

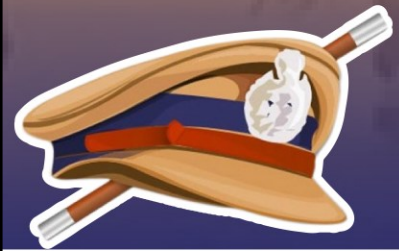


Mahendra's



यूपी पुलिस एसआई परीक्षा 2021

Remainder Theorem ***(Fermat's little theorem)***



संख्यात्मक योग्यता

• **LIVE**

01:00 PM



UPCOMING ONLINE BATCHES



MAY 2021

05 May 2021

08:00 AM to 10:00 PM

LIVE PREMIUM SILVER CARD
(CGL & CHSI)

03:00 PM to 05:00 PM

LIVE PREMIUM GREEN CARD
(IBPS PO & CLERK)

01:00 PM to 03:00 PM

UP POLICE SI 2021
(LAW + HINDI)

BILINGUAL

12 May 2021

01:00 PM to 03:00 PM

LIVE PREMIUM SILVER CARD
(CGL & CHSL)

05:30 PM to 07:30 PM

LIVE PREMIUM GREEN CARD
(IBPS PO & CLERK)

BILINGUAL

19 May 2021

10:30 AM to 12:30 PM

LIVE PREMIUM SILVER CARD
(CGL & CHSI)

01:00 PM to 03:00 PM

LIVE PREMIUM GREEN CARD
(IBPS PO & CLERK)

BILINGUAL

26 May 2021

07:30 PM to 09:30 PM

LIVE PREMIUM SILVER CARD
(CGL & CHSI)

08:00 AM to 10:00 AM

LIVE PREMIUM GREEN CARD
(IBPS PO & CLERK)

05:30 PM to 07:30 PM

LIVE PREMIUM SILVER CARD
(CGL & CHSI)

BILINGUAL

**SBI Clerk Pre 2021
Crash Course**

05 May 2021

10:30 AM to 12:30 PM

SBI CLERK PRELIMS 2021

12 May 2021

8:00 AM to 10:00 AM

SBI CLERK PRELIMS 2021

3:00 PM to 5:00 PM

SBI CLERK PRELIMS 2021

7:30 PM to 9:30 PM

SBI CLERK PRELIMS 2021

19 May 2021

1:00 PM to 3:00 PM

SBI CLERK PRELIMS 2021

5:30 PM to 7:30 PM

SBI CLERK PRELIMS 2021

26 May 2021

10:30 AM to 02:00 PM

SBI CLERK PRELIMS 2021

BILINGUAL

10:30 AM to 12:30 PM

LIVE PREMIUM GREEN CARD
(IBPS PO & CLERK)

ENGLISH MEDIUM

03:00 PM to 05:00 PM

LIVE PREMIUM SILVER CARD
(CGL & CHSL)

ENGLISH MEDIUM

07:30 PM to 09:30 PM

LIVE PREMIUM GREEN CARD
(IBPS PO & CLERK)

ENGLISH MEDIUM

19 May 2021

07:30 PM to 09:30 PM

LIVE MATHS FOUNDATION COURSE

BILINGUAL



1800-103-5225



www.mahendras.org

Find the remainder in expression—

$$\frac{1111 \times 2222 \times 3333 \times 1111}{15}$$

$$15 \div 5 = 3$$

व्यंजक $\frac{1111 \times 2222 \times 3333}{15}$ में शेषफल होगा।

(a) 10

(b) 11

(c) 2

✓ (d) 6

Solⁿ:

Required Answer = $2 \times 3 = 6$

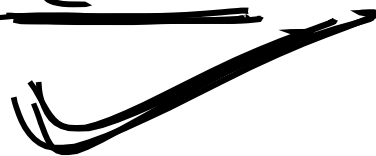
$$\left[\frac{2}{5} \right] 3$$

$$\frac{2}{5}$$

$$R=2$$

Trick :-

$$\left[\frac{\div}{3} \right]$$



Find the remainder in expression—

$$\frac{1001 \times \overset{334}{1002} \times 1003 \times 1004}{27 \times 9}$$

व्यंजक $\frac{1001 \times 1002 \times 1003 \times 1004}{27}$ में शेषफल होगा।

(a) 10

(b) 11

(c) 2

(d) 12

$$\frac{2^1 \times 1 \times 4 \times 5}{9} = \frac{40}{9} \quad [R=4]$$

Required remainder = $4 \times 3 = 12$

$$\begin{array}{r} 3 \overline{) 162} \\ \underline{162} \\ 0 \end{array}$$

Find the remainder when $(3)^{162}$ is divided by 162.

जब $(3)^{162}$ को 162 से भाग किया जाये तो शेषफल होगा।

- (a) 1 (b) 81
(c) 150 (d) 100

$$\begin{array}{r} 3 \overline{) 162} \\ \underline{162} \\ 0 \end{array}$$

$$= \frac{3^4 \cdot 3^{158}}{162 \cdot 2}$$

$$\left[\frac{3}{2} \cdot 81 \right]$$

$$\frac{1}{2}^{158} \Rightarrow R = 1$$

Correct Remainder = $1 \times 81 = 81$

$$a^m \times a^n = a^{m+n}$$

Find the remainder when $(5)^{250}$ is divided by 250.

जब $(5)^{250}$ को 250 से भाग किया जाये तो शेषफल होगा।

$$5^3 = 125$$

(a) 1

☒ (b) 125

(c) 150

(d) 100

$$\frac{(5)^{250}}{250} = \frac{5^3 \times 5^{247}}{250 \times 2} \quad \left[\div 125 \right]$$

Correct Remainder

$$= 1 \times 125 = 125$$

$$\Rightarrow \frac{5^{247}}{2} = \frac{1}{2}^{247}$$

R = 1

Find the remainder when $(2)^{51}$ is divided by 5.

जब $(2)^{51}$ को 5 से भाग किया जाये तो शेषफल होगा।

(a) 1

(b) 2

☒ (c) 3

(d) 4

$$\left[\frac{2^{51}}{5} \right]$$

$$(2^2)^{25} \times 2^1$$

$$\frac{(-1)^{25} \times 2}{5}$$

$$\Rightarrow -\frac{2}{5} \quad R = \underline{\underline{+3}}$$

Find the remainder when $(2)^{501}$ is divided by 9.

जब $(2)^{501}$ को 9 से भाग किया जाये तो शेषफल होगा।

(a) 8

(b) 7

(c) 4

(d) 5

$\frac{(+1)}{9} \Rightarrow \frac{(2)^{501}}{9} \Rightarrow \frac{(2^3)^{167}}{9} \Rightarrow \frac{(8)^{167}}{9}$

$$\frac{(-1)^{167}}{9} = -\frac{1}{9}$$

positive remainder
= 8

Find the remainder when $(2)^{111}$ is divided by 9.

जब $(2)^{111}$ को 9 से भाग किया जाये तो शेषफल होगा।

(a) 4

(b) 5

(c) 7

(d) 8

$$\begin{aligned}
 & \left(\frac{+1}{-1} \right) \leftarrow \frac{(2)^{111}}{9} = \frac{(2^3)^{37}}{9} = \frac{(8)^{37}}{9} \\
 & = \frac{(-1)^{37}}{9} = \frac{-1}{9} \\
 & \text{Remainder} = 8
 \end{aligned}$$