K16U 0325

Reg. No. : .....

Name : .....

VI Semester B.A./B.Sc./B.Com./B.B.A./B.B.A.T.T.M./B.B.A.R.T.M./B.B.M./ B.C.A./B.S.W./B.A. Afsal-Ul-Ulama Degree (CCSS – Reg./Supple./Improv.) Examination, May 2016

Open Course

6D01 MAT : VEDIC MATHEMATICS

Time : 2 Hours Total Weightage : 20

PART – A

This Part consists of **two** bunches of questions carrying **equal** weightage of **one**. **Each** bunch consist of **four** objective type questions. Answer **all** questions.

1. In vedic numerical code 'ma ma' is _____

2. Auxiliary fraction for $\frac{1}{29}$ is _____

3. In vedic numeral code 'Ksa' means _____

4. _____ method is known as vertically and cross wise.

5. If $ax + b = cx + d$, then $x =$ _____

6. $\sqrt{0.00000049} =$ _____

7. The HCF of $(x^2 + 7x + 6)$ and $(x^2 - 5x - 6)$ is _____

8. Cube root of 729 is _____ **(2×1=2)**

PART – B

Answer **any six** questions. **Each** question carries a weightage of **one**.

9. Factorize : $4x^3 - 12x^2 - 15 - 4$.

10. Solve $(x + 1)(x + 2) = (x - 3)(x - 4)$.

P.T.O.

11. Find the HCF of $x^4 + x^3 - 5x^2 - 3x + 2$ and $x^4 - 3x^3 + x^2 + 3x - 2$.

12. Find Duplex D for :
    i) 746213
    ii) 80607 and
    iii) 60172.

13. Divide 39999 by 9819 using Vinculum method.

14. Divide $x^3 - 3x^2 + 10x - 7$ by $x - 5$.

15. Find one factor of $2x^2 + 5x + 2$.

16. Multiply 94 and 81 by Urdhva-Tiryak method.

17. Multiply $3x^2 + 5x + 7$ and $4x^2 + 7x + 6$.

18. Divide 1400 by 199 using Nikhilam method. **(6×1=6)**

PART – C

Answer **any four** questions. **Each** question carries a weightage of **two**.

19. Using 500 as the working base, find 389 × 516.

20. Multiply 889 and 9998 by Nikhilam method.

21. Solve : $\frac{3}{3x+1} - \frac{6}{6x+1} = \frac{3}{3x+2} - \frac{2}{2x+1}$.

22. Find the area of a rectangular piece of land whose length and breadth are 7' 8" and 5' 11" respectively.

23. Find :
    a) 23^3
    b) 97^3.

24. Factorise $x^4 - 6x^3 + 13x^2 - 24x + 36$.

25. Solve : $x^4 - 12x^3 + 49x^2 - 78x + 40 = 0$.

26. Simplify :

$$\frac{2x+11}{x+5} + \frac{15x-47}{3x-10} = \frac{9x-9}{3x-4} + \frac{4x+13}{x+3}$$ **(4×2=8)**

PART – D

Answer **any one** question. **Each** question carries a weightage of **4**.

27. Find Duplex D for the numbers
    i) 521398
    ii) 746213
    iii) 80607.

28. Solve by Parvarthya method :

$$\frac{3}{x-2} + \frac{5}{x-6} = \frac{8}{+3}.$$

29. Find x if $\frac{a}{x+a} + \frac{b}{x+b} = \frac{2c}{x+c}$. **(1×4=4)**

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