

Total No. of Questions : 5]

SEAT No. :

PE-5000

[Total No. of Pages : 2

[6502]-101

S.Y. B.Sc.

COMPUTER SCIENCE

CS-201-IKS-T : Indian Knowledge System in Computing
(Rev. 2024) (Semester - III)

Time : 2 Hours]

[Max. Marks : 35

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.

Q1) Attempt any Eight of the following :

[8 × 1 = 8]

- a) List two sutras of factorization.
- b) Divide 345 by 23 by vedic method.
- ☒ c) Define Anumana in Nyaya philosophy.
- d) What is care based reasoning.
- e) Who is the founder of Nyaya philosophy?
- f) How many sutras are approximately present in pannini's Ashthadhyaya?
- g) Name one ancient cryptographic technique need in kautilya's Arthashastra.
- ☒ h) Give one similarity between ancient and modern cryptographic practices.
- i) What is meru prastara?
- ☒ j) What is Vedic Mathematics?

Q2) Attempt any four of the following :

[4 × 2 = 8]

- a) Define the term Ashthadhyayi and its significance.
- ☒ b) Name the six orthodox Schools of Indian philosophy.
- ☒ c) Define argumentation and list the types of argumentation.
- d) Why can machine learning be not considered as truly intelligent in the vedantic sense?
- ☒ e) What does two - factor authentication mean in modern cryptography?

Q3) Attempt any two of the following :

[2 × 4 = 8]

- a) Explain with example how recursion works in pannini's grammar.
- b) Discuss the significance of Nyaya sutra and its contribution to Indian logic.
- ☒ c) Explain chandrashastras binary logic and combinational techniques.

P.T.O.

Q4) Attempt any two of the following :

[2 × 4 = 8]

- Explain the five step syllogism of Nyaya inference with real life examples.
- Explain structure of mind in Sankhya philosophy. How do its components relate to cognitive function? Compare it with how AI or machine learning processes information.
- Factorize the quadratic equation $5x^2 + 5x + 4$ by using both sutras. Also write benefits of using vedic math factorization.

Q5) Attempt any one of the following :

[1 × 3 = 3]

- Design a flowchart that demonstrates how a student can use chandasastra's binary logic to identify a sanskrit meter.
- What do you mean by Arthashastra? Explain cryptographic techniques in Arthashastra vs modern cryptography.