

## **Review Questions**

### **Chapter 2: Agentic AI Architecture**

- Q01. Name the six principles and objectives of agentic AI architecture.
- Q02. Name four major patterns of agentic AI architecture.
- Q03. With a neat picture, describe the layered architecture of agentic AI systems.
- Q04. Name the three core-layers of an agentic AI system and briefly describe each one.
- Q05. Name the three Support layers of an agentic AI system and briefly describe each one.
- Q06. Name the two deployment architectures of agentic AI systems.
- Q07. With a neat diagram and an appropriate example, describe the architecture of a single-agent system.
- Q08. How is a multi-agent architecture different from single-agent architecture? Name and briefly explain two major features that distinguish multi-agent architecture from single-agent architecture.
- Q09. Name the benefits that multi-agent architecture offers over single-agent architecture.
- Q10. Name and briefly explain the three vulnerabilities of multi-agent architecture.
- Q11. Name key components of an agentic AI framework.
- Q12. Briefly describe the objective, roles, and responsibilities of perception module of an agentic AI framework.
- Q13. Briefly describe the objective, roles, and responsibilities of cognitive module of an agentic AI framework.
- Q14. Briefly describe the objective, roles, and responsibilities of planning module of an agentic AI framework.
- Q15. Briefly describe the objective, roles, and responsibilities of action module of an agentic AI framework.
- Q16. Briefly describe the objective, roles, and responsibilities of learning module of an agentic AI framework.

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- Q17. Briefly describe the objective, roles, and responsibilities of knowledge management module of an agentic AI framework.
- Q18. Briefly describe the objective, roles, and responsibilities of goal management module of an agentic AI framework.
- Q19. Briefly describe the objective, roles, and responsibilities of communication/collaboration module of an agentic AI framework.
- Q20. Briefly describe the objective, roles, and responsibilities of safety and security module of an agentic AI framework.
- Q21. Briefly describe the objective, roles, and responsibilities of monitoring and control module of an agentic AI framework.
- Q22. With a neat picture, describe the central processing flow between components of an agentic AI framework.
- Q23. Name a few of the popular design patterns of agentic AI architecture.
- Q24. With a neat picture and an appropriate example, describe the reflection pattern.
- Q25. With a neat picture and an appropriate example, describe the tool-use pattern.
- Q26. With a neat picture and an appropriate example, describe the planning pattern.
- Q27. With a neat picture and an appropriate example, describe the ReAct pattern.
- Q28. With a neat picture and an appropriate example, describe the ReWOO pattern.
- Q29. With a neat picture and an appropriate example, describe the multi-agent pattern.
- Q30. Name a few best practices of agentic AI system design.