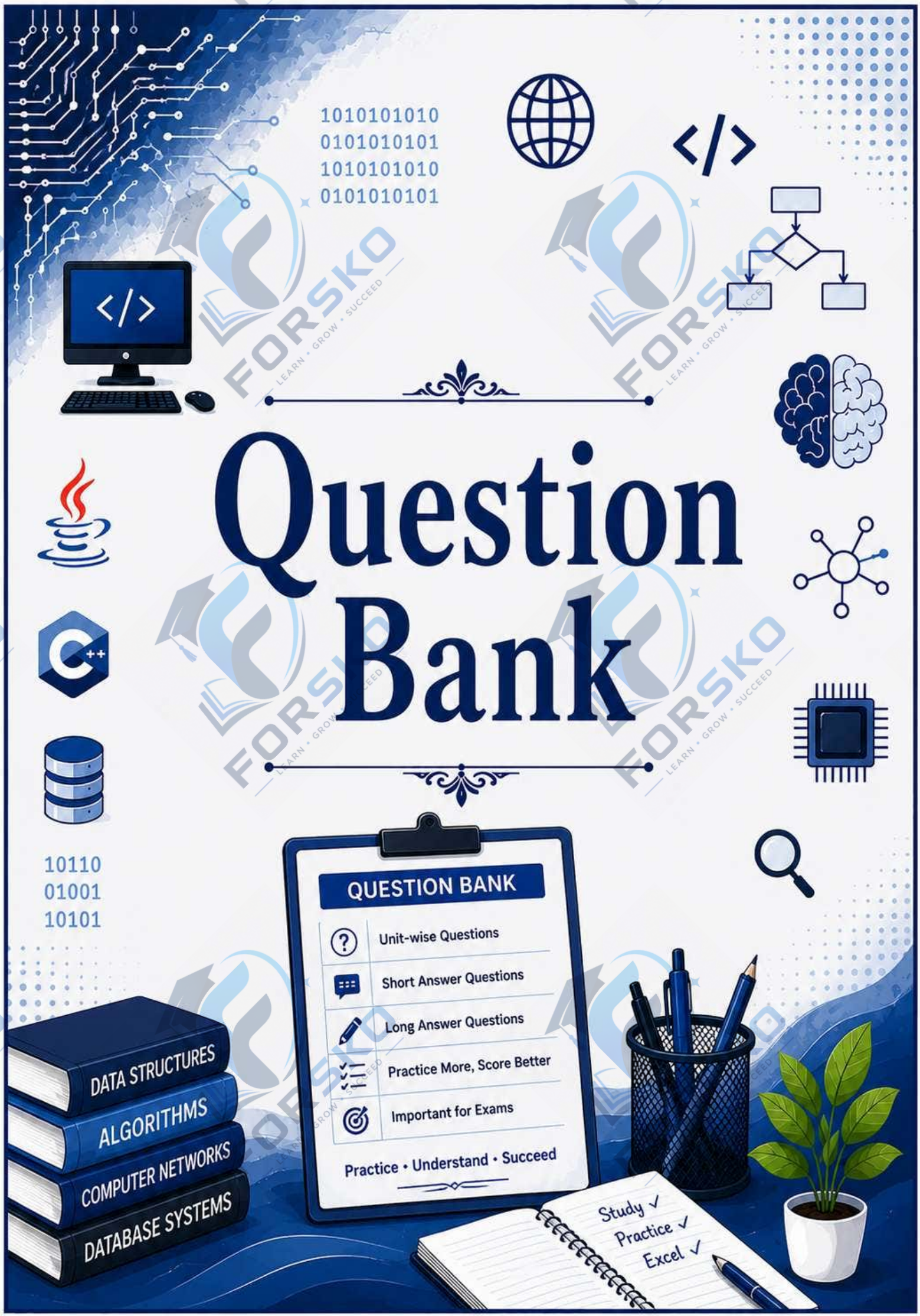
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Question Bank
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QUESTION BANK
Unit-wise Questions
Short Answer Questions
Long Answer Questions
Practice More, Score Better
Important for Exams
Practice • Understand • Succeed
DATA STRUCTURES
ALGORITHMS
COMPUTER NETWORKS
DATABASE SYSTEMS
Study ✓
Practice ✓
Excel ✓

IKS in Computational Science

Unit I - Introduction to Indian Knowledge System

- **Answers in one or two lines (1 mark questions)**

1. Define Indian Knowledge System (IKS).
2. What is Ancient Knowledge?
3. What is the importance of Ancient Indian Knowledge?
4. What is IKS Corpus?
5. What is meant by the Classification Framework of IKS?
6. Define Chaturdasa Vidyasthana.
7. How many Vidyasthanas are included in Chaturdasa Vidyasthana?
8. What is Sanskrit Grammar?
9. Define Phonetics.
10. What is Sanskrit Phonetics?
11. What is the history of IKS?
12. Name any two unique aspects of IKS.
13. What are the components of a language?
14. What is Vyakarana?
15. What is Shiksha in the Indian Knowledge System?
16. What is the role of Sanskrit in IKS?
17. What is the meaning of "Veda"?
18. What is meant by knowledge tradition?
19. Name any two components of IKS.
20. Why is Sanskrit considered an important language in IKS?

- **Short Answer Questions (3 marks questions)**

1. Explain the concept of the Indian Knowledge System.
2. Explain the importance of Ancient Knowledge.
3. Explain the history of the Indian Knowledge System.
4. Explain the Classification Framework of IKS.
5. Write a short note on Chaturdasa Vidyasthana.
6. Explain the unique aspects of the Indian Knowledge System.
7. Explain the importance of Sanskrit in IKS.
8. Explain the components of a language.
9. Explain Sanskrit Grammar.
10. Explain Sanskrit Phonetics.
11. Explain the contribution of Vedas to Indian Knowledge.
12. Explain the objectives of IKS.
13. Explain the importance of preserving Indian Knowledge.

- **Long Answer Questions (6 marks questions)**

1. Define the Indian Knowledge System and explain its importance in detail.
2. Explain the history and evolution of the Indian Knowledge System.
3. Explain the Classification Framework of the IKS Corpus with suitable examples.
4. Explain Chaturdasa Vidyasthana and its significance in Indian education.
5. Explain the unique aspects and objectives of the Indian Knowledge System.
6. Explain the importance of Sanskrit as the language of Indian Knowledge.
7. Explain Sanskrit Grammar and Phonetics with suitable examples.
8. Explain the components of language in the Indian Knowledge System.
9. Explain the role of Ancient Knowledge in modern education and society.

Unit II - Computational Concepts in Ashtadhyayi, Sanskrit in NLP, Indian Mathematics

- **Answers in one or two lines (1 mark questions)**

1. What is Ashtadhyayi?
2. Who wrote the Ashtadhyayi?
3. Define Computational Concept.
4. What is Natural Language Processing (NLP)?
5. What is the role of Sanskrit in NLP?
6. Define Ancient Indian Mathematics.
7. Name any two Indian mathematicians.
8. Who is known as the Father of Algebra in India?
9. What is a Number System?
10. Define Arithmetic.
11. Define Algebra.
12. Define Geometry.
13. What is the significance of the Number System?
14. Name the author of *Lilavati*.
15. Who introduced the concept of Zero?
16. What is the contribution of Aryabhata?
17. What is the contribution of Brahmagupta?
18. What is the contribution of Bhaskaracharya?
19. What is IKS in Science and Technology?
20. Why is Sanskrit considered suitable for computational linguistics?

- **Short Answer Questions (3 marks questions)**

1. Explain the Computational Concept in Ashtadhyayi.
2. Explain the role of Sanskrit in Natural Language Processing.
3. Explain the importance of Sanskrit in Computer Science.
4. Explain IKS in Science and Engineering.
5. Explain the importance of Mathematics in Ancient India.
6. Write a short note on Aryabhata and his contributions.
7. Write a short note on Brahmagupta and his contributions.
8. Write a short note on Bhaskaracharya and his contributions.
9. Explain the Indian Number System.
10. Explain the significance of the Number System.
11. Explain the concept of Algebra in Ancient India.
12. Explain the concept of Arithmetic in Ancient India.
13. Explain the concept of Geometry in Ancient India.
14. Explain the applications of Ancient Indian Mathematics.
15. Explain the contribution of Indian mathematicians to world mathematics.

- **Long Answer Questions (6 marks questions)**

1. Explain the Computational Concept in Ashtadhyayi and its modern applications.
2. Explain the role of Sanskrit in Natural Language Processing (NLP) with suitable examples.
3. Explain the contribution of the Indian Knowledge System to Science, Engineering, and Technology.
4. Explain the importance of Mathematics in Ancient India.
5. Describe the contributions of Aryabhata, Brahmagupta, and Bhaskaracharya in detail.
6. Explain the Indian Number System and its significance.
7. Explain the concepts of Arithmetic, Algebra, and Geometry in Ancient India.
8. Explain the contribution of Ancient Indian Mathematics to modern mathematics.
9. Explain the role of Sanskrit in Artificial Intelligence and Computational Linguistics.

Unit III - Indian Number System and Numerals

- **Answers in one or two lines (1 mark questions)**

1. Define the Indian Number System.
2. What is a numeral?
3. What is the Decimal Number System?
4. Define Place Value.
5. What is Zero?
6. Who is credited with introducing Zero in India?
7. What is the importance of Zero?
8. What is meant by large numbers?
9. What is the place value of a digit?
10. Define Numeration.
11. What is the Indian Place Value System?
12. What is the International Place Value System?
13. What is meant by Historical Evidence?
14. Name any two features of the Indian Numeral System.
15. What is a digit?
16. How many digits are used in the Decimal Number System?
17. What is the base of the Decimal Number System?
18. Define the Indian Numeral System.
19. What is the significance of the Place Value System?
20. Name any one ancient Indian mathematician associated with the Number System.

- **Short Answer Questions (3 marks questions)**

1. Explain the historical development of the Indian Number System.
2. Explain the salient features of the Indian Numeral System.
3. Explain the concept of Zero and its importance.
4. Explain the representation of large numbers in the Indian Number System.
5. Explain the Place Value of Numerals with examples.
6. Explain the Decimal Number System.
7. Differentiate between the Indian and International Number Systems.
8. Explain the approaches used to represent numbers.
9. Explain the significance of the Indian Number System.
10. Explain the contribution of India to the modern Number System.
11. Explain the advantages of the Decimal Number System.
12. Explain the importance of Place Value.
13. Write a short note on Indian Numerals.
14. Explain the historical evidence of Indian Numerals.
15. Explain the role of Zero in Mathematics.

- **Long Answer Questions (6 marks questions)**

1. Explain the historical development of the Indian Number System with suitable examples.
2. Explain the salient features of the Indian Numeral System in detail.
3. Explain the concept of Zero and its importance in Mathematics.
4. Explain the representation of large numbers in the Indian Number System.
5. Explain the Place Value System with suitable examples.
6. Explain the Decimal Number System and its applications.
7. Differentiate between the Indian and International Number Systems with examples.
8. Explain different approaches used for representing numbers.
9. Explain the contribution of India to the development of the modern Number System.

Unit IV - Measurements, Indian Mathematics and Magic Squares

- **Answers in one or two lines (1 mark questions)**

1. Define measurement.
2. What is meant by time measurement?
3. What is distance measurement?
4. What is weight measurement?
5. What is Indian Mathematics?
6. Name any two great Indian mathematicians.
7. Define a square of a number.
8. Define square root.
9. What is a series?
10. What is a progression?
11. What is the value of π (Pi)?
12. Define Algebra.
13. What is Binary Mathematics?
14. What is a Magic Square?
15. Who introduced the value of π in Ancient India?
16. What is an Arithmetic Progression (AP)?
17. What is a Geometric Progression (GP)?
18. What is the binary number system?
19. What is the base of the binary number system?
20. Name one contribution of Aryabhata.

- **Short Answer Questions (3 marks questions)**

1. Explain the traditional Indian system of measurement for time.
2. Explain the traditional Indian system of measuring distance and weight.
3. Explain the unique aspects of Indian Mathematics.
4. Write a short note on Aryabhata and his contributions.
5. Write a short note on Brahmagupta and his contributions.
6. Explain the concept of the square of a number.
7. Explain the concept of square root with examples.
8. Explain series and progressions.
9. Explain the importance of the value of π (Pi).
10. Explain the concept of Algebra in Indian Mathematics.
11. Explain Binary Mathematics and its applications.
12. Explain Magic Squares in India.
13. Explain the importance of measurements in Ancient India.
14. Explain the contribution of Bhaskaracharya to Mathematics.
15. Explain the applications of Indian Mathematics in modern science.

- **Long Answer Questions (6 marks questions)**

1. Explain the traditional Indian systems of measuring time, distance, and weight with suitable examples.
2. Explain the unique aspects of Indian Mathematics in detail.
3. Describe the contributions of Aryabhata, Brahmagupta, and Bhaskaracharya to Mathematics.
4. Explain the concepts of square of a number and square root with suitable examples.
5. Explain Arithmetic Progression (AP) and Geometric Progression (GP) with examples.
6. Explain the value of π (Pi) and its significance in Indian Mathematics.
7. Explain Algebra and Binary Mathematics with suitable examples.
8. Explain Magic Squares in India and their mathematical significance.
9. Explain the applications of Ancient Indian Mathematics in modern science and technology.