POWER CYCLE

Power cycle

- When any number is raised to the power n, where n = 1, 2, 3..., its units digit follows a pattern or a cycle.
- The last digit of a number of the form ab falls in a particular sequence or order depending on the unit digit of the number “a” and the power the number is raised to “b”. Thus, the ***power cycle*** of a number depends on its’ unit digit.

Consider the power cycle of 2:

2^1 = 2 2^5 = 32

2^2 = 4 2^6 = 64

2^3 = 8 2^7 =128

2^4 =16 2^8 =256

Power cycle

Numbers	Cycle	Pattern
1	1	1
2	4	2,4,8,6
3	4	3,9,7,1
4	2	4,6
5	1	5
6	1	6
7	4	7,9,3,1
8	4	8,4,2,6
9	2	9,1

Question: 01

Find the last digit of 4^55.

A. 6

B. 4

C. 2

D. 5

Answer: B

Question: 02

Find the last digit of 123457^34

A. 7

B. 8

C. 9

D. 6

Answer: C

Question: 03

What is the unit digit in $\{(6374)^{1793} \times (625)^{317} \times (341^{491})\}$?

A. 0

B. 2

C. 3

D. 5

Answer: A

Question: 04

Find the Unit digit of (3547)^153 * (251)^72

A. 7

B. 3

C. 9

D. 8

Answer: A

Question: 06

Find last digit of the number 3^2015

A. 5

B. 6

C. 9

D. 7

Answer: D

Question: 07

Find last digit of the number 4444^2015

A. 6

B. 4

C. 8

D. 3

Answer: B

Explanation: 07

Here power value is odd number

So last digit of the given number is 4

Hint: The last digit of any number having “4” then power having even number then unit place comes 6 and power having odd number then unit place comes 4

question: 07

2016^2015 – 2015^2016

THANK YOU