

GATE-2023 CRASH COURSE

GENERAL APTITUDE

English

Solar
CALENDARS



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Q.1

What is the use of CALENDAR?

Q. 15

Date ^u → Day?

Q.2

How many months in a year consist of 30 days?

April → 1

June → 2

Sep → 3

Nov → 4

only exactly

4 months

11 months

Q.3

Which is the first day of a week?



Sunday

Monday

Q.4

What is the difference between A.D. & B.C.?



C.E.
Common Era

B.C.E.

Before Common Era

Anno Domini

Holy Year

Q.5

How many years maximum a person has to wait to celebrate his or her birthday?



29th Feb

8yrs.

1796 → 29th Feb

Q.6

How do you know a given year is leap year or not?



Q.10

Mohit celebrated his birthday on 29th February, 1796. Do he get his birthday in 4 years?



400

365 days 5 hrs 42 min ... sec

365 days 6 hrs

OR

$365\frac{1}{4}$ days

1. 365

2. 365

3. 365

4. $365 + 1 = 366$ days

6 hrs

6 hrs

6 hrs

6 hrs

Q.11

Today is 18th October, 2022. The day is Tuesday.
Then what would be the day on 28th October, 2022?



ODD DAYS

N.Y $\rightarrow 365 \rightarrow 1$ odd day

L.Y $\rightarrow 366 \rightarrow 2$ odd days

3 days

$\rightarrow 18^{\text{th}}$ Oct, 2022 \rightarrow Tuesday
+3

$\rightarrow 28^{\text{th}}$ " " \rightarrow ? FRIDAY

10

7

Normal Year

- Normal year = 365 Days
1 ODD DAY

$$\begin{array}{r}
 \overbrace{365}^{7 \quad 52} \\
 \underline{35} \\
 15 \\
 \underline{14} \\
 \textcircled{1}
 \end{array}$$

Leap Year

N.Y-1
L.Y-2



- Normal year = 366 Days
2 ODD DAY

$$\begin{array}{r}
 7 \overline{) 366} \\
 \underline{35} \\
 16 \\
 \underline{14} \\
 \textcircled{2}
 \end{array}$$

~~52 weeks~~



~~100~~ 400 500

→ 5 odd days

100 yrs

- 04 ✓
- 08 ✓
- 12 ✓
- 16 ✓
- 20 ✓
- 24
- 28
- 32

8

100 Years = ? ODD DAYS

x 100 → 5 500

x 200 → 3 (10)

x 300 → 1 (15)

→ 400 → ~~10~~

L.Y

24

(x2)

48

6

+

N.Y.

76

(x1)

76

6

12

Odd Days

- 100 Years = ? Odd days

1900



$6 + 6 = 12$; means 5 odd days

500	100	-5	✓
600	200	-3	✓
700	300	-1	✓
800	400	-0	✓
			1900
			<u>2000</u>



0-S

1-M

2-Tu

3-Wed

4-Thu

5-Fri

6-Sat

27th June, 2002

Thursday

→ 4 odd days

2000-0

2001 → 1

+ 3

4

J → 3

M → 3

F → 0

J → *

M → 3

A → 2

+

Q.12

What will be the day of the week on 3rd June 1950?



Saturday

✓
1949 → 6

1900 → 1

J-~~8~~ M-~~8~~
F-0 J-~~8~~
M-~~8~~
A-~~2~~

(24)

✓
49 → (5)

L.Y N.Y

12 37

(37)

3 + 3

(+5) 61 (8)
56
5

X (12)

07
48

Q.13

Lal Bahadur Shastri was born on 2nd October
1904. What would be the week Day?



0 odd days

1900 \rightarrow 1

Sunday

3 odd days

1903 \rightarrow 4 + 3 = 7

J-B J-7
F-1 J-3
M-8 A-3
A-2 S-2
M(3) 0-2



Brainstorming:
15th August, 1947

$$2+3=\underline{5} \quad \underline{\text{FRIDAY}}$$

1946 → 2

1900 → 1

J-3 M-8

F-0 J-2

M-8 J-3 L-2

A-2 A-1

22

46 → 1

N.Y
35
34
0

07
x11
44

Brainstorming:
11th September, 2001



2011



2017 → 1

2018 → 1

2019 → 1

2020 → 2

CALANDAR 2021 → 1
REPEATS

2022

2011 → 1

2012 → 2

2013 → 1

2014 → 1

2015 → 1

2016 → 2

Brainstorming:

Find when does 2017 calendar repeats.



Brainstorming:

Find when does 2012 calendar repeats.



Leap Year vs Normal Year (Calendar Matching)



- Normal year consist of 365 days and Leap year as 366 days. Thus a Normal Year can match only with a Normal Year & Leap Year matches only with a Leap Year.
- Like if we consider, 2012 calendar it has to match with 2017, but it won't.

2012 2 Odd days

2013 1 Odd Day

2014 1 Odd Day

2015 1 Odd Day

2016 2 Odd days

Total = 7 Odd days

• Leap Year 28 years

• Normal Year 6 years

• Normal Year 11 years

• Normal Year 11 years

• Leap Year 28 years



Conditional Questions

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Q.14

If a year consist of 700 days and every week has 11 days, then how many odd days that year has?



$$\begin{array}{r} 11 \overline{) 700} \quad 63 \\ \underline{66} \\ 40 \\ \underline{33} \\ 7 \end{array}$$

7 odd days

Q.15

The last day of a century can be which day?



