BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – BCA-Hons-2023/B.Sc.(ANCS)-Hons-2023
Course Name – Vedic Mathematics
Course Code - BCA30001/BNC30001
(Semester III)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) "Ekadhikena Purvena" helps in identifying the square of numbers ending in:
a) 2 b) 3
c) 5 d) 9

(ii) The sutra "Nikhilam Navatashcaramam Dashatah" simplifies calculations by focusing on--- identify the correct option.
a) The nearest multiple of 5 b) The nearest base power of 10
c) Adding numbers quickly d) Division shortcuts

(iii) Choose the name of a sutra that helps in solving problems involving proportions.
a) Urdhva-Tiryagbhyam b) Anurupyena
c) Nikhilam Navatashcaramam Dashatah d) Paravartya Yojayet

(iv) Choose the name of a sutra that helps in solving problems with deficiencies.
a) Sankalana-Vyavakalanabhya b) Chalana-Kalanabhyam
c) Yaavadunam d) Vyashtisamanstih

(v) Determine the birth state of Shri Bharati Krishna Tirthaji Maharaj born.
a) Tamil Nadu b) Karnataka
c) Odisha d) Maharashtra

(vi) For squaring a number like 25, "one more than the previous one" apply on ..... digit , define the correct option.
a) 2 b) 5
c) 3 d) None of these

(vii) "One less than the one before" identifies
a) Nikhilam sutra b) Ekadhikena Purvena sutra
c) Ekanyunena Purvena d) None of these

(viii) Using the *Ekadhikena Purvena* sutra, define the square of 75.
a) 5625 b) 5525
c) 5575 d) 5620

(ix) The *Ekadhikena Purvena* sutra is particularly useful for numbers ending in ..... digit, locate the correct option.

a) 0 b) 1
c) 5 d) 9

(x) Using the *Ekanyunena Purvena* sutra, examine 99×99.

a) 9801 b) 9901
c) 9999 d) 10000

(xi) Determine the nearest base to consider while multiply 89 with 89.

a) 90 b) 100
c) 80 d) 85

(xii) In the Ekadhikena Purvena method, identify the first step when dividing 123 by 9.

a) Subtract 1 from the last digit b) Write the dividend as it is
c) Write the first digit of the dividend as the first part of the quotient d) Add 1 to each digit of the dividend

(xiii) When dividing 587 by 9 using the Ekadhikena Purvena Sutra, identify the first digit of the quotient.

a) 5 b) 6
c) 7 d) 9

(xiv) Explain the main advantage of using Vedic Mathematics techniques for squaring numbers.

a) It simplifies complex division problems. b) It allows for faster and easier mental calculations.
c) It only works for specific types of numbers. d) It requires a calculator for accurate results.

(xv) Identify from the following methods that is NOT used in Vedic Mathematics to find the H.C.F. of two numbers.

a) Division algorithm b) Subtraction method
c) Cross multiplication method d) Prime factorization

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Using Nikhilam Navatascaramam Dasatah, identify multiplication of 18 with 14. (3)

3. Use the "Vertically and Crosswise" method to determine the product of 12 and 34. (3)

4. Define "Ekanyunena Purvena" rule that help you multiply 91 by 99. (3)

5. Determine the cube of 24 (3)

6. Justify Nikhilam sutra to find the product of 46 x 44. (3)

OR

45x99= 4455, Justify the answer by using one of Vedic Mathematics sutra. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Discuss the relevance and potential benefits of incorporating Vedic Mathematics in modern education systems. (5)

8. Define the application of "Urdhva Tiryagbyham." to multiply two numbers of any size. (5)

9. Using Nikhilam in division, evaluate the quotient and remainder for 36÷9. (5)

10. Determine the cube of 102. (5)

11. Divide 2122 by 97 (5)

12. Write the cube root of 2197. (5)

OR

Write the cube root of 205379 (5)

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