Chapter 1 Section B Imp Ques

- Define a computer system.
- What are the main components of a computer system?
- Describe the role of the CPU in a computer system.
- What is the Von Neumann architecture?
- What is the significance of the control unit in a CPU?
- Explain the difference between RAM and ROM.
- What is a data bus?
- Define cache memory and its role.
- What is the purpose of a system bus?
- Explain the concept of software engineering.
- Differentiate between hardware and software.
- What is the function of the ALU in a computer system?
- Define operating system software.
- What are examples of input and output devices?
- Explain the hierarchy of memory in a computer.
- What is volatile memory?
- Define non-volatile memory.
- Describe primary memory and its importance.
- What is secondary storage?
- Explain data transmission.
- What are the main types of software?
- Differentiate between application software and system software.
- Define multiprocessing.
- What are the types of computer memory?
- Explain the function of an arithmetic logic unit.
- What is the role of the program counter in a CPU?
- What are the components of a computer system?
- What is the purpose of the instruction register?
- What is the function of a data bus?
- Explain the difference between sequential access and random access.
- What is a binary number system, and why is it used in computers?
- Define "instruction set" in the context of a processor.

- What is pipelining in CPU operations?
- What are examples of embedded systems?
- What is the function of BIOS in a computer?

Section c

- Discuss the evolution of computer systems from the first generation to modern computers.
- Describe the core components of a computer system with a diagram.
- Discuss the types of memory and their hierarchy in a computer system.
- What is the difference between software engineering and hardware engineering? Provide examples.
- Explain the process of data transmission within a computer system.
- Describe the role and types of computer software.
- Discuss the types of systems and their applications in computing.
- Explain the impact of data communication on modern computer systems.
- Describe the role of software and hardware integration in system performance.

Chapter 2 Sec B

- Define computational thinking.
- What are the main steps of the problem-solving process?
- Explain the Input-Processing-Output (I-P-O) model.
- What is the purpose of pattern recognition in computational thinking?
- How does abstraction help in problem-solving?
- What is an algorithm?
- List the principles of computational thinking.
- Describe the purpose of decomposition in solving a problem.
- What is an I-P-O chart?
- Give an example of a computing problem.
- How can pseudocode help in designing a solution?
- Differentiate between input and output in the I-P-O model.
- What is the importance of the "processing" step in the I-P-O model?
- Name three methods used to design a solution.

- Why is computational thinking important in software development?
- What is the significance of flowcharts in solution design?
- Define pattern recognition with an example.
- How does decomposition simplify a computing problem?
- Differentiate between pseudocode and actual code.
- Write a short note on the role of algorithms in computational thinking.
- What is the main purpose of testing a solution?
- How do flowcharts help in understanding algorithms?
- Why is identifying a computing problem important?
- Why is identifying a computing problem important?
- Explain the difference between processing and output in the I-P-O model.
- How can computational thinking be applied in real-life scenarios?
- What is the relationship between abstraction and decomposition?
- Define automation in the context of computational thinking.
- What are the benefits of using pseudocode in solution design?
- How is an I-P-O chart used in problem-solving?
- List examples of input devices in the I-P-O model.

Section c

- Explain the Input-Processing-Output (I-P-O) model with an example.
- Discuss the principles of computational thinking in detail.
- Describe the problem-solving process step-by-step with a real-life example.
- How does abstraction and pattern recognition contribute to computational thinking?
- Compare and contrast pseudocode and flowcharts in solution design.
- Write a detailed explanation of the methods used to design a computational solution.
- Explain the role of algorithms in computational problem-solving with examples.
- Create an I-P-O chart for a basic calculator application.
- Discuss the importance of decomposition in solving complex computing problems.
- Write a detailed note on the I-P-O model and its relevance in computational thinking.

Chap 3 Sec B

- Define HTML.
- What is the purpose of CSS in web development?
- How does JavaScript enhance a webpage?
- What is the difference between inline CSS and external CSS?
- Write the basic structure of an HTML document.
- What is the purpose of the <title> tag in HTML?
- How do you link an external CSS file to an HTML document?
- What is the role of the <head> tag in an HTML document?
- Define JavaScript with an example.
- What are some common debugging tools for web developers?
- What is the purpose of the <style> tag in HTML?
- How do you add a comment in CSS?
- What is the difference between id and class in HTML?
- Explain the term "dynamic website."
- How does JavaScript manipulate the DOM?
- What is a selector in CSS?
- What is the difference between margin and padding in CSS?
- How do you write a function in JavaScript?
- What is a variable in JavaScript?
- Define "event" in the context of JavaScript.
- What is the purpose of the <link> tag in HTML?
- Define inline, internal, and external CSS with examples.
- How do you create an unordered list in HTML?
- What are semantic tags in HTML? Give examples.
- How do you define an ID selector in CSS?
- What is the difference between var, let, and const in JavaScript?
- Explain the concept of the DOM in JavaScript.
- How do you include JavaScript code in an HTML file?
- Write an example of a CSS rule for changing the text color to blue.
- What is the difference between and in HTML?
- How do you add a background image to a webpage using CSS?
- What are pseudo-classes in CSS? Provide an example.
- Define the term “responsive design.”
- How do you handle events in JavaScript? Provide an example.
- What is the purpose of the <script> tag in HTML?

Section c

- Explain the structure and purpose of an HTML document with an example.
- Discuss the various types of CSS with examples (inline, internal, and external).
- Write a detailed note on the significance of JavaScript in web development.
- Describe the steps involved in debugging code in JavaScript.
- Explain the Document Object Model (DOM) and its manipulation using JavaScript.
- Compare and contrast HTML and CSS in web development.
- Write a detailed explanation of how to create a dynamic website using HTML, CSS, and JavaScript.
- Describe the process of linking JavaScript to an HTML document and executing scripts.
- Discuss the importance of CSS in creating responsive designs.
- Explain the key steps to debug errors in web code effectively.

Ch 4 Sec B

- What is the primary goal of artificial intelligence?
- Define machine learning.
- What is the difference between supervised and unsupervised learning?
- How does a neural network function in AI?
- What is deep learning, and how does it relate to AI?
- What are some common applications of AI in healthcare?
- What is reinforcement learning in AI?
- Explain the concept of "data mining" in the context of AI.
- What is a decision tree algorithm used for?
- What is the role of natural language processing (NLP) in AI?
- How does a chatbot utilize AI to interact with users?
- What is a support vector machine (SVM) used for in machine learning?
- What is a classification problem in machine learning?
- What is the function of a convolutional neural network (CNN)?
- How is AI used in self-driving cars?
- What is the importance of training data in machine learning models?
- Explain the concept of overfitting in machine learning models.
- What is underfitting, and why is it a problem?
- What is the difference between regression and classification tasks?
- What role does AI play in fraud detection?
- How does AI improve customer service through automation?

- What is a generative adversarial network (GAN)?
- Define reinforcement learning and give an example of its application.
- What is the purpose of feature extraction in machine learning?
- How are neural networks different from traditional machine learning algorithms?
- What is the importance of model evaluation in machine learning?
- What is the difference between batch processing and real-time processing in AI?
- How do unsupervised algorithms group data?
- How does AI help in image recognition tasks?
- What is the purpose of sentiment analysis in NLP?

Sec C

- Explain the role of data analysis in artificial intelligence. How do data preprocessing techniques like normalization and feature scaling contribute to machine learning models?
- Discuss the different types of machine learning algorithms. Provide examples of real-world applications where supervised, unsupervised, and reinforcement learning are used.
- Describe the structure and working of a neural network. How do deep learning models such as Convolutional Neural Networks (CNNs) differ from traditional machine learning algorithms?
- What is natural language processing (NLP)? Discuss its significance and applications in modern AI systems such as chatbots and sentiment analysis.
- What are decision trees, and how are they used in data analysis for classification tasks? Explain the process of creating a decision tree and discuss its advantages and limitations.
- Explain the concept of overfitting in machine learning. How can overfitting be detected, and what techniques can be used to prevent it in a machine learning model?
- Discuss the differences between supervised and unsupervised learning. Provide examples of when each technique would be most appropriate, and how they impact the quality of the analysis.
- How does reinforcement learning work, and what are its applications in real-world systems such as robotics or gaming? Provide a detailed example of a reinforcement learning model.
- Discuss the role of AI in healthcare data analysis. How are AI models used in medical image processing, diagnosis, and treatment prediction?

- What is the significance of big data in machine learning? Explain how large datasets are processed and analyzed, and discuss the challenges faced by data scientists when working with big data.

Ch 5 Sec B

- What is artificial intelligence (AI)?
- How does machine learning differ from traditional programming?
- What are the different types of machine learning?
- How does AI improve decision-making processes in businesses?
- What is the role of AI in predictive analytics?
- How is AI used in healthcare for diagnosis and treatment?
- What is the concept of a neural network in AI?
- What is the significance of deep learning in AI applications?
- What is the difference between AI and machine learning?
- How does reinforcement learning work in AI?
- What is the role of natural language processing (NLP) in AI applications?
- How are AI and robotics related?
- What is the purpose of an expert system in AI?
- How does AI contribute to the field of autonomous vehicles?
- What are some applications of AI in the financial industry?
- How does AI support data analysis in large datasets?
- What is cloud computing, and how does it integrate with AI?
- How can AI be used for facial recognition in security systems?
- What is the role of machine learning in customer service chatbots?
- What is a decision tree, and how is it used in AI?
- How does AI optimize supply chain management?
- What is the function of a recommendation system in AI?
- What are the key challenges in implementing AI in business operations?
- How does AI contribute to personalized marketing strategies?
- What is sentiment analysis in the context of AI?
- What is the concept of big data, and how is it used in AI applications?
- How does cloud computing provide scalability for AI workloads?
- What is an AI-powered virtual assistant?

Sec C

- Explain the concept of Artificial Intelligence (AI) and its various types. How is AI implemented in real-world applications such as self-driving cars and healthcare?
- Describe the role of machine learning in modern AI systems. How does supervised learning differ from unsupervised learning in terms of their applications and real-world use cases?
- Discuss the impact of AI on the financial industry. How is AI used for fraud detection, risk management, and investment prediction? Provide examples of AI-driven applications in banking.
- Explain the relationship between AI and cloud computing. How does cloud computing provide the infrastructure and scalability needed for large-scale AI applications?
- What are the ethical challenges associated with AI? Discuss the concerns related to privacy, bias, and accountability in AI systems, and how these challenges can be addressed.
- Discuss the role of AI in the field of education. How are AI-powered tools used to enhance personalized learning, assist teachers, and improve educational outcomes?
- Explain how AI contributes to cybersecurity. Discuss how machine learning algorithms are used to detect threats, identify patterns, and prevent cyberattacks.
- Describe the applications of AI in healthcare. How does AI assist in disease diagnosis, drug discovery, and patient care? Provide examples of AI models used in these areas.
- What is edge computing, and how does it relate to AI applications? Discuss the benefits of processing data closer to the source in terms of real-time analysis and resource efficiency.
- Explain the concept of AI-powered virtual assistants. How do these systems use natural language processing, machine learning, and data analysis to provide useful services to users?

Ch 6 Sec B

- What is meant by responsible use of computers?
- Why is hardware maintenance important in computing?
- What does "safe use of digital platforms" refer to?
- How can one protect personal information on digital platforms?
- What is the role of intellectual property protection in computing?

- What is the significance of privacy laws in digital environments?
- What is malware, and how can it affect a computer system?
- What is the difference between a virus and a Trojan horse?
- What is phishing, and how can users avoid it?
- What are some key principles of system security?
- What is the impact of computing on environmental sustainability?
- How does computing innovation contribute to economic growth?
- What does "computing innovation" mean?
- What is meant by "disinformation" in the digital age?
- How can fake news spread through digital media?
- What is the significance of information privacy?
- How does social media impact privacy?
- What are the ethical considerations in the use of computing technologies?
- How do digital platforms help in spreading education?
- What are the legal implications of online piracy?
- What are cookies, and why should users be cautious about them?
- How can data breaches impact individuals and organizations?
- How can social networking impact mental health?
- What are the main threats posed by cybercrime?
- How can individuals protect their personal data while using online services?
- What is a botnet, and how does it affect online systems?
- What is the role of digital platforms in the spread of misinformation?
- How can one identify and avoid unreliable online sources?

Sec C

- Discuss the responsible use of computers in both personal and professional settings. What steps can individuals take to ensure responsible computing?
- Explain the role of laws in protecting user privacy and intellectual property in the digital world. Why are these laws critical for the continued development of computing technologies?
- How can social media platforms impact users' privacy? Discuss both the positive and negative aspects of social networking in terms of user privacy.
- What is the significance of information privacy in the digital age? How can individuals and organizations safeguard sensitive information from unauthorized access?
- Examine the risks of using digital platforms and how users can mitigate these risks. Provide examples of common security threats and measures to protect against them.

- Discuss the concept of "fake news" and its impact on society. How does computing contribute to the spread of disinformation, and what are potential solutions to address this issue?
- What are the potential environmental impacts of computing innovations? How can advancements in technology both positively and negatively affect sustainability?
- How do malicious software and viruses affect the security of computer systems? Discuss the different types of malware and ways to protect against them.
- Analyze the concept of intellectual property in the context of digital technologies. Why is it important to protect intellectual property, and what are the legal challenges involved?
- In what ways does computing innovation affect economic growth? Discuss how technological advancements in computing contribute to new business models, job creation, and market opportunities.

Ch 7 Sec B

- What does it mean to be an entrepreneur?
- What is the main objective of entrepreneurship?
- How does entrepreneurship contribute to economic development?
- What is the difference between an entrepreneur and a business manager?
- Why is risk-taking important for entrepreneurs?
- What is a business plan?
- What are the key components of a business plan?
- How can an entrepreneur identify potential customers?
- Why is market research important for an entrepreneur?
- What is the role of innovation in entrepreneurship?
- How can an entrepreneur manage business risks?
- What is the importance of financial planning for a business?
- How do entrepreneurs secure funding for their ventures?
- What are the different types of business ownership?
- What is the role of marketing in entrepreneurship?
- What are fixed costs in business?
- How do entrepreneurs set pricing strategies for their products?
- What is a profit margin, and how is it calculated?

- How can entrepreneurs evaluate business performance?
- What are some common challenges faced by entrepreneurs?
- How can entrepreneurs manage cash flow effectively?
- Why is customer feedback essential for business success?
- What is the importance of networking for entrepreneurs?
- How does competition affect entrepreneurial decisions?
- What is the significance of scalability in a business?
- How can an entrepreneur protect their business ideas?
- What is the role of human resources in a startup?

Sec C

- Explain the role of entrepreneurship in economic development. How do entrepreneurs contribute to job creation, innovation, and the overall economy?

- Discuss the key elements of a business plan. Why is a business plan crucial for the success of a new business? Include examples of essential sections within the plan.

- What are the different types of business ownership? Compare and contrast the advantages and disadvantages of sole proprietorship, partnership, and corporation.

- Describe the importance of financial planning for an entrepreneur. How can a well-structured financial plan help in managing business risks and ensuring long-term success?

- Analyze the role of innovation in entrepreneurship. How does an entrepreneur use innovation to differentiate their business and gain a competitive edge in the market?

- Explain how market research helps entrepreneurs identify potential customers and competitors. Discuss the different methods of conducting market research and their benefits.

- Discuss the significance of customer feedback for entrepreneurs. How can entrepreneurs use feedback to improve their products and services, and enhance customer satisfaction?

- What are the common challenges faced by entrepreneurs, and how can they overcome them? Discuss challenges related to funding, competition, and market demand.

- How does entrepreneurship impact society? Discuss the positive and negative effects of entrepreneurship on social, cultural, and economic aspects of society.

- Explain how an entrepreneur can manage cash flow effectively. What are the key strategies for ensuring the business has enough working capital to cover its expenses and support growth?