


RAN-2403000503063003
S.Y. B. Sc. (Sem. - III) Examination November - 2025
Mathematics - III (MH - SEC - 303)
Fundamental of Vedic Mathematics - III
Time: 1 Hour]
[Total Marks: 25
સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી 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 questions
- (4) Follow usual notations and conventions.

Seat No.:

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Student's Signature

Q. 1 Answer any FIVE from the following questions.
[05]

- (1) Solve : $\frac{6}{x} - 7 = -10$.
- (2) Solve : $\frac{2}{x+4} + \frac{3}{x+6} = \frac{5}{x+5}$
- (3) Use the Samuccaya Sutra to solve: $3x + 5x = 7x$
- (4) Solve : $\frac{1}{(x+2)(3x+1)} + \frac{1}{(3x+1)(5x+0)}$
- (5) What is the square root of discriminant?
- (6) Solve: $\frac{2x}{3} + \frac{x}{2} = 21$.

Q. 2 Attempt any TWO.
[10]

- (1) Merge and Solve :
 $\frac{4}{x+3} + \frac{1}{x+1} = \frac{5}{x+4}$
- (2) Use the Samuccaya Sutra to solve:
 - (i) $\frac{2x-3}{x+4} = \frac{x-9}{2x-16}$,
 - (ii) $\frac{1}{2x-3} + \frac{1}{5x+1} = 0$
- (3) Find the general solutions of simultaneous linear equations using transpose and apply method :
 - (i) $2x - y = -15$
 $3x + 7y = 37$,
 - (ii) $3x + 5y = 19$
 $2x + 3y = 12$.

Q. 3 Attempt any TWO.

[10]

(1) Solve :

(i) $\frac{3}{(x+2)(x+3)} + \frac{3}{(x+3)(x+4)} = 2$,

(ii) $\frac{3}{(x+5)(x+8)} + \frac{7}{(x+8)(x+15)} = \frac{10}{11}$

(2) Use Ultimate and twice Penultimate to solve :

(i) $\frac{1}{(x+1)(x+2)} + \frac{1}{(x+1)(x+3)} = \frac{1}{(x+1)(x+4)} + \frac{1}{(x+2)(x+3)}$

(ii) $\frac{1}{(x+7)(x+5)} + \frac{1}{(x+7)(x+3)} = \frac{1}{(x+7)(x+1)} + \frac{1}{(x+5)(x+3)}$

(3) (i) Find S_5 for $\frac{1}{5 \times 9} + \frac{1}{9 \times 13} + \frac{1}{13 \times 17} + \dots$

(ii) Find : $\frac{1}{18} + \frac{1}{54} + \frac{1}{108}$.
