

RAN-2603000506023001
T.Y.B.Sc. (Semester-VI) Examination March - 2026
MH-MAJOR-602 Ancient Indian Mathematics and Applied Linear Algebra (New)
[Total Marks: 25]

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવર્ણી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book. (2) All questions are compulsory. (3) Figures to the right indicate marks of the corresponding question.	Seat No.: Student's Signature
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Note: Full marks of each question to be indicated in a circle at the right end of first line of each question e.g. (10)

Q-1. Answer the following. (Any Five) 05

- 1) Show that the set (v) is LD then $v = 0$.
- 2) tallaksana =
- 3) Which type similar list of the Names of places have been assigned for practical use by ancient writer Nârâyana.
- 4) In a vector space $V_3 U = XZ$ – plane. Let $v = (1, 1, 1)$ then find the parallel of U through v .
- 5) Write the numeral values for the followings:
sapta niyuta tri ayuta sat sahasra sat sata asta dasa eka
- 6) Define: line through vector v .

Q-2. Answer the following. (Any Two) 10

- 1) Find the second order sum of partial series of 62 terms using Aryabhata's formula.
- 2) Find the sum: $1^2 + 3^2 + 5^2 + \dots + 19^2$.
- 3) Explain the properties of right-angles triangle in Sulba-sutras.

Q-3. Answer the following. (Any Two) 10

- 1) Let x, y and z are LI vectors in a vector space V . Is the set $\{2x + 3y - 2z, 2x + y - z, 3x + y + 2z\}$ LI? Justify your answer.
- 2) Is the set $S = \{(1, -1, 2, 0), (1, 1, 2, 0), (3, 0, 0, 1), (2, 1, -1, 0)\}$ LI in V_4 ?
- 3) Let U be a subspace of a vector space V and $P = v + U$ be the parallel of U through v then prove that two vectors $v_1, v_2 \in V$ are in the same parallel of U if $f v_1 - v_2 \in U$.