



CTET & DSSSB TGT

Level-2 Part(B)

SPECIAL CLASS

MATHS

Demo-01

ALGEBRA

(बीजगणित)



LIVE 18-03-2024 05:00 PM



TIME TABLE

CTET 2024

बुनियाद 4.0



LEVEL-2
GEOGRAPHY
LIVE 09:00 AM



LEVEL (1&2)
HINDI & PEDA
LIVE 10:00 AM



LEVEL-1
EVS & PEDA
LIVE 11:00 AM



LEVEL-2
HISTORY
LIVE 12:00 PM



LEVEL-2
SCIENCE & PEDA
LIVE 12:00 PM



LEVEL (1&2)
MATHS & PEDA
LIVE 01:00 PM



LEVEL-2
POLITY & SST PEDA
LIVE 02:00 PM



LEVEL (1&2)
CDP & PEDA
LIVE 04:00 PM



LEVEL-2
MATHS
LIVE 05:00 PM



LEVEL (1&2)
ENGLISH & PEDA
LIVE 07:00 PM



LEVEL (1&2)
SANSKRIT & PEDA
LIVE 07:00 PM

Registration Starts from 14th March

Classes Start from 18th March



CTET JULY 2024



FEATURES

- ▶ Live Classes ✓
- ▶ Mock Test ✓
- ▶ Doubt Group ✓
- ▶ Class Notes PDF ✓
- ▶ Experienced Teachers ✓

बुनियाद 4.0

₹ 599/-

कूपन → CTET20

480



▶ Registration Starts from 14th March

▶ Classes Start from 18th March

JOIN US ON



DOWNLOAD THE
RWA APP NOW



Google Play

Number System

HCF & LCM ✓

Whole Numbers ✓

Negative Numbers and Integers
and Fractions

CTET (LEVEL-2)

Geometry

Basic geometrical ideas (2-D)

Understanding Elementary Shapes (2-D and 3-D)

Symmetry: (reflection)

**and Construction (using Straight edge Scale
protractor, compasses)**

Algebra

Basic Concept of Algebra

Ratio & Proportion

and Algebraic Equations

Arithmetics:

Time & Work

Time & Distance

**Profit & Loss, Simple & Compound Interest
and Ratio & Proportion**

Mensuration

Sphere

Cylinder

Cone

Triangle

Circle

and Rectangle/Square

Algebra

बीजगणित

$$a+b(a+b)^2-3ab$$

$$(a+b)^2 = a^2 + b^2 + 2ab$$

$$(a-b)^2 = a^2 + b^2 - 2ab$$

$$a^2 - b^2 = (a+b)(a-b)$$

$$(a+b)^3 = \underline{a^3 + b^3} + 3ab(a+b)$$

$$(a-b)^3 = a^3 - b^3 - 3ab(a-b)$$

$$a^3 + b^3 = (a+b)^3 - 3ab(a+b)$$

$$a^3 + b^3 = (a+b)(a^2 + b^2 - ab)$$

$$a^3 - b^3 = (a-b)(a^2 + b^2 + ab)$$

$$(a+b)^2 = (a-b)^2 + 4ab$$

$$(a-b)^2 = (a+b)^2 - 4ab$$

$$\begin{array}{c} x \\ y \end{array} \begin{array}{c} a \\ b \end{array}$$

$$xb = ay$$

$$\frac{b}{a} = \frac{a}{x}$$

$$13-7 = 65y + 35y$$

$$\rightarrow 6x = 100y$$

1. If $\frac{X-5Y}{X+5Y} = \frac{7}{13}$ then find the value of $\frac{X}{Y}$.



यदि $\frac{X-5Y}{X+5Y} = \frac{7}{13}$ है तो $\frac{X}{Y}$ का मान ज्ञात कीजिये।

$$\frac{(X-5Y)}{(X+5Y)} = \frac{7}{13}$$

$$13(X-5Y) = 7(X+5Y)$$

$$13x - 65y = 7x + 35y$$

$$13x - 7x = 35y + 65y$$

$$6x = 100y$$

(a) $\frac{23}{7}$

(c) $\frac{50}{3}$

(b) $\frac{24}{9}$

(d) $\frac{100}{7}$

$$\frac{6x}{y} = \frac{100}{1}$$

$$\frac{x}{y} = \frac{100}{6} \Rightarrow \frac{50}{3}$$

$$3x^3 + 5x^2y + 12xy^2 + 7y^3$$

$$3(-4)^3 + 5(-4)^2(-1) + 12(-4)(-1)^2 + 7(-1)^3$$

$$3(-64) + 5 \times 16(-1) + 12(-4) + 7(-1)$$

$$-192 - 80 - 48 - 7$$

$$\Rightarrow -327$$

2. Find the value of $(3x^3 + 5x^2y + 12xy^2 + 7y^3)$ when $x = -4$ and $y = -1$.

$x = -4$ और $y = -1$ होने पर $(3x^3 + 5x^2y + 12xy^2 + 7y^3)$ का मान ज्ञात कीजिए।

(a) - 329

(c) - 361

(b) - 359

(d) - 327

$$(x+y)^2 = x^2 + y^2 + 2xy$$

$$7^2 = x^2 + y^2 + 2 \times 19$$

$$49 = x^2 + y^2 + 38$$

$$49 - 38 = \underline{\underline{x^2 + y^2}}$$

11

3. If $x + y = 7$ and $xy = 19$, then find the value of $x^2 + y^2$.

यदि $x + y = 7$ और $xy = 19$ है, तो $x^2 + y^2$ का मान ज्ञात करें।

(a) 17

(b) 12

(c) 11

(d) 19

$$(x-y)^2 = x^2 + y^2 - 2xy$$

$$9 = 29 - 2xy$$

$$9 - 29 = -2xy$$

$$+20 = +2xy$$

$$2xy = 20$$

$$\times 2 \quad \quad \times 2$$

$$4xy = 40$$

4. If $x^2 + y^2 = 29$ and $x - y = 3$,

then what is the value of $4xy$?

यदि $x^2 + y^2 = 29$ और $x - y = 3$

है, तो $4xy$ का मान क्या है?

(a) 40

(c) 60

~~(b) 56~~

(d) 16

5. If $2p + 5q = 12$ and $pq = 3$, then find the value of $4p^2 + 25q^2$.

यदि $2p + 5q = 12$ और $pq = 3$, तो $4p^2 + 25q^2$ का मान ज्ञात कीजिए।

(a) 64

(b) 24

(c) 84

(d) 44

$$(2p+5q)^2 = (2p)^2 + (5q)^2 + 2 \cdot 2p \cdot 5q$$

$$(12)^2 = 4p^2 + 25q^2 + 20pq$$

$$144 = 4p^2 + 25q^2 + 60$$

$$84 = 4p^2 + 25q^2$$

$$(A+B)^3 = (-5)^3$$

$$A^3 + B^3 + 3AB(A+B) = -125$$

$$A^3 + B^3 + 3 \times 6 \times (-5) = -125$$

$$A^3 + B^3 - 90 = -125$$

$$A^3 + B^3 = -125 + 90 \Rightarrow -35$$

6. If $A + B = -5$ and $AB = 6$, then find the value of $A^3 + B^3$.

यदि $A + B = -5$ और $AB = 6$, तो $A^3 + B^3$ का मान ज्ञात कीजिए।

(a) ~~35~~

(b) 45

(c) 215

(d) -35

$$\left(k + \frac{1}{k}\right)^2 = 9$$

$$\left(k + \frac{1}{k}\right)^3 = 27$$

$$k^3 + \frac{1}{k^3} + 3 \cdot k \cdot \frac{1}{k} \left(k + \frac{1}{k}\right) = 27$$

$$k^3 + \frac{1}{k^3} + 3 \times 3 = 27$$

$$k^3 + \frac{1}{k^3} = 18$$

7. If $\left(k + \frac{1}{k}\right)^2 = 9$, then what is the value of $k^3 + \frac{1}{k^3}$?

यदि $\left(k + \frac{1}{k}\right)^2 = 9$, तो $k^3 + \frac{1}{k^3}$ का

मान क्या है ?

(a) 27

(c) 15

(b) 18

(d) 21

Point

①

②

यदि

$$x + \frac{1}{x} = 2$$

$$\boxed{x=1}$$

$$x^2 + 1 = 2x$$

$$x^2 + 1 - 2x = 0$$

$$(x-1)^2 = 0$$

$$\boxed{x=1}$$

यदि

$$x + \frac{1}{x} = -2$$

$$\boxed{x=-1}$$

$$K + \frac{1}{K} = 2$$

$K = 1$

$$1^{17} + \frac{1}{1^{17}}$$
$$1 + 1 = 2$$

8. If $K + \frac{1}{K} - 2 = 0$ and $K > 0$,

then what is the value of

$$K^{17} + \frac{1}{K^{12}}?$$

यदि $K + \frac{1}{K} - 2 = 0$ और $K > 0$, तो

$K^{17} + \frac{1}{K^{12}}$ का मान क्या है?

(a) 2

(b) 1

(c) 0

(d) 12

$$M + \frac{1}{M} = 2$$

$$\boxed{M=1}$$

$$M^{100} + \frac{1}{M^{121}} - M^{303}$$

$$1 + \cancel{1} - \cancel{1}$$

9. If $M + \frac{1}{M} = 2$ and $M > 0$, then what will be the value of $M^{100} + \frac{1}{M^{121}} - M^{303}$?

यदि $M + \frac{1}{M} = 2$ है और $M > 0$ है, तो

$M^{100} + \frac{1}{M^{121}} - M^{303}$ का मान क्या होगा?

(a) 0

(e) 2

(b) 1

(d) 4

10. If $x - 2 = \frac{-1}{x}$ then what will be the value of $x^{100} + x^{106} + x^{112}$.

यदि $x - 2 = \frac{-1}{x}$ है तो $x^{100} + x^{106} + x^{112}$ का मान क्या होगा।

(a) 0

(b) 2

(c) 1

(d) 3

$$x - 2 = -\frac{1}{x}$$
$$x + \frac{1}{x} = 2$$
$$x = 1$$

सं. 11.

11. If $x + \frac{1}{x} = 2$ **then** $(x - 2)^{19} + \frac{1}{(x-2)^{19}} = ?$

यदि $x + \frac{1}{x} = 2$ है तो $(x - 2)^{19} + \frac{1}{(x-2)^{19}} = ?$

(a) 2

(b) 1

(c) 0

(d) -2