Calendar

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1. Odd Days:

We are supposed to find the day of the week on a given date.

For this, we use the concept of 'odd days'.

In a given period, the number of days more than the complete weeks are called odd days.

2. Does a leap year occur every 4 years?

(i). Every year divisible by 4 is a leap year, if it is not a century.

(ii). Every 4th century is a leap year and no other century is a leap year.

(iii) To check whether a century year is a leap year, we divide it by 400. (Why?)

Examples:

1. Each of the years 1948, 2004, 1676 etc. is a leap year.

2. Each of the years 400, 800, 1200, 1600, 2000 etc. is a leap year.

3. None of the years 2001, 2002, 2003, 2005, 1800, 2100 is a leap year.

4. No of leap years in 100 years: 24

No of leap years in 200 years: 48

No of leap years in 300 years: 72

No of leap years in 400 years: ?

5. Counting of Odd Days:

1. 1 ordinary year = 365 days = (52 weeks + 1 day.)

∴ 1 ordinary year has 1 odd day.

2. 1 leap year = 366 days = (52 weeks + 2 days)

∴ 1 leap year has 2 odd days.

3. 100 years = 76 ordinary years + 24 leap years

= (76 × 1 + 24 × 2) odd days = 124 odd days.

= (17 weeks + 5 days) = 5 odd days.

∴ Number of odd days in 100 years = 5.

Number of odd days in 200 years = (5 × 2) = 3 odd days.

Number of odd days in 300 years = (5 × 3) = 1 odd day.

Number of odd days in 400 years = (5 × 4 + 1) = 0 odd day.

Similarly, each one of 800 years, 1200 years, 1600 years, 2000 years etc. has 0 odd days.

6. Day of the Week Related to Odd Days:

No. of days:	0	1	2	3	4	5	6
Day:	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.