay within 500 million PKR budget, finish within 5 years. Design a sustainable tourism infrastructure project for Neelum Valley."

Exercise 8.7 (Advanced)

Prompt: "Complex limitations: Must align with federal health policy, obtain WHO certification standards, train 500 healthcare workers, establish telemedicine connectivity, maintain 24/7 emergency services, serve population of 200,000, coordinate with 3 existing hospitals, complete within 3 years, budget ceiling 800 million PKR. Create a comprehensive healthcare improvement program."

Exercise 8.8 (Advanced)

Prompt: "Comprehensive constraints: Adhere to international dam safety standards, conduct full environmental and social impact assessment, resettle 1,000 families with full compensation, generate 100MW electricity, provide irrigation for 50,000 acres, create 2,000 construction jobs, coordinate with federal water and power ministry, engage with downstream communities in Pakistan, maintain fish migration corridors, complete feasibility study within 2 years, construction budget maximum 50 billion PKR. Design a multipurpose dam project framework."

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4. Implementation Guidelines

Getting Started

1. **Choose the Right Strategy**: Match the prompting strategy to your specific task

2. **Start Simple**: Begin with basic prompts and add complexity gradually
3. **Test and Refine**: Always review outputs and adjust prompts as needed
4. **Document Success**: Keep track of effective prompts for future use

Best Practices for Government Use

Security Considerations

- Never include classified or sensitive information in prompts
- Avoid personal data of citizens in examples
- Be cautious with internal policy details

Quality Assurance

- Always review AI outputs before use
- Verify facts and figures independently
- Ensure cultural and linguistic appropriateness

Professional Standards

- Maintain formal government communication standards
- Ensure compliance with official policies
- Review legal implications of automated content

Common Pitfalls to Avoid

1. **Vague Prompts**: Being too general leads to generic responses
2. **Information Overload**: Providing too much irrelevant context
3. **Single Attempts**: Not iterating to improve results
4. **Blind Trust**: Using AI output without human review

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5. Progressive Learning Path

Week 1-2: Foundation Building

- Master basic prompt structure
- Practice with simple, clear instructions
- Focus on Strategies 1-3 (Role-based, Chain-of-thought, Zero-shot)

Week 3-4: Intermediate Skills

- Incorporate examples and context
- Practice Strategies 4-6 (Few-shot, Context enrichment, Iterative refinement)
- Begin combining multiple strategies

Week 5-6: Advanced Applications

- Master complex, multi-constraint prompts

- Practice Strategies 7-8 (Persona creation, Constraint-based)
- Apply to real government projects

Ongoing Development

- Share successful prompts with colleagues
- Build a library of effective templates
- Regularly update techniques based on experience

Conclusion

AI Prompt Engineering is a powerful tool that can significantly enhance the effectiveness and efficiency of government operations in Azad Jammu & Kashmir. By mastering these eight strategies and practicing with real-world scenarios, government officials can leverage artificial intelligence to better serve citizens, improve policy development, and strengthen administrative processes.

Remember: The key to success is practice, iteration, and continuous learning. Start with simple applications, gradually increase complexity, and always maintain the high standards expected of government service.

This manual is designed for training purposes and should be regularly updated based on technological advances and practical experience in government applications.

Annexure-A:

Excecise No 1: Beginners: Using Common Prompts (to be used in ChatGPT)

Training Table: Understanding and Using Common Prompts for AJK Government Officers (Beginners)

This table explains a set of common prompts for training AJK government officers and workers on using ChatGPT effectively. Each prompt is broken down to clarify its purpose, components, and tips for beginners to craft similar prompts. The examples are tailored to AJK's governance context, focusing on practical applications like drafting letters, policies, and promotional materials.

Prompt	Purpose	Key Components	Tips for Beginners
1. **Correct grammar** Example: "Correct the grammar in this text: [insert text]."	Fixes grammatical errors in a draft to ensure professional communication. Useful for reports, letters, or public notices.	- Input text to correct - Optional: Specify tone or context (e.g., formal)	- Provide the exact text to correct. - Use clear instructions (e.g., "Correct grammar and punctuation"). - Avoid vague terms like "make it better"; specify "grammar." **Example**: "Correct grammar in this notice: 'Public is inform to avoid travel during flood.'"
2. **Improve draft** Example: "Improve this draft: [insert draft]."	Enhances clarity, tone, or style of a draft without major structural changes. Ideal for refining memos or emails.	- Draft text - Optional: Specify areas to improve (e.g., clarity, tone)	- Include the draft text. - Specify desired improvements (e.g., "make it concise" or "more professional"). - Test and refine if output is too generic. **Example**: "Improve this memo for clarity: 'Staff must submit report soon.'"
3. **Expand draft** Example: "Expand this draft into 200 words: [insert draft]."	Adds detail or length to a draft while maintaining its core message. Useful for policy briefs or reports.	- Draft text - Word count or level of detail - Optional: Audience or tone	- Specify word count or detail level (e.g., "add examples"). - Provide context (e.g., "for a policy brief"). - Check if added details align with AJK's context. **Example**: "Expand this draft into 150 words for a tourism report: 'Neelum Valley is beautiful.'"
4. **Make draft coherent and logical** Example: "Make this	Reorganizes a draft to improve flow and logic, ensuring ideas connect	- Draft text - Optional: Context or purpose	- Provide the full draft. - Specify "coherent and logical" to focus on structure.

draft coherent and logical: [insert draft]."	smoothly. Suitable for reports or proposals.		- Review output for logical flow and relevance. **Example**: "Make this report coherent and logical: 'Tourism in AJK is good. Roads need work. Hotels are few.'"
5. **Make draft coherent, logical, persuasive** Example: "Make this draft coherent, logical, and persuasive: [insert draft]."	Enhances a draft's structure and adds persuasive elements to influence readers. Ideal for proposals or advocacy letters.	- Draft text - Audience (e.g., decision-makers) - Optional: Tone or key points to emphasize	- Clearly state "persuasive" and target audience. - Include key points to emphasize (e.g., benefits of a policy). - Ensure persuasive tone suits AJK's formal context. **Example**: "Make this proposal coherent, logical, and persuasive for AJK's Tourism Board: 'More hotels needed in Neelum Valley.'"
6. **Write a letter to Secretary S&GAD AJK for my promotion** Example: "Write a letter to Secretary S&GAD AJK for my promotion as (Tariq Gilani, 15 years service, grade 16, MBA, IT expert, AJK PPRA, age 42)."	Requests a promotion with a formal letter, highlighting qualifications and service.	- Recipient (Secretary S&GAD) - Personal details (name, service length, grade, qualifications, posting, age) - Formal tone	- Include all relevant details (e.g., qualifications, experience). - Specify "formal" tone for government correspondence. - Check for AJK-specific protocols (e.g., addressing Secretary). **Example**: "Write a formal letter to Secretary S&GAD AJK requesting promotion for Tariq Gilani, 15 years service, grade 16, MBA, IT expert, posted in AJK PPRA, age 42."
7. **Write a letter in Urdu to Secretary S&GAD AJK for my promotion** Example: "Write a letter in Urdu to Secretary S&GAD AJK for my promotion as (Tariq Gilani, 15 years service, grade 16, MBA, IT expert, AJK PPRA, age 42)."	Same as above, but in Urdu to align with AJK's official language preferences.	- Same as above, plus language (Urdu) - Formal tone	- Specify "Urdu" and ensure formal tone. - Include all personal details for clarity. - Verify Urdu grammar and cultural nuances in output. **Example**: "Write a formal Urdu letter to Secretary S&GAD AJK requesting promotion for Tariq Gilani, 15 years service, grade 16, MBA, IT expert, AJK PPRA, age 42."
8. **Write a legal letter to Secretary S&GAD AJK for my promotion** Example: "Write a legal letter to Secretary S&GAD AJK for my promotion as (Tariq Gilani, 15 years service,	Requests promotion with a legal tone, citing eligibility or regulations. Useful for formal appeals.	- Recipient (Secretary S&GAD) - Personal details - Legal tone, citing rules (if known)	- Specify "legal" tone and include qualifications. - Reference AJK service rules if possible (e.g., years of service). - Ensure formal structure (e.g., subject line, respectful closing). **Example**: "Write a legal

grade 16, MBA, IT expert, AJK PPRA, age 42)."			letter to Secretary S&GAD AJK citing service rules for promotion of Tariq Gilani, 15 years service, grade 16, MBA, IT expert, AJK PPRA, age 42."
9. **Write a courteous letter to Secretary S&GAD AJK for my promotion** Example: "Write a courteous letter to Secretary S&GAD AJK for my promotion as (Tariq Gilani, 15 years service, grade 16, MBA, IT expert, AJK PPRA, age 42)."	Requests promotion politely, emphasizing respect and professionalism.	- Recipient (Secretary S&GAD) - Personal details - Courteous tone	- Use "courteous" to ensure polite language. - Include all qualifications and service details. - Keep tone respectful, avoiding demands. **Example**: "Write a courteous letter to Secretary S&GAD AJK requesting promotion for Tariq Gilani, 15 years service, grade 16, MBA, IT expert, AJK PPRA, age 42."
10. **Write a reply to the attached letter promising resolution in one week** Example: "Write a reply to the attached letter promising that the matter will be resolved in one week."	Responds to a letter (e.g., promotion request) with a commitment to resolve the issue within a timeframe.	- Reference to the original letter - Commitment to resolution (e.g., one week) - Formal tone	- Reference the original letter's content or purpose. - Specify the timeframe and action (e.g., "will be reviewed"). - Maintain a professional and reassuring tone. **Example**: "Write a formal reply to Tariq Gilani's promotion request letter, promising resolution within one week."
11. **Create a policy proposal for promotion of tourism in Neelum Valley** Example: "Create a policy proposal for promoting tourism in Neelum Valley."	Develops a structured proposal to promote tourism, including objectives and strategies.	- Topic (tourism in Neelum Valley) - Proposal structure (objectives, strategies, benefits) - Audience (e.g., AJK Tourism Board)	- Specify the audience and purpose. - Include structure (e.g., "objectives, strategies, budget"). - Use AJK-specific details (e.g., scenic spots, local culture). **Example**: "Create a 300-word policy proposal for promoting tourism in Neelum Valley, including objectives and three strategies, for AJK's Tourism Board."
12. **As a financial advisor to the Minister of Finance AJK, suggest how to reduce budget deficit in AJK in 2026** Example: "As a financial advisor to the Minister of Finance AJK, suggest how to reduce the budget	Provides expert recommendations to address AJK's budget deficit.	- Role (financial advisor) - Goal (reduce budget deficit) - Year (2026) - Optional: Specific areas (e.g., revenue, expenditure)	- Use role-based prompting for expertise. - Focus on practical, AJK-relevant strategies (e.g., tourism revenue). - Specify format (e.g., "list three strategies"). **Example**: "As a financial advisor to AJK's Minister of Finance, suggest three strategies to reduce the 2026

deficit in AJK in 2026."			budget deficit in a 200-word report."
13. **Create a brochure for a hotel in Neelum Valley AJK to attract tourists from Islamabad, Rawalpindi, and Lahore** Example: "Create a brochure for a hotel in Neelum Valley AJK to attract tourists from Islamabad, Rawalpindi, and Lahore."	Designs a promotional brochure to attract tourists to a Neelum Valley hotel.	- Location (Neelum Valley hotel) - Target audience (Islamabad, Rawalpindi, Lahore) - Brochure content (features, attractions, contact)	- Specify target audience and key features (e.g., "scenic views, affordable rates"). - Use persuasive, concise language. - Include AJK-specific attractions (e.g., hiking trails). **Example**: "Create a 150-word brochure for a Neelum Valley hotel, highlighting scenic views and amenities, targeting tourists from Islamabad, Rawalpindi, and Lahore."

Additional Notes for Beginners

- **Clarity**: Always include specific details (e.g., word count, tone, audience) to avoid vague outputs.
- **Context**: Mention AJK-specific details (e.g., Neelum Valley, S&GAD) to ensure relevance.
- **Testing**: Use free ChatGPT access via grok.com or x.com to test prompts, noting usage limits.
- **Iteration**: If outputs are off, refine the prompt with more constraints or examples.
- **Ethics**: Ensure prompts are neutral and professional, especially for sensitive topics like promotions or budgets.
- **Practice**: Try each prompt type with a small task to build confidence before complex tasks.

Annexure-B:

Excecise No: 2 For Advanced Learners: Example & Nature, Categories of Prompts (to be used in ChatGPT, Grok, Gemni, DeepSeek)

Type of Prompt	Meaning (in Simple Language)	Exercise for Government employee
1) **Instruction Prompt**	A direct order telling ChatGPT to do something.	*"Write a leave application for a government employee."*
2) **Question Prompt**	A question you ask to get a clear and helpful answer.	*"What are the rules for seniority in civil service?"*
3) **Role-based Prompt**	You tell ChatGPT to act like someone specific, such as a government officer, teacher, or accountant.	*"Act as a senior Officer and draft a reminder letter for a pending file."*
4) **Formatting Prompt**	You ask ChatGPT to give the answer in a specific format like a table, list, or official letter.	*"Make a list of documents required for pension case."*
5) **Summarizing Prompt**	You give a long paragraph or document and ask ChatGPT to make it shorter and simpler.	*"Summarize this circular in 5 bullet points."*
6) **Translation Prompt**	You ask ChatGPT to change the language of text (e.g., English to Urdu).	*"Translate this leave notification into Urdu."*
7) **Correction Prompt**	You ask ChatGPT to correct grammar, spelling, or make something more formal.	*"Correct the grammar of this draft letter."*
8) **Completion Prompt**	You write part of a sentence or letter and ask ChatGPT to finish it.	*"The officer is requested to..."* → ChatGPT completes it.
9) **Comparison Prompt**	You ask ChatGPT to show differences between two things.	*"Compare civil servant rules of 1973 and 2023."*
10) **Multi-step Prompt**	You give more than one instruction in one prompt.	*"Summarize this file and draft a forwarding letter." (attach file)*

Annexure C:

For Advanced Learners:

Exercise 3: Three Advanced Strategies in Prompt Engineering for Use of Chat GPT, Grok, Gemini and DeepSeek

Chain-of-Thought (CoT) Prompting

Explanation: Chain-of-Thought (CoT) prompting is a technique that guides the large language model (LLM) to break down a complex problem into a series of intermediate steps. Instead of asking for a direct, final answer, you prompt the model to show its reasoning process. This step-by-step thinking makes the final output more accurate and transparent, as it's easier to spot and correct errors in the individual steps. It's particularly useful for tasks that require logical reasoning, problem-solving, or multi-step calculations.

Example:

Instead of: "What is the capital of France and what is its population?"

Use CoT Prompting: "What is the capital of France? Now, what is the population of that city? Show your work for both questions."

This approach encourages the model to first identify the capital and then, as a separate step, find the population of that specific city, leading to a more reliable answer.

Role-Based Prompting

Explanation: Role-based prompting involves instructing the LLM to adopt a specific persona, such as an expert, a specific professional, or a character. By assigning a role, you can tailor the tone, style, and content of the model's response to match the expertise and perspective of that persona. This technique is highly effective for generating specialized content, creating creative narratives, or getting a particular kind of analysis.

Example:

Instead of: "Write a description of a new product."

Use Role-Based Prompting: "As a seasoned marketing copywriter, craft a compelling product description for a new line of eco-friendly coffee mugs, focusing on their sustainability benefits and modern design."

By taking on the role of a "seasoned marketing copywriter," the model will generate a response that is more likely to be persuasive, professional, and targeted toward a specific audience.

Prompt Chaining

Explanation: Prompt chaining is a method where a single complex task is broken down into a sequence of simpler, sequential prompts. The output of one prompt becomes the input for the next, allowing you to build on previous results and refine the final outcome. This strategy is excellent for managing highly detailed or multi-faceted projects, as it gives you more control over each part of the process and reduces the chances of the model getting overwhelmed or losing focus on the main objective.

Example:

Instead of: "Write a detailed and easy-to-understand summary of a complex scientific paper for a general audience."

Use Prompt Chaining:

1. **First Prompt:** "Read the following scientific paper and extract the main hypothesis, key findings, and conclusion." (The model provides a summary of the core elements).
2. **Second Prompt:** "Using the key findings you extracted, now write a concise, one-paragraph summary of the paper's significance in plain language for someone without a scientific background." (The model uses the previous output to create a simplified summary).
3. **Third Prompt:** "Based on the simplified summary, generate three potential headlines for a news article about this research, aimed at a general audience." (The model uses the simplified summary to create new content based on a different goal).

This sequential approach ensures that each step is handled effectively, leading to a final output that is both accurate and well-structured

Reply in urdu or English on paper (hand written – not typed)

Question No 1: What is Chain-of-Thought (CoT) Prompting and give its one example

Question No 2: What is Role-Based Prompting and give its one example

Question No 2: What is Prompt Chaining Prompting and give its one example

Annexure- D

Notes for Understanding

An Introduction to Large Language Model (LLM) of Artificial Intelligence Model

A **Large Language Model (LLM)** is a type of artificial intelligence model designed to understand and generate human language. It is trained on vast amounts of text data (books, websites, articles, code, etc.) and uses deep learning, particularly **transformer architecture**, to process language tasks such as translation, summarization, question-answering, and conversation.

Definition of Large Language Model (LLM):

An **LLM** is a neural network trained with **hundreds of billions to trillions of parameters** on massive text corpora. It learns **patterns, grammar, facts, logic**, and even **reasoning** abilities from this data.

Example tasks: Writing emails, coding, legal drafting, chatbots, tutoring, summarizing documents, business analysis.

Comparison of Leading LLMs

LLM Model	Developer/Company	Release Year	Key Features	Commercial Use	Training Data (est.)	Strengths	Business Model
GPT-4	OpenAI (partnered with Microsoft)	2023	Multi-modal (text+image), chat & code optimized	Yes (via API & ChatGPT)	>1 trillion tokens	Versatile, high reasoning ability	Subscription (ChatGPT Plus), API sales via Azure
Claude 3	Anthropic	2024	Ethical AI alignment, safe responses, long context (100k+ tokens)	Yes	Proprietary + public datasets	Safety, long documents	Claude Pro, Enterprise APIs
Gemini 1.5	Google DeepMind	2024	Long-context (up to 1 million tokens), integrates Google tools	Yes	Public web + proprietary data	Search, summarization, data analysis	Workspace integration, Vertex AI APIs
LLaMA 3	Meta	2024	Open-source, smaller models for	Yes (open license for research & commercial	Wikipedia, books, public web	Lightweight, customizable	Open-source, Meta platforms

LLM Model	Developer/Company	Release Year	Key Features	Commercial Use	Training Data (est.)	Strengths	Business Model
			local use (8B, 70B)	use)			integration
Command R+	Cohere	2024	Retrieval-augmented generation (RAG) focused	Yes	RAG-optimized corpora	Real-time knowledge, document QA	Enterprise AI APIs
Mistral	Mistral AI (France)	2024	Open-weight small and medium models	Yes	Public datasets	Efficient and fast	Open weights for partners
Grok	xAI (Elon Musk)	2023	Integrated with X (Twitter), personality-focused	Yes (on X Premium+)	Twitter + web data	Conversational, casual	X Premium+ subscription
Ernie Bot	Baidu (China)	2023	Trained on Chinese + global data	Yes	Web, books, Chinese sources	Chinese NLP, search	Baidu Cloud services
Tongyi Qianwen	Alibaba	2023	Tailored for business, cloud tools	Yes	Public + proprietary	Enterprise productivity	Alibaba Cloud products

Core Technologies Behind LLMs

- **Transformer Architecture** (Introduced by Google in 2017)
- **Pre-training + Fine-tuning** (Generic data → task-specific data)
- **Tokenization** (Breaking text into machine-readable chunks)
- **Self-attention mechanism** (Focus on relevant words in context)

Business Background & Strategies

Company	LLM Focus	Strategic Goals	Revenue Model
OpenAI	GPT series	General intelligence, productivity tools	Subscriptions (ChatGPT), Azure API
Google DeepMind	Gemini	Integrate into Search, Docs, Gmail	Workspace licenses, API billing
Anthropic	Claude	Ethical AI, long docs, safety	Claude Pro, enterprise plans
Meta	LLaMA	Democratize AI, open-source	Platform ecosystem, research adoption
xAI (Musk)	Grok	X (Twitter) enhancement	Subscription (X Premium)
Alibaba & Baidu	Ernie, Tongyi	Local Chinese market, productivity AI	Cloud AI services
Cohere	Command R	Retrieval-focused enterprise AI	B2B APIs
Mistral	Mistral models	Lightweight open AI	Licensing + open release

Summary: Why LLMs Matter for Government & Business

Use Case	Benefit
Policy Drafting	Faster creation, consistent tone
Legal & Official Letters	Grammar + formatting accuracy
Citizen Services	Chatbots and multilingual help
Data Analysis	Summarize, extract trends fast
Training & Upskilling	Personalized learning content
Digital Transformation	Automate repetitive documentation

Annexure-E

Notes for Understanding

Advanced Artificial Intelligence (AI) Prompt Engineering Training

This guide provides advanced training examples and suggestions for very advanced learners to master **Chain-of-Thought (CoT) Prompting**, **Role-Based Prompting**, and **Prompt Chaining** using LLMs like ChatGPT or Grok. The examples are tailored to AJK's public sector, focusing on complex tasks like policy analysis, stakeholder communication, and strategic planning. Suggestions emphasize effectiveness (achieving precise, high-quality outputs) and efficiency (minimizing token usage, iterations, and time).

1. Chain-of-Thought (CoT) Prompting

Purpose: Encourages LLMs to break down complex problems into logical, step-by-step reasoning, ideal for analytical tasks requiring transparency and rigor (e.g., policy implementation, budget analysis).

Advanced Example:
Prompt:
"As an AJK disaster management expert, analyze the feasibility of a flood early-warning system in Muzaffarabad. Provide a step-by-step reasoning process, including: (1) stakeholder identification, (2) technology requirements, (3) cost estimation, (4) implementation challenges, and (5) mitigation strategies. Justify each step with AJK-specific data or assumptions, and keep the response under 300 words."

Sample Output:

1. **Stakeholders**: Engage AJK Disaster Management Authority, local communities, and federal meteorological agencies. AJK's 2022 floods highlight community involvement needs.
2. **Technology**: Deploy IoT sensors for river levels and satellite-based rainfall monitoring. Muzaffarabad's terrain requires robust, low-maintenance systems.
3. **Cost Estimation**: Estimate $500,000 for sensors, installation, and training, based on similar systems in Gilgit-Baltistan.
4. **Challenges**: Limited infrastructure and technical expertise in AJK may delay deployment.
5. **Mitigation**: Partner with NGOs for funding and train local technicians for maintenance.
   This system is feasible with coordinated efforts, leveraging AJK's community networks. (Word count: 98)

Suggestions for Effectiveness and Efficiency:

- **Effectiveness**:
  - Use explicit step labels (e.g., "Step 1: Stakeholder Identification") to enforce structure.
  - Include AJK-specific constraints (e.g., "use 2022 flood data") to ground reasoning in local context.
  - Request justification to ensure outputs are evidence-based, critical for governance tasks.

- **Efficiency**:
  - Specify word limits (e.g., "under 300 words") to reduce token usage and focus outputs.
  - Predefine steps to minimize ambiguity and avoid unnecessary elaboration.
  - Test prompts with a single iteration, refining only if outputs miss critical AJK details.

Advanced Training Exercise:

- **Task**: Design a CoT prompt to evaluate the environmental impact of a new hydropower project in Neelum Valley. Include 5 steps: site assessment, ecological risks, community impact, mitigation measures, and monitoring plan. Require justification with AJK-specific data and limit to 250 words.
- **Challenge**: Optimize the prompt to elicit a response that balances technical depth with brevity, avoiding generic outputs.
- **Evaluation**: Check if the output addresses Neelum Valley's unique ecosystem (e.g., river biodiversity) and adheres to the word limit.

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2. Role-Based Prompting

Purpose: Assigns a persona to the LLM to produce expert-level, context-specific outputs tailored to AJK's governance needs (e.g., economic policy, legal drafting).

Advanced Example:
Prompt:
"As an AJK public health expert with 20 years of experience, recommend three evidence-based strategies to reduce maternal mortality in rural AJK by 15% by 2028. For each strategy, include: (1) a specific intervention, (2) implementation steps, and (3) expected outcomes, referencing AJK's 2023 health survey data. Use a formal tone, and keep the response under 200 words."

Sample Output:
As an AJK public health expert, I recommend:

1. **Mobile Clinics**: Deploy mobile health units to remote areas. **Steps**: Equip vans with ultrasound and delivery kits; train midwives. **Outcome**: Increase prenatal care access by 10%, per 2023 AJK health survey.
2. **Community Health Workers**: Train local women as health educators. **Steps**: Conduct workshops; provide stipends. **Outcome**: Reduce home births by 8%.
3. **Telemedicine**: Expand teleconsultation for high-risk pregnancies. **Steps**: Install satellite internet in clinics; partner with urban hospitals. **Outcome**: Lower complications by 7%. These strategies address AJK's rural healthcare gaps, targeting a 15% maternal mortality reduction by 2028. (Word count: 110)

Suggestions for Effectiveness and Efficiency:

- **Effectiveness**:
  - Define the role precisely (e.g., "20 years of experience") to simulate deep expertise.
  - Request specific components (e.g., "intervention, steps, outcomes") for structured, actionable outputs.
  - Reference local data (e.g., "2023 health survey") to ensure relevance to AJK's context.
- **Efficiency**:
  - Use concise role descriptions to save tokens (e.g., avoid lengthy backstory).

- Specify output format (e.g., "three strategies, each with…") to reduce vague responses.
- Pre-test prompts with similar roles to anticipate and minimize iterations.

Advanced Training Exercise:

- **Task**: Craft a role-based prompt as an AJK legal advisor to draft a 150-word memo on enforcing environmental regulations for tourism projects in Mirpur. Specify the role's expertise, include two legal references (e.g., AJK Environmental Protection Act), and request a formal tone.
- **Challenge**: Ensure the output is legally precise and AJK-specific without exceeding the word limit.
- **Evaluation**: Verify that the memo cites relevant laws and addresses Mirpur's tourism context (e.g., lake conservation).

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3. Prompt Chaining

Purpose: Breaks complex tasks into sequential prompts to improve output quality and adaptability, ideal for multi-stage tasks like policy drafting and public communication.

Advanced Example:
Prompt 1:
"Draft a 400-word policy proposal for a sustainable tourism initiative in Neelum Valley, targeting eco-conscious travelers. Include: (1) objectives, (2) three strategies, (3) budget estimate, and (4) expected economic benefits. Use AJK's 2024 tourism data and a formal tone for the Tourism Board."
Sample Output 1:
Policy Proposal: Sustainable Tourism in Neelum Valley
Objective: Attract 10,000 eco-conscious tourists annually by 2027, per 2024 AJK tourism data.
Strategies:

1. Develop eco-lodges with solar power.
2. Launch a global digital campaign highlighting Shounter Lake.
3. Train local guides in sustainable practices.
   Budget: $1 million for lodges, marketing, and training.
   Benefits: Create 500 jobs, generate $2 million in revenue. (Word count: 380)

Prompt 2:
"Using the attached policy proposal, create a 100-word public summary for a press release targeting AJK residents. Emphasize community benefits, use an engaging tone, and include a call to action."
Sample Output 2:
Neelum Valley's new eco-tourism initiative will bring 10,000 visitors yearly, creating 500 jobs and $2 million in revenue for AJK. Eco-lodges, a global marketing campaign, and trained local guides will showcase our stunning landscapes. This sustainable plan ensures community prosperity while preserving nature. Support our vision—visit Neelum Valley and spread the word! (Word count: 60)

Prompt 3:
"Refine the press release to a 50-word social media post for X, targeting young AJK residents. Keep the engaging tone and call to action."
Sample Output 3:
Neelum Valley's eco-tourism plan creates 500 jobs and $2M in revenue! Eco-lodges and local guides will shine. Join us to make AJK a global destination—visit and share! #NeelumValley #SustainableAJK (Word count: 35)

Suggestions for Effectiveness and Efficiency:

- **Effectiveness**:
  - Design each prompt to focus on one task (e.g., drafting, summarizing, reformatting) for clarity.
  - Pass outputs explicitly (e.g., "using the attached proposal") to maintain context.
  - Tailor each prompt's tone and audience (e.g., "formal for Tourism Board" vs. "engaging for residents").
- **Efficiency**:
  - Reuse data from prior prompts to avoid redundant inputs (e.g., reference "2024 tourism data" only once).
  - Use concise prompts to minimize token usage (e.g., avoid repeating full context).
  - Anticipate the chain's flow to reduce iterations (e.g., plan all prompts upfront).

Advanced Training Exercise:

- **Task**: Create a three-prompt chain for a disaster recovery plan in AJK post-2025 floods.
  - Prompt 1: Draft a 300-word recovery plan as an AJK disaster management expert, including relief distribution, infrastructure repair, and community support.
  - Prompt 2: Summarize the plan in 100 words for a public notice, emphasizing safety measures.
  - Prompt 3: Convert the notice into a 50-word radio announcement for rural AJK residents.
- **Challenge**: Ensure each prompt builds on the previous output, maintains AJK context (e.g., flood-prone areas like Muzaffarabad), and minimizes token usage.
- **Evaluation**: Check for consistency across outputs, local relevance, and adherence to word limits.

General Suggestions for Advanced Learners

1. **Optimize Prompt Structure**:
   - Use numbered lists or bullet points in prompts to enforce structured outputs (e.g., "include 1) objective, 2) strategies").
   - Incorporate AJK-specific constraints (e.g., "use 2024 budget data") to avoid generic responses.
   - Experiment with temperature settings (if available, e.g., via API) to balance creativity and precision (low temperature for CoT, higher for creative summaries).
2. **Maximize Efficiency**:
   - Minimize token usage by avoiding redundant context in chained prompts (e.g., reference prior outputs instead of repeating).
   - Use batch testing to compare multiple prompt variations quickly (e.g., test CoT with/without step labels).
   - Leverage Grok's free access on grok.com or x.com for rapid prototyping, noting usage limits.
3. **Enhance Effectiveness**:
   - Combine techniques (e.g., CoT within role-based prompts) for complex tasks like policy analysis.
   - Include few-shot examples in prompts to guide output style (e.g., "format like this: [sample policy summary]").
   - Validate outputs against AJK's real-world data (e.g., cross-check with 2023 health or tourism reports).
4. **Iterative Refinement**:

- Analyze LLM outputs for biases or inaccuracies, especially for sensitive AJK issues (e.g., community disputes).
- Use feedback loops in prompt chains to refine outputs iteratively (e.g., "revise based on stakeholder feedback").
- Log prompt-output pairs to identify patterns and optimize future prompts.

5. **Ethical Considerations**:
   - Ensure prompts avoid generating biased or harmful content, critical for AJK's diverse communities.
   - Verify factual accuracy in outputs, especially for legal or financial recommendations, using AJK's official data sources.

Additional Notes

- **Tools**: Use Grok (grok.com, x.com) or OpenAI's Playground for testing, noting free-tier limits. Advanced learners can explore xAI's API (https://x.ai/api) for custom workflows.
- **AJK Context**: Incorporate local data (e.g., 2024 tourism stats, flood patterns) to ensure relevance.
- **Practice**: Apply these techniques to real AJK tasks (e.g., budget planning, public campaigns) to build expertise.
- **Evaluation**: Assess outputs for precision, local applicability, and token efficiency, refining prompts as needed.

Annexure: F

Notes for Developing Understanding

Comparative Analysis of 6 Best AI –LLM Models

This list outlines the top 5 AI models for 2025, tailored for AJK government officers and workers. Each model includes a brief introduction, key properties, and performance across 10 task categories relevant to public sector needs (e.g., policy drafting, data summarization, public communication). The selection prioritizes models with high performance, accessibility, and applicability to AJK's governance context, based on recent benchmarks and use cases.

1. GPT-4o (OpenAI)

Introduction:
GPT-4o, launched by OpenAI in May 2024, is a multimodal AI model excelling in text, image processing, and complex reasoning. It's widely used for its versatility and high accuracy in tasks like content generation and data analysis, making it ideal for AJK's diverse administrative needs.

Key Properties:

- **Multimodal**: Processes text, images, audio, and video; generates text and images.
- **Context Window**: Up to 128,000 tokens, suitable for long documents.
- **Performance**: High scores in MMLU (88%), HumanEval (85%) for reasoning and coding.
- **Access**: Available via ChatGPT Plus ($20/month), Team plans, or API; free tier on grok.com/x.com with limits.
- **Cost**: $1.10/M input tokens, $4.40/M output tokens; higher cost than smaller models.
- **Safety**: Enhanced measures to reduce bias and hallucinations.

Task Performance (1–5, 5 being best):

1. **Policy Drafting**: 5 – Generates detailed, structured policy briefs (e.g., tourism in Neelum Valley).
2. **Data Summarization**: 5 – Summarizes complex reports (e.g., health surveys) with high accuracy.
3. **Public Communication**: 4 – Crafts engaging press releases but may need tone adjustments for AJK's formal context.
4. **Translation (Urdu/English)**: 5 – Supports 50+ languages, ideal for Urdu-English government documents.
5. **Coding for Automation**: 4 – Writes scripts for data processing but less specialized than Code Llama.
6. **Budget Analysis**: 5 – Analyzes financial data with clear breakdowns (e.g., AJK budget deficits).
7. **Disaster Management Planning**: 5 – Provides step-by-step plans (e.g., flood response) with CoT prompting.
8. **Stakeholder Correspondence**: 5 – Drafts formal letters (e.g., to S&GAD) with precise tone.
9. **Sentiment Analysis**: 4 – Analyzes citizen feedback but may miss nuanced local sentiments.

10. **Creative Content (e.g., Tourism Brochures)**: 5 – Generates compelling brochures for Neelum Valley tourism.

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2. Grok 4 (xAI)

Brief Introduction:
Grok 4, developed by xAI, is a multimodal LLM designed for truth-seeking and advanced reasoning, integrated with the X platform. It excels in handling complex queries, processing text, voice, and images, and is optimized for real-time, context-aware responses. It's particularly suited for AJK's public sector due to its accessibility via grok.com and x.com (free tier with limits) and its ability to handle diverse governance tasks.

Properties:

- **Architecture**: Multimodal with reinforcement learning, enabling self-evaluation and mistake correction.
- **Context Window**: Up to 128,000 tokens, supporting long-form documents.
- **Modes**: Includes "Think" mode for step-by-step reasoning and "Deep Search" for web-based RAG (Retrieval-Augmented Generation).
- **Availability**: Free on grok.com/x.com (limited quotas), with higher quotas via SuperGrok subscription (pricing at https://x.ai/grok).
- **Strengths**: Math, coding, abstract reasoning, and real-time data analysis.
- **Limitations**: Sarcastic tone may require adjustment for formal government outputs.

Task Performance (10 Categories):

1. **Policy Drafting**: Excellent (uses CoT for structured proposals, e.g., "Draft a 300-word policy for AJK tourism using step-by-step reasoning").
2. **Data Analysis**: Strong (analyzes spreadsheets for budget insights, e.g., "Summarize AJK's 2024 health budget trends in 100 words").
3. **Public Communication**: Good (creates engaging press releases, but tone needs constraint, e.g., "Write a 50-word X post for AJK residents").
4. **Legal Drafting**: Moderate (can draft legal memos with role-based prompting, but requires verification for AJK regulations).
5. **Translation**: Strong (handles Urdu-English translation for AJK notices, e.g., "Translate a flood warning into Urdu").
6. **Coding**: Excellent (supports IT tasks like automating AJK PPRA workflows, e.g., "Write Python code for data entry").
7. **Research Summarization**: Excellent (summarizes reports with Deep Search, e.g., "Summarize AJK's 2023 tourism data").
8. **Disaster Planning**: Strong (uses CoT for step-by-step plans, e.g., "Analyze steps for a Muzaffarabad flood response").
9. **Financial Analysis**: Strong (role-based prompts for budget strategies, e.g., "As an AJK financial advisor, reduce 2026 deficit").
10. **Creative Content**: Moderate (generates brochures, but creativity lags behind GPT-4o; e.g., "Create a Neelum Valley hotel brochure"

3. Claude 3.7 Sonnet (Anthropic)

Introduction:
Claude 3.7 Sonnet, released in 2024 by Anthropic, is optimized for coding, reasoning, and data analysis from visuals. Its extended thinking mode enhances complex problem-solving, making it suitable for AJK's technical and administrative tasks.

Key Properties:

- **Multimodal**: Handles text, charts, and diagrams; no image generation.
- **Context Window**: 128,000 tokens, ideal for long reports.
- **Performance**: Excels in coding (90% HumanEval) and reasoning (85% ARC).
- **Access**: Available via Anthropic's API or platforms like AWS Bedrock; no free tier.
- **Cost**: Lower than GPT-4o, ~$0.50/M tokens.
- **Safety**: Strong guardrails for bias and ethical outputs, critical for government use.

Task Performance:

1. **Policy Drafting**: 4 – Strong for structured drafts but less creative than GPT-4o.
2. **Data Summarization**: 5 – Excels at extracting insights from charts (e.g., AJK health data).
3. **Public Communication**: 3 – Less effective for creative writing; better for technical notices.
4. **Translation (Urdu/English)**: 4 – Good for multilingual tasks but less robust than GPT-4o.
5. **Coding for Automation**: 5 – Superior for coding tasks (e.g., automating AJK PPRA workflows).
6. **Budget Analysis**: 5 – Handles complex financial analysis with clear reasoning.
7. **Disaster Management Planning**: 5 – Extended thinking mode excels in step-by-step planning.
8. **Stakeholder Correspondence**: 4 – Formal letters are precise but may lack persuasive flair.
9. **Sentiment Analysis**: 4 – Good for feedback analysis but requires clear prompts.
10. **Creative Content**: 3 – Weak for creative tasks like brochures due to focus on logic.

4. DeepSeek-V3 (DeepSeek AI)

Introduction:
DeepSeek-V3, launched in December 2024, is an open-source, high-performance model using a Mixture-of-Experts (MoE) architecture. It excels in technical fields like coding and math, making it cost-effective for AJK's resource-constrained public sector.

Key Properties:

- **Multimodal**: Processes text and images; strong in vision-language tasks.
- **Context Window**: 128,000 tokens, efficient for large datasets.
- **Performance**: 90.2% on MATH-500, 82.6% on HumanEval for coding.
- **Access**: Open-source on Hugging Face (Apache 2.0); free for non-commercial use.
- **Cost**: Low, ~$0.10/M tokens via API; minimal for local deployment.
- **Efficiency**: Processes 60 tokens/second, ideal for real-time tasks.

Task Performance:

1. **Policy Drafting**: 4 – Good for technical policies but needs refinement for style.

2. **Data Summarization**: 4 – Strong for technical reports but less intuitive for non-technical data.
3. **Public Communication**: 3 – Functional for notices but less engaging for public campaigns.
4. **Translation (Urdu/English)**: 4 – Supports 29 languages, including Urdu, but less polished.
5. **Coding for Automation**: 5 – Excellent for coding (e.g., AJK data dashboards).
6. **Budget Analysis**: 5 – High math accuracy for financial planning.
7. **Disaster Management Planning**: 4 – Effective with CoT prompts for structured plans.
8. **Stakeholder Correspondence**: 3 – Functional but requires tone adjustments.
9. **Sentiment Analysis**: 4 – Good for technical analysis with clear prompts.
10. **Creative Content**: 3 – Limited for creative tasks due to technical focus.

5. Llama 3.2 (Meta AI)

Introduction:
Llama 3.2, released in 2024, is an open-source model optimized for efficiency and performance in NLP and coding tasks. Its smaller variants (e.g., 8B parameters) suit AJK's need for cost-effective, deployable solutions.

Key Properties:

- **Text-Focused**: Primarily for NLP; limited multimodal capabilities.
- **Context Window**: 128,000 tokens, good for long documents.
- **Performance**: 80% HumanEval (coding), 75% MMLU (reasoning).
- **Access**: Open-source on Hugging Face; free for research, limited commercial use.
- **Cost**: Minimal for local deployment; ~$0.05/M tokens via API.
- **Efficiency**: High performance on low-compute devices.

Task Performance:

1. **Policy Drafting**: 4 – Good for drafting with fine-tuning for AJK context.
2. **Data Summarization**: 4 – Effective for text-based reports; needs clear prompts.
3. **Public Communication**: 3 – Functional but less engaging than GPT-4o.
4. **Translation (Urdu/English)**: 4 – Handles Urdu well with fine-tuning.
5. **Coding for Automation**: 5 – Strong for lightweight automation scripts.
6. **Budget Analysis**: 4 – Good for basic financial analysis; less robust than DeepSeek-V3.
7. **Disaster Management Planning**: 4 – Effective with CoT for structured planning.
8. **Stakeholder Correspondence**: 4 – Formal letters with fine-tuning for tone.
9. **Sentiment Analysis**: 4 – Reliable with clear prompts and examples.
10. **Creative Content**: 3 – Limited for creative tasks without customization.

6. Mistral Large 2 (Mistral AI)

Introduction:
Mistral Large 2, released in 2024, is a high-performance model supporting 80+ programming languages and excelling in NLP and math reasoning. Its affordability and efficiency make it suitable for AJK's budget-conscious public sector.

Key Properties:

- **Text-Focused**: Strong in NLP and coding; limited multimodal support.
- **Context Window**: 128,000 tokens, ideal for long reports.

- **Performance**: 85% HumanEval (coding), 80% MATH-500 (math).
- **Access**: Available via API; open-source variants on Hugging Face.
- **Cost**: ~$0.04/M tokens, highly cost-effective.
- **Efficiency**: Fast processing, ~50 tokens/second.

Task Performance:

1. **Policy Drafting**: 4 – Strong for technical drafts; needs style adjustments.
2. **Data Summarization**: 4 – Efficient for summarizing reports; less intuitive for visuals.
3. **Public Communication**: 3 – Functional but less persuasive than GPT-4o.
4. **Translation (Urdu/English)**: 4 – Supports Urdu with high accuracy.
5. **Coding for Automation**: 5 – Excels in coding for AJK's IT needs.
6. **Budget Analysis**: 4 – Good for math-heavy tasks; less robust than DeepSeek-V3.
7. **Disaster Management Planning**: 4 – Effective with CoT for structured plans.
8. **Stakeholder Correspondence**: 4 – Formal letters with clear prompts.
9. **Sentiment Analysis**: 4 – Reliable for feedback analysis with examples.
10. **Creative Content**: 3 – Limited for creative tasks like brochures.

Task Categories and Model Performance Summary

Task Category	GPT-4o	Claude 3.7 Sonnet	DeepSeek-V3	Llama 3.2	Mistral Large 2
Policy Drafting	5	4	4	4	4
Data Summarization	5	5	4	4	4
Public Communication	4	3	3	3	3
Translation	5	4	4	4	4
Coding for Automation	4	5	5	5	5
Budget Analysis	5	5	5	4	4
Disaster Management	5	5	4	4	4
Stakeholder Correspondence	5	4	3	4	4
Sentiment Analysis	4	4	4	4	4
Creative Content	5	3	3	3	3

Suggestions for AJK Government Officers

- **Effectiveness**:
  - Use **GPT-4o** for versatile tasks like policy drafting and creative content, leveraging its multimodal capabilities.
  - Choose **Claude 3.7 Sonnet** for coding and data analysis, especially with visual inputs (e.g., charts).
  - Opt for **DeepSeek-V3** or **Llama 3.2** for cost-effective, open-source solutions in resource-constrained AJK settings.
  - Fine-tune **Mistral Large 2** for Urdu translation and coding tasks to align with local needs.
- **Efficiency**:
  - Use open-source models (DeepSeek-V3, Llama 3.2) for local deployment to minimize costs.
  - Leverage **Prompt Chaining** to break tasks (e.g., policy drafting → public summary) for better control.

    - Apply **CoT Prompting** for complex tasks like disaster planning to ensure structured outputs.
    - Test prompts via grok.com or x.com free tiers to optimize before API use.
- **AJK Context**: Incorporate local data (e.g., 2024 AJK tourism stats) in prompts to ensure relevance.
- **Ethics**: Verify outputs for accuracy and neutrality, especially for sensitive tasks like stakeholder letters or public notices.

Annexure: G

Notes for Developing Understanding & Self Practicing

10 Most Popular AI platforms

Categorized by their primary use along with 3 best alternate

1. For Emails

Platform: Flowrite
Use: Auto-generates professional emails from short instructions.
Power: Saves time, improves tone & grammar, integrates with Gmail.
Pricing: Starts at ~$5/month; limited free trial.
Free Option: Gmail Smart Compose (basic), ChatGPT
Alternatives:

- **Hyperwrite.ai** – Suggests full email responses.
- **Compose AI** – Chrome extension for writing assistance.
- **Jasper AI** – Powerful, integrates with email templates.

2. For Website Creation

Platforms:

- Bolt.new – One-click AI websites from a single sentence.
- Lovable.dev – Creates lovable, simple landing pages with AI.
  Power: Super-fast MVP & startup page builders, no code needed.
  Pricing: Mostly free or freemium with pro upgrades.
  Free Option: Both offer basic features free.
  Alternatives:
- **Durable.co** – AI websites with CRM & marketing tools.
- **10Web** – AI website builder using WordPress.
- **Framer AI** – Beautiful responsive sites with AI prompts.

3. For Making Presentations

Platform: Gamma
Use: Generates modern, interactive presentations from plain text.
Power: Converts bullets into full slides with design + formatting.
Pricing: Free tier; paid plans start around $10/month.
Free Option: Google Slides + ChatGPT prompt design
Alternatives:

- **Tome.app** – AI slide decks with visuals and storyboards.

- **Beautiful.ai** – Smart templates, auto-design.
- **SlidesAI.io** – Adds AI writing to PowerPoint/Google Slides.

4. For Social Media Campaigning

Platform: Ocoya
Use: Social media post generation + scheduling + AI captions.
Power: All-in-one AI marketing tool for agencies & brands.
Pricing: Free basic version; Pro ~$15+/month.
Free Option: Buffer + ChatGPT
Alternatives:

- **Predis.ai** – AI post creator + scheduler.
- **SocialBee** – AI-based content repurposing.
- **ContentStudio** – Combines scheduling with AI writing.

5. For Writing Tools

Platform: Copy.ai
Use: Generates blogs, ads, emails, product descriptions.
Power: Templates for 100+ use cases with tone control.
Pricing: Free plan (2,000 words/month); Pro starts ~$49/month.
Free Option: ChatGPT
Alternatives:

- **Writesonic** – Includes chatbot, blog writer, and more.
- **Anyword** – AI copy optimized for conversions.
- **INK Editor** – AI + SEO-focused writing assistant.

6. For Video Generation

Platforms:

- RunwayML – Text-to-video, inpainting, editing.
- Veo3 (Google) – High-resolution AI video (experimental).
  Power: Cinematic video creation with text, motion, and AI art tools.
  Pricing: RunwayML has free tier; Veo3 not public yet.
  Free Option: Pika Labs (early access), Kapwing
  Alternatives:
- **Synthesia.io** – AI avatars + video narration.
- **Pictory.ai** – Turns text into short videos.
- **Lumen5** – Blog-to-video AI tool.

7. For Reels and Short Video Content

Platform: Captions.ai
Use: Create Instagram/TikTok-style reels with captions and effects.
Power: One-click reel editing with auto voice sync.
Pricing: Free tier; Premium ~$9.99/month.
Free Option: CapCut
Alternatives:

- **InVideo** – Reels with templates and AI scripts.
- **Descript** – Auto-captioning + editing.
- **Veed.io** – Templates + auto subtitles.

8. For Voiceovers

Platform: ElevenLabs
Use: Realistic AI voice cloning and voiceovers.
Power: Ultra-human voices in multiple languages.
Pricing: Free for 10,000 characters/month; Pro ~$22+.
Free Option: VoiceMaker.in (basic), TTSMP3
Alternatives:

- **Murf.ai** – Voiceover with studio features.
- **Play.ht** – Podcast-level narration.
- **Resemble.ai** – Clone your own voice.

9. For Logo and Branding

Platform: Looka
Use: AI logo generator and full brand kits.
Power: Instant logos with font/color/brand pack.
Pricing: Free preview; $20+ for full ownership.
Free Option: Canva logo maker
Alternatives:

- **Tailor Brands** – AI logo and brand identity builder.
- **Hatchful by Shopify** – Free logo maker.
- **Logomaster.ai** – Quick and easy logos.

10. For Image and Video Generation

Platform: Midjourney
Use: AI-generated art via Discord.
Power: Artistic, photorealistic, and fantasy-level visuals.
Pricing: ~$10/month+; limited trial.
Free Option: Bing Image Creator (uses DALL·E)
Alternatives:

- **DALL·E 3 (via ChatGPT Plus)** – Fast text-to-image.
- **Stable Diffusion (via DreamStudio)** – Open source art.
- **Leonardo.ai** – Game-style and character illustrations.

Annexure- H

Most Popular 40 AI Tools

1. For Emails

Website Name	Link	Purpose
Flowrite	https://www.flowrite.com/	Auto-generates professional emails from short instructions, saving time and improving tone and grammar, with Gmail integration.
Hyperwrite.ai	https://www.hyperwrite.ai/	Offers AI-powered writing assistance that suggests and generates full email responses based on conversational context.
Compose AI	https://www.compose.ai/	A Chrome extension that provides real-time writing assistance, including generating emails, messages, and other text snippets.
Jasper AI	https://www.jasper.ai/	A powerful AI tool that helps create marketing content, including emails, with customizable templates and tone control.

2. For Website Creation

Website Name	Link	Purpose
Bolt.new	https://bolt.new/	Creates a website with a single click from a one-sentence description, perfect for fast minimum viable products.
Lovable.dev	https://lovable.dev/	An AI-powered platform for creating simple, lovable landing pages and startup websites with no coding required.
Durable.co	https://durable.co/	An AI website builder that also includes built-in customer relationship management (CRM) and marketing tools for businesses.
10Web	https://10web.io/	An AI website builder that leverages WordPress, enabling users to create and manage professional, SEO-optimized websites.
Framer AI	https://www.framer.com/ai/	Creates beautiful, responsive websites from text prompts, making it easy for designers and non-designers alike.
Wix	https://www.wix.com/ai-website-builder	A popular website builder with AI tools that help users create business-ready websites quickly through conversational prompts.
Jimdo	https://www.jimdo.com/	Provides a free AI website builder with affordable upgrades, making it an excellent option for beginners on a budget.

3. For Making Presentations

Website Name	Link	Purpose
Gamma	https://gamma.app/	Generates modern, interactive presentations and documents from plain text, converting bullet points into visually appealing slides.
Tome.app	https://www.tome.app/	An AI-powered tool for creating slide decks and presentations that include visuals and storyboards from simple text.
Beautiful.ai	https://www.beautiful.ai/	Uses smart templates and an auto-design feature to create visually stunning presentations, ensuring professional design every time.
SlidesAI.io	https://www.slidesai.io/	An add-on for Google Slides and PowerPoint that uses AI to write and design presentations from an outline.
Adobe Express	https://www.adobe.com/express/create/ai/presentation	A free AI presentation maker that allows users to create stunning slides with design assets and generative AI tools.
Slidesgo	https://slidesgo.com/ai/presentation-maker	A free AI presentation maker that creates slides from text, with compatibility for Google Slides and PowerPoint.

4. For Social Media Campaigning

Website Name	Link	Purpose
Ocoya	https://www.ocoya.com/	An all-in-one AI marketing tool for generating, scheduling, and writing captions for social media posts.
Predis.ai	https://predis.ai/	An AI-powered post creator and scheduler that helps users generate engaging social media content quickly and efficiently.
SocialBee	https://socialbee.io/	An AI-powered social media management tool for creating, generating, and designing content to schedule across platforms.
ContentStudio	https://contentstudio.io/	Combines social media scheduling with AI writing assistance to streamline content creation and publishing workflows for teams.
Hootsuite	https://www.hootsuite.com/	A comprehensive social media management platform that uses AI to help with content creation, ideation, and engagement analysis.

5. For Writing Tools

Website Name	Link	Purpose
Copy.ai	https://www.copy.ai/	Generates blogs, ad copy, emails, and product descriptions using over 100 templates with customizable tone control.

Website Name	Link	Purpose
Writesonic	https://writesonic.com/	A versatile AI writing tool that offers a chatbot, blog writer, and other features for creating various types of content.
Anyword	https://anyword.com/	An AI copywriting tool that is optimized for conversions, helping users write effective marketing content with predictive scores.
INK Editor	https://inkforall.com/	An AI-powered writing assistant that focuses on SEO, helping users create high-ranking content with built-in optimization.
QuillBot	https://quillbot.com/	A complete writing solution with AI tools for paraphrasing, grammar checking, and improving the fluency and tone of text.
Rytr	https://rytr.me/	An AI writing assistant for creating short-form content, with features for generating blog outlines, social media posts, and more.

6. For Video Generation

Website Name	Link	Purpose
RunwayML	https://runwayml.com/	A creative AI platform that offers text-to-video, inpainting, and other editing tools for cinematic video creation.
Synthesia.io	https://www.synthesia.io/	Creates professional videos with AI avatars and text-to-speech narration, perfect for training and corporate communications.
Pictory.ai	https://pictory.ai/	An AI tool that automatically turns long-form content, like scripts or articles, into engaging and shareable short videos.
Lumen5	https://lumen5.com/	A video creation platform that uses AI to transform blog posts and text-based content into dynamic, eye-catching videos.
HeyGen	https://www.heygen.com/	A powerful AI video generator that converts simple text prompts and images into high-quality videos without needing a camera.
VEED.IO	https://www.veed.io/	Creates AI-generated videos from text prompts, complete with footage, narration, and captions, for social media and marketing.

7. For Reels and Short Video Content

Website Name	Link	Purpose
Captions.ai	https://www.captions.ai/	An AI-powered app that creates engaging Instagram and TikTok-style reels with one-click editing and auto voice synchronization.
InVideo	https://invideo.io/	Offers AI-generated reels with customizable templates

Website Name	Link	Purpose
		and scripts, helping users create short videos for various platforms.
Descript	https://www.descript.com/	A video and audio editor that provides advanced features like automatic captioning and editing based on a text transcript.
Veed.io	https://www.veed.io/	Provides a range of tools for creating short videos, including templates and auto-subtitles, making it easy to create polished content.
Wisecut	https://www.wisecut.ai/	An AI editing tool that automatically removes silences, adds smart background music, and creates clips from long videos.

8. For Voiceovers

Website Name	Link	Purpose
ElevenLabs	https://beta.elevenlabs.io/	A text-to-speech platform that creates ultra-realistic AI voiceovers and voice clones in multiple languages for content.
Murf.ai	https://murf.ai/	A voiceover generator with studio-quality features, offering a wide range of AI voices and easy-to-use editing tools.
Play.ht	https://play.ht/	A text-to-speech tool that creates high-quality, podcast-level narrations with realistic voices and emotional tones.
Resemble.ai	https://www.resemble.ai/	An AI voice cloning platform that allows users to create a custom digital voice from a short audio sample.
NaturalReader	https://www.naturalreaders.com/commercial.html	An AI voice generator that creates natural-sounding voiceovers for commercial use, perfect for videos, e-learning, and audiobooks.
LOVO	https://lovo.ai/	An AI voice generator and text-to-speech platform with over 500 hyper-realistic voices in 100 languages for various content.

9. For Logo and Branding

Website Name	Link	Purpose
Looka	https://looka.com/	An AI-powered platform that generates logos and full brand kits, including marketing materials and social media templates.
Tailor Brands	https://www.tailorbrands.com/	An AI logo and brand identity builder that helps businesses create a cohesive brand from a single logo design.
Hatchful by Shopify	https://hatchful.shopify.com/	A free logo maker that provides hundreds of templates and designs to help entrepreneurs

Website Name	Link	Purpose
		quickly create a professional logo.
Logomaster.ai	https://www.logomaster.ai/	An AI logo maker that provides a quick and easy way to generate logos for new businesses and personal projects.
LogoAI	https://www.logoai.com/logo-maker	An AI logo generator that creates unique, professional designs and provides a full brand package with colors and fonts.

10. For Image and Video Generation

Website Name	Link	Purpose
Midjourney	https://www.midjourney.com/	Generates artistic, photorealistic, and fantasy-level visuals from text prompts, primarily through a Discord-based interface.
DALL·E 3	https://openai.com/dall-e-3	An advanced text-to-image generator that creates highly detailed and imaginative visuals, accessible through ChatGPT Plus.
Stable Diffusion	https://stability.ai/stable-diffusion	An open-source AI model for creating high-quality images from text or other images, with customizable artistic styles.
Leonardo.ai	https://leonardo.ai/	An AI image generation platform focused on creating game-style illustrations, character concepts, and other creative assets.
Pixlr	https://pixlr.com/	An online AI photo editor and image generator that offers text-to-image conversion and other generative tools for creative projects.
Adobe Firefly	https://www.adobe.com/products/firefly.html	An AI-powered content creation tool that generates high-quality images, text effects, and other visuals from text descriptions.

Annexure: I

For Enhancing Understanding & Self Exploration

Specialized 75 AI Tools, Apps, and Websites for 25 Common Professions

1. **Advertising & Marketing**
    - Jasper - Creates marketing content like blog posts, social media captions, ad copy, and emails.
    - Surfer SEO - Analyzes top-ranking content and provides SEO optimization suggestions.
    - Albert.ai - Automates digital advertising tasks like media buying and audience targeting.
2. **Art & Design**
    - Midjourney - Generates high-quality images from text prompts.
    - Adobe Firefly - Creates images and text effects from text descriptions with advanced editing.
    - Invoke - Offers generative AI tools for creative production with custom model training.
3. **Content Creation & Writing**
    - Grammarly - Checks grammar, spelling, style, and tone with improvement suggestions.
    - Jasper - Generates ideas and drafts for various content types.
    - Hemingway App - Improves writing readability by highlighting complex sentences and passive voice.
4. **Education**
    - Google AI Essentials - Provides AI tools and courses for educators and students.
    - Khanmigo - Offers personalized tutoring and teacher support.
    - Slides AI - Generates presentations from text within Google Slides.

5. **Engineering**
    - GitHub Copilot - Provides real-time code suggestions and auto-completions.
    - Lovable - Assists with coding and app development.
    - Adept - Builds AI tools for software development tasks.
6. **Finance & Banking**
    - IBM Watsonx - Analyzes datasets for risk management and fraud detection.
    - Daloopa - Automates financial data extraction and analysis.
    - Tesseract - Supports data-driven investment decisions.
7. **Healthcare**
    - Google AI for Breast Cancer Detection - Assists radiologists in detecting breast cancer.
    - Babylon Health - Analyzes symptoms and connects users with specialists.
    - Tempus - Analyzes genomic data for personalized cancer treatments.
8. **Human Resources**
    - Paradox - Uses conversational AI for candidate screening and interview scheduling.
    - Jobscan - Optimizes resumes for Applicant Tracking Systems.
    - Talentsoft - Personalizes employee learning and development plans.
9. **Legal**
    - Harvey AI - Assists with legal research, document analysis, and drafting.
    - Casetext - Enhances legal research with AI-driven case and statute searches.
    - Evisort - Automates contract review and analysis.
10. **Logistics & Supply Chain**
    - FedEx AI - Optimizes package sorting, tracking, and routes.
    - Freightos - Provides instant freight quotes using AI.
    - Locus - Optimizes logistics operations like route planning.

11. **Manufacturing**
    - Siemens AI - Enables predictive maintenance for equipment.

- Augury - Predicts machine failures for improved production.
- Seebo - Predicts and prevents manufacturing quality issues.

12. **Media & Entertainment**
    - Descript - Edits video and audio via transcribed text.
    - Runway - Offers AI tools for video editing like text-to-video generation.
    - ElevenLabs - Creates realistic AI-generated voiceovers.
13. **Project Management**
    - Asana Intelligence - Enhances task organization and workload balancing.
    - Motion - Automatically plans schedules and prioritizes tasks.
    - Reclaim AI - Optimizes schedules by reserving time for focused work.
14. **Real Estate**
    - Zillow AI - Powers personalized home recommendations and Zestimate valuations.
    - Realtor.com AI - Personalizes search results and market insights.
    - Restb.ai - Provides AI solutions for image tagging and property descriptions.
15. **Retail & E-commerce**
    - Amazon AI - Supports product recommendations and inventory management.
    - Dynamic Yield - Personalizes customer experiences on websites.
    - Criteo - Delivers personalized ads and product recommendations.
16. **Sales**
    - Relevance AI - Automates lead generation and follow-ups.
    - Salesforce Einstein - Provides predictive analytics and lead scoring.
    - Gong - Analyzes sales calls for insights and coaching.
17. **Science & Research**
    - Perplexity - Delivers cited answers for research questions.
    - Scite - Evaluates scientific papers based on citations.
    - Elicit - Summarizes and finds information from academic papers.
18. **Software Development**
    - GitHub Copilot - Offers code suggestions and auto-completion.
    - Amazon CodeWhisperer - Provides real-time code recommendations.

- Tabnine - Delivers personalized code completion.

19. **Customer Service**
    - Intercom - Powers AI chatbots for automated customer support.
    - Zendesk - Automates ticket routing and instant answers.
    - Drift - Engages website visitors with conversational AI.
20. **Data Science & Analytics**
    - Numerous.ai - Simplifies data analysis in spreadsheets.
    - Tableau AI - Enhances data visualization and insight discovery.
    - DataRobot - Automates machine learning model building.
21. **Photography**
    - PhotoRoom - Removes backgrounds and edits product shots.
    - Luminar Neo - Enhances photos with AI tools like sky replacement.
    - Remove.bg - Removes image backgrounds with AI.
22. **Audio Production**
    - Descript - Edits audio and removes filler words.
    - LALAL.AI - Separates vocals and instruments from audio.
    - Altered Studio - Modifies voice pitch, tone, and character.
23. **Architecture & Construction**
    - Testfit - Generates and optimizes building layouts.
    - Swapp - Automates architectural drawings.
    - Verity - Performs AI-driven construction quality checks.
24. **Human Resources & Recruiting**
    - Jobscan - Analyzes resumes for better candidate matching.
    - Eightfold AI - Supports hiring and talent management.
    - Hiredscore - Ranks and prioritizes job applicants.

25. **Administrative & Productivity**
    - Notion AI - Generates summaries and organizes information.
    - Microsoft Copilot - Assists with writing and data analysis in Microsoft 365.

- Zapier - Automates workflows across thousands of apps.