

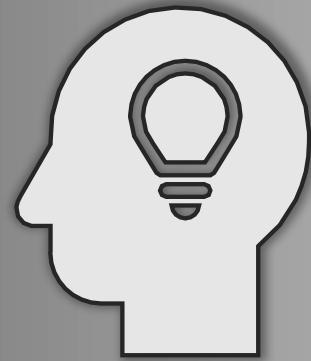


A collage of various analytical chemistry and data visualization elements. It includes a lightbulb with a brain-like filament, a 3D pie chart, a flowchart with arrows, laboratory glassware like test tubes and flasks, and a smartphone displaying data. The background features a dark area with floating black circles and diamonds.

EPEA516 ANALYTICAL SKILLS II

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Learning Outcomes



After this lecture, you will be able to

- define the concept of odd days.
- develop understanding of the procedure for calculating odd days.

Calculation of Odd Days

- Concept
 - Number of Days - More than a Week
 - Given Number of Days \div Number of Weekdays
 - Remainder = Odd Day/Days

Calculation of Odd Days

- Number of Days = 11
- Number of Weekdays = 7
- Remainder = $11 \div 7$
 = 4
- Odd Days = 4 Odd Days

Calculation of Odd Days

- Counting of Odd Days
- One Ordinary Year = 365 Days
 = $(52 \times 7 + 1)$ Days
 = 52 Weeks + 1 Day
 = 1 Odd Day

Calculation of Odd Days

- One Leap Year
 - = 366 Days
 - = $(52 \times 7 + 2)$ Days
 - = 52 Weeks + 2 Days
 - = 2 Odd Days

Calculation of Odd Days

- 100 years
 - = 76 ordinary years + 24 leap years
 - = $(76 \times 1 + 24 \times 2)$ Odd Days
 - = $(76 + 48)$ Odd Days
 - = 124 Odd Days
 - = $(17 \times 7 + 5)$ Odd Days
 - = 17 Weeks + 5 Odd Days
 - = 5 Odd Days

Calculation of Odd Days

- Number of Odd Days in 200 years
 - = (5×2) Odd Days
 - = 10 Odd Days
 - = $(7 + 3)$ Odd Days
 - = 1 Week + 3 Odd Days
 - = 3 Odd Days

Calculation of Odd Days

- Number of Odd Days in 300 years
 - = (5×3) Odd Days
 - = 15 Odd Days
 - = $(14 + 1)$ Odd Days
 - = $(7 \times 2 + 1)$ Odd Days
 - = 2 Weeks + 1 Odd Day
 - = 1 Odd Day

Calculation of Odd Days

- Number of Odd Days in 400 years

$$= (5 \times 4 + 1) \text{ Odd Days}$$

$$= 21 \text{ Odd Days}$$

$$= (7 \times 3) \text{ Odd Days}$$

$$= (7 \times 3 + 0) \text{ Odd Days}$$

$$= 3 \text{ weeks} + 0 \text{ Odd Days}$$

$$= 0 \text{ Odd Days}$$

Calculation of Odd Days

In general,

$$\text{Number of Odd Days} = (7P + Q) \text{ Odd Days}$$

Where $Q < 7$

Q = Number of Odd Days

Calculation of Odd Days

- Months and Number of Odd Days
 - January = 31 Days
= $(7 \times 4 + 3)$ Days
= 4 Weeks + 3 Odd Days
= 3 Odd Days

Calculation of Odd Days

Months and Number of Odd Days

| Months | Number of Odd Days |
|----------|--|
| January | 3 |
| February | 0 (For Non-leap Year) 1 (For Leap Year) |
| March | 3 |
| April | 2 |
| May | 3 |
| June | 2 |

Calculation of Odd Days

Months and Number of Odd Days

| Months | Number of Odd Days |
|-----------|--------------------|
| July | 3 |
| August | 3 |
| September | 2 |
| October | 3 |
| November | 2 |
| December | 3 |

Calculation of Odd Days

- Ordinary Year

- Number of Odd Days in first three months

$$= (31 + 28 + 31) \text{ Days} = (90) \text{ Days}$$

$$= (84 + 6) \text{ Days}$$

$$= (12 \times 7 + 6) \text{ Days}$$

$$= 12 \text{ weeks} + 6 \text{ Days}$$

$$= 6 \text{ Odd Days}$$

Calculation of Odd Days

- Ordinary Year

| Number of Months | Number of Days | Number of Odd Days |
|--------------------|----------------|--------------------|
| First Three Months | 90 | 6 |
| First Six Months | 181 | 6 |
| First Nine Months | 273 | 0 |
| Second Six Months | 184 | 2 |

Calculation of Odd Days

- Leap Year

| Number of Months | Number of Days | Number of Odd Days |
|--------------------|----------------|--------------------|
| First Three Months | 91 | 0 |
| First Six Months | 182 | 0 |
| First Nine Months | 274 | 1 |
| Second Six Months | 184 | 3 |

Calculation of Odd Days

- Day of the Week and Number of Odd Days

| Day of Week | Number of Odd Day |
|-------------|-------------------|
| Sunday | 0 |
| Monday | 1 |
| Tuesday | 2 |
| Wednesday | 3 |
| Thursday | 4 |
| Friday | 5 |
| Saturday | 6 |

Conclusion

- Concept of Odd Days
 - Number of Days - More than a Week
- Calculation of Odd Days

Conclusion

- Number of Odd Days
 - Ordinary & Leap Year
 - 100, 200, 300, 400 Years
 - Months and Number of Odd Days
 - Day of the Week and Number of Odd Days
 - Number of Odd Days = $(7P + Q)$ Odd Days

Summary

- Odd Days
 - Concept of Odd Days
 - Calculation of Odd Days

That's all for now...