

Enroll No

K.E.Society's
Rajarambapu Institute of Technology,
Rajaramnagar
 (An Empowered Autonomous Institute, affiliated to SUK)

Q.P.Code
UT 3506

Unit Test -II (2025-26)

F.Y. B. Tech (Div. A, B, C, D, E, F, G)

Course Code- Vedic mathematics

Course Name: SH 1461

Day & Date: Monday, 01-12-2025

Time: 3:45 p.m. to 4:45 p.m.

Max Marks- 25

- Instructions:**
- 1) All questions are compulsory.
 - 2) Figures in rounded () brackets within the question indicate the scheme of marking for respective part of the question, whereas figures in the first right column indicate the total marks for that whole question.
 - 3) CO is the index number of the Course Outcome statement.
 - 4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate, and create, respectively.
 - 5) Assume suitable data if necessary.
 - 6) **No calculator is allowed**

		M	BL	COs
Q.1	Attempt the following:	15		
a)	Analyze whether the number 98 satisfies the conditions required to use the Nikhilam division method. What makes it suitable? Hence solve $1296 \div 98$ if Nikhilam division method is applicable. (Analysis: 2 marks, Correct calculation: 3 marks)	5	CO2	BL4
b)	Use the Paravartya Yojyet method to solve: i) $13045 \div 112$ ii) $1234 \div 160$ (Correct calculation: 3 marks for i), 2marks for ii))	5	CO2	BL3
OR				
	Use the Paravartya method to divide the polynomial $2x^3 + 9x^2 + 18x + 20$ by $x^2 + 2x + 4$ and express it in the form $E = D \cdot Q + R$. (Correct calculation: 4 marks, Expression 1marks)			
c)	Explain how the Anurupyena method can be used to divide 7,685 units of a product equally into 672 cartons, and determine how many units will be packed in each carton and how many units will remain unpacked. (Formation of equation: 1 marks, Correct calculation: 4 marks)	5	CO2	BL2



- Q.2** Attempt the following: **10**
- a) Two pharmaceutical companies produce drug formulations modeled by the polynomials $x^4 + x^3 - 5x^2 - 3x + 2$ and $x^4 - 3x^3 + x^2 + 3x - 2$. Compare these polynomial expressions and find their highest common factor (HCF). Organize the factorisation steps clearly and discuss how understanding the common factors can assist in optimizing shared ingredients in the formulations. (Formation of equation: 1 marks, Correct calculation: 4 marks) 5 CO3 BL4
- b) Use lopanasthapanabhyam subsutra to factorise 5 CO3 CO1
- $$3x^2 + y^2 - 2z^2 - 4xy - yz - zx$$
- (Correct calculation: 5 marks)

OR

Factorise $x^3 - 2x^2 - 23x + 60$ and verify its correctness using methods from Ganita Samuccaya sutra.

(Factorization: 4 marks, Verification: 1 marks)

*****Best of Luck*****

