

ONLINE ARITHMETIC & REASONING CLASSES CONDUCTED BY TASK

The slide features the TASK logo (Telangana Academy for Skill and Knowledge) and the text 'APTITUDE AND REASONING'. A vertical sidebar on the left lists 'EDUCATION', 'EMPLOYABILITY', and 'ENTREPRENEURSHIP'. The Windows taskbar at the bottom shows the time as 9:26 AM on 21/11/20.

Order of the English Alphabet

Forward order position	Letters	Backward order position	Forward order position	Letters	Backward order position
1	A	26	14	N	13
2	B	25	15	O	12
3	C	24	16	P	11
4	D	23	17	Q	10
5	E	22	18	R	9
6	F	21	19	S	8
7	G	20	20	T	7
8	H	19	21	U	6
9	I	18	22	V	5
10	J	17	23	W	4
11	K	16	24	X	3
12	L	15	25	Y	2
13	M	14	26	Z	1

Q. In a certain code language 'BOXER' is written as ANWDQ'. What will be the code of 'VISIT' in that code language?

(A) UHRHS
(B) WKRKS
(C) UKRRU
(D) WKRKU

Handwritten answer: UHRHS

Q. In a certain code language 'BOXER' is written as 'AQWQQ'. What will be the code of 'VISIT' in that code language?

(A) UKRKS
(B) WKRKS
(C) UKRRU
(D) WKRKU

Answer: A

The diagram shows the mapping for the second question: B → A, O → Q, X → W, E → Q, R → Q. For 'VISIT', the mapping is V → U, I → K, S → R, I → K, T → U, resulting in the code UKRKS.



Number coding

- Number Coding In this type of questions, a word is replaced by numbers according to some specific rule.
- In this, we are going to deal with the questions, in which code values are assigned to a word or alphabets according to a predefined pattern.
- Candidates are required to identify the numerical pattern that the given word can be transformed in the same coding.



Q: Apple is coded as 25563, Rung is coded as 7148. Then purple is coded as

- A.517563
- B.255635
- C.714823
- D.556348




Substitution Coding:

- In such questions, we are going to deal with the pattern of substitution in which codes are assigned by the substitution method where an artificial alternative is assigned to a given word and candidates are required to decipher the coding pattern to substitute the original word.
- In this section, object names are substituted with different names. We should carefully trace the substitution and answer the question.


EDUCATION

EMPLOYABILITY

ENTREPRENEURSHIP



2) 'man is coded as 'woman',
woman is coded as 'girl',
'girl' is coded as 'boy',
'boy' is coded as 'worker'
then 6 years female is known as?



10:46

Participants (304)

Search

Arjun	✖
arun neeli	✖
Asari Vijaykrishna	✖
Ashritha	✖
ashwitha Samala	✖
Asreen	✖
Ayesha Banu	✖
B Sandhyarani	
Badaramaina Nagarani	✖
Bagili Alekhya	✖



Chat

III

EDUCATION

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4. Deciphering Coding:



- In these types of question, we are going to deal with a message bearing a common code for given word/numeral.
- Candidates are required to identify the code from the common property of word/numeral and decipher the given codes with alternatives.

Windows taskbar: ENG 12:21 AM 24 Feb 22

EDUCATION

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1. In a certain code language,
 'more money in market' is written as 'zo li aa to',
 'share in market profit' is written as 'vo to je li',
 'making more profit now' is written as 'su je zo ka.' And
 'now the market gains' is written as 'do li yo su.'



Which of the following does 'vo' stand for?

(A) profit
 (B) in
 (C) market
 (D) share

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Ans. B

- While dealing such questions, choose the common term from the given statement.
- * More than one statement is to be used for selecting the term.

more money in market	→	zo li aa to
share in market profit	→	vo to je li
making more profit now	→	su je zo ka
now the market gains	→	do li yo su


Clearly, 'vo' stands for - share [from statement (ii)]

EDUCATION
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A&R - Anology



EDUCATION
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• Carpenter: wood :: cobbler: ?

LEATHER

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• Flow : River :: Stagnant : ?

1. Canal
2. Dam
3. Ocean
4. Pool
5. Sea

7

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Speed

DUST
 $DISTANCE = SPEED * TIME$

Speed basically tells us how fast or slow an object moves.

It is described as the distance travelled by an object divided with the time taken to travel that distance.

$Speed = Distance / Time$

This shows that Speed is directly proportional to distance but inversely proportional to time.

$Distance = Speed * Time,$

$Time = Distance / Speed$



$DISTANCE = SPEED * TIME$
 $\frac{KM}{HR} = \frac{M}{SEC} * \frac{MIN}{HR}$

$X \text{ km/hr} = (X * \frac{5}{18}) \text{ m/sec}$

$X \text{ m/sec} = (X * \frac{18}{5}) \text{ km/hr}$

1000 M / 60 SEC = 6.18 M/SEC

Case 2: Average Speed When Distance is Constant

Average Speed = $\frac{2xy}{x+y}$
 (where x and y are two speeds)

Let us understand how this came.
 Let the two speeds be x km/hr and y km/hr.
 Let the distance traveled in each of the speeds be 2x km.

As we know that, Time = Distance/Speed
 Hence, time taken to cover a km at x km/hr will be $\frac{a}{x}$ hrs
 And, time taken to cover a km at y km/hr will be $\frac{a}{y}$ hrs

Total time taken = $\frac{a}{x} + \frac{a}{y} = \frac{a(y+x)}{xy} = a(x+y)/xy$
 And the total distance covered = 2a

Therefore,
 Average Speed = $\frac{\text{distance}}{\text{time}} = \frac{2a}{a(x+y)/xy} = \frac{2xy}{x+y}$

Relative Speed :

distance = speed * time
 distance = PS * time
 S1 * T1 = S2 * T1
 S1 = Speed * time
 S1 * T1 = speed * time

- Consider two bodies moving at speeds u and v.
- When they are moving in the same direction, the relative speed between the two bodies is the difference of their speeds.
 i.e. $u - v$
- When they are moving in the opposite directions, the relative speed between the two bodies is the sum of their speeds.
 i.e. $u + v$

- A man traveled from the village to the post office at the rate of 75 kmph and walked back at the rate of 4 kmph. If the whole journey took 5 h 48 minutes, find the distance of the post office from village?

Average Speed $\frac{2XY}{X+Y}$

Avg speed = $\frac{2 * 25 * 4}{25+4}$ Kmph
 = $\frac{200}{29}$ kmph
 distance traveled in 5 hrs. and 48 mins
 i.e., $5 \frac{4}{5}$ hrs = $\frac{29}{5}$ hrs.
 = $\frac{200}{29} * \frac{29}{5} = 40$ km
 Distance of the post office from the village
 = $\frac{40}{2}$
 = 20km

Participants (364)

Search



Panelists (1)



bhargavi

Host



Attendees (363)



devi busurothu

Me



Tulasi gayatri 070



A.RAGAMAYEE



139_Naga Alekhya.V



18-540 Nikhitha sirimelli



20-502 Ashwitha



20-512 Vennela



20215a0527





1. Ordinary Year:

A non-leap year is an ordinary year.
A conventional year = 365 days

2. Leap Year:

A leap year = 366 days

How to calculate leap year

- Every year divisible by 4 is a leap year, (if it is not a century)
- Every 4th century is a leap year and no other century is a leap year
- As an example, 1100, 1300, 1400, 1500, 1700 are ordinary years but 1200, 1600, 2000 are leap years. So every 4th century is a leap year.



100
200
300
1000
1200
2100

99/4
100/400
100th year is century year



Counting of Odd Days



In a Century year i.e., 100 years (100th year is not a leap year as it is divisible by 4 but not by 400)

$$\begin{aligned} 100 \text{ years} &= 24 \text{ leap years} + 76 \text{ Ordinary Years} \\ &= 24 * 2 + 76 * 1 \\ &= 124 \text{ odd days} \\ &= 17 \text{ weeks} + 5 \text{ days} \end{aligned}$$

100/4
25 leap years
100th year is not a le

In a century year (100 years) = 5 Odd days

200 years = 5 * 2 = 10 days = 1 week + 3 days = 3 odd days

300 years = 5 * 3 = 15 days = 2 weeks + 1 day = 1 odd day

400 years = 5 * 4 + 1 (400th year is leap year) = 20 + 1 = 21 = 0 days = 0 odd days



Odd days for Month

Month	Days in month	Odd days
January	31	3
February	28	0
	29	1
March	31	3
April	30	2
May	31	3
June	30	2
July	31	3
August	31	3
September	30	2
October	31	3
November	30	2
December	31	3

31 days
= 4 weeks =

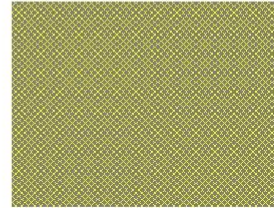
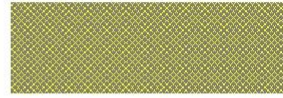




What was the day of the week on 15th June, 1776?

- A - Sunday
- B - Saturday
- C - Thursday
- D - None of these

27 jan 2022
2021+

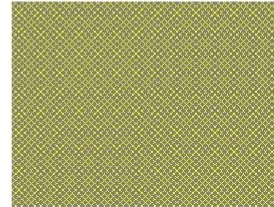
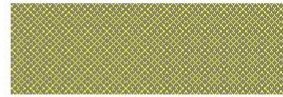


Find the Day on 4th June 2002?

15 august 1974
26 jan 1952
4th june 2002

dob
dob this year
dob next year

I



18. A number when divided successively by 4 and 5 leaves remainder 1 and 4 respectively, when it is successively divide by 5 and 4, then the respective remainders will be $\text{dividend} = \text{divisor} \times \text{quotient} + \text{remainder}$

- (a) 1 and 2
- (b) 2 and 3
- (c) 3 and 2

- (d) 4 and 1

$$\begin{array}{r} 4 \overline{) x} \\ \underline{5} \\ 1 \\ \underline{4} \\ 1 \end{array}$$

$y = 5 + 4 = 9$
 $x = 4 * y + 1$
 $x = 4 * 9 + 1$
 $x = 36 + 1 = 37$

$$\begin{array}{r} 5 \overline{) 37} \\ \underline{4} \\ 1 \\ \underline{1} \\ 3 \\ \underline{1} \\ 2 \\ \underline{1} \\ 1 \end{array}$$



$$\text{Average} = \frac{\text{Sum of Observations}}{\text{Number of Observations}}$$

Note: Average always speaks about groups (Average is a equal distribution between several members) but Percentage speaks about individual.



2. Find Average of 5,10,15,20,25 ?





$$\text{Sol: Avg} = (5+10+15+20+25)/5 = 75/5 = 15$$

or

Here the difference between the number (se
So we can call as Arithmetic progression.

$$\begin{aligned}\text{So Avg} &= \frac{\text{First} + \text{Last}}{2} \\ &= \frac{5 + 25}{2} \\ &= 15\end{aligned}$$



Clocks



- A clock has 2 hands
- The smaller one is called the hour hand
- While the larger one is called the minute hand
- The face of a clock is a circle which subtends an angle of 360° at the centre

