



# 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
  - =  $(5 \times 2)$  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
  - =  $(5 \times 3)$  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
  - =  $(5 \times 4 + 1)$  Odd Days
  - = 21 Odd Days
  - =  $(7 \times 3)$  Odd Days
  - =  $(7 \times 3 + 0)$  Odd Days
  - = 3 weeks + 0 Odd Days
  - = 0 Odd Days

# Calculation of Odd Days

In general,

Number of Odd Days =  $(7P + Q)$  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...**