8-12-2014

ALPHABETICAL TEST

EX:- How many pairs of letters are there in the word CREATIVE which have has many letters b/w them in the word as in the English alphabet. [C]

a) 2 b) 1 c) 3 d) None.

A. C R E A T I V E
* one, three *, one *

CE
AE
TV

A B C D E F G H I J K
in b/w one *, in b/w 3 *
L M N O P Q R S T U V
In b/w one *
W X Y Z

Note:-

Like in above type of problems if same order is given then count alphabet in forward direction only. (⇒)

If order was not mentioned then count forward and backward directions both. (⇐⇒)

EX:- How many pairs of letters are there in the word "necessary" which have has many letters between them in the word as there are b/w them in the alphabet as in the same order. [a]

a) 1 b) 2 c) 3 d) None.

A. NECESSARY — only one pair

Ex:- How many pairs of letters are there in the word "horigin" which have has many letters between them in the word as in the alphabet.

A. HORIZON

∴ Four pairs

Ex:- How many pairs of letters are there in the word BUCKET which have has many letters as in the engl's alphabet in the same order.

A. BUCKET

∴ One pair

EX:- How many pairs of letters are there in the word DONATE which have has many letters between the in the word as there are in the english alphabet.

A. DONATE

∴ two pairs

EX:-) The letters in the word "presence" have has many letters between them in the word as in the alphabet as in the same order. which one of the letters comes earlier in the alphabet. [d]

a) C b) E c) R d) P e) None.

A. PRESENCE

PS → P comes first

EX:- The letters in the word LEMON have has many letters between them in the word as in the alphabet, which one of the letters comes earlier in the alphabet.

A. LEMON

LO
NO ⇒ L, O, N ⇒ 'L' comes earlier.

EX:- How many independent words STAINLESS be divided into without changing the order of the letters and using each letter only once.

A. STAINLESS

STAIN | LESS → 2 independent words.

EX:- How many independent word HEARTLESS be divided into without changing the order of the letters and using each letter only once.

A. HE | ART | LESS

∴ 3 independent words.

EX:- From the word ASTOUNDER, how many independent words can be made without changing the order of the letters and using each letter only once.

A. AS | TO | UNDER

∴ 3

* EX:- If the last four letters of the word "concentration" are written in reverse order followed by next two in the reverse order and next three in reverse order followed by first four in the reverse order and counting from the end. which letter would be 8th from the new arrangement. [D]

a) N b) T c) E D) R

A. CONCENTRATION

NOITA(R)TNECNOC ← 8th

EX:- First and thrid letters in the word necessary were interchange, also the fourth and sixth letters, seventh and Ninth letters. which of the following would be 7th letter from left end.

A. ~~N E S S A~~

N E C E S S A R Y

1 2 3 4 5 6 7 8 9

∴ Y

Ex:- If the positions of the first and sixth letters in th word "distribute" are interchange, similarly the positions of the 2nd and 7th letters, the 3rd and 8th letters and swap which of the following letters 5th from the left after interchanging the positions.

A. D I S T R I B U T E

1 2 3 4 5 6 7 8 9 10

∴ E

Ex:- If the positions of the 3rd and 10th letters of the word DOCUMENTATION are interchange and like wise the positions of the 4th and 7th letters, 2nd and 6th lett is also interchange, which of the following will be 11th letter from the right end.

D O C U M E N T A T I O N

1 2 3 4 5 6 7 8 9 10 11 12 13

∴ T

Ex:- If the 1st and 2nd letters in the word DEPRESSION were interchange also 3rd and 4th letters, 5th and 6th letters and swap which of the following would be 7th letter from the right [e]

a) R b) O c) S d) I e) None.

D E P R E S S I O N

← 7th letter

E D R P S E I S N O

∴ P

Ex:- A meanifull word starting with A is made from the first, second, 4th and 5th, 6th letters of the word CONTRACT. which of the following is the middle letter of that word.

a) C, b) D c) R d) T e) None.

C O N T R A C T
1 2 3 4 5 6 7 8

C O T R A

A C T O R (meaningfull word)

∴ T

Ex:- A meaningfull word with the 3rd, 5th, 8th and 10th letters of the word "distribute". Which of the following will be 3rd letter of that word. If no such word can be made give 'X' as answer. More than such word give 'M' as the answer.

D I S T R I B U T E
1 2 3 4 5 6 7 8 9 10

S R U E

S U R E

U S E R

∴ More than two words ⇒ M.

Ex:- If we make a meaningfull word with the 1st, 4th, 9th, 14th letters of the word ADMINISTRATION, which of the following will be the 3rd letter of that word from the right end, if no such word can we make 'X' as the answer and if more than one such word can we make give 'M' as the answer. [a]

a) A b) E c) N d) R e) None.

A D M I N I S T R A T I O N
1 2 3 4 5 6 7 8 9 10 11 12 13 4

A I R N

R A I N

I R A N
N A I R
R A N I
} Nouns are not meaningful words

∴ A

Ex:- If it is possible to make a meaningful word with the 4th, 8th, 7th and 10th letters of the word COUNTERACT. which of the following will be last letter of the word. If no such word can we make give 'x' as the answer. If more than one such words can we made give 'M' as the answer;

a) A b) N c) T d) X e) M.

C O U N T E R A C T
1 2 3 4 5 6 7 8 9 10

N A T

A N T

T A N

∴ Two meaningful words ⇒ 'M'

Rule reduction formation:-

Ex:- No. of letters skipped in between adjacent letters in the series is two. which of the following series absorb this rule. [d]

a) QSV4ZCF b) SVZCQJN c) ZCQKMPR d) MPSV4BE

[2] [2] [2]
M P S V 4 B E
[2] [2] [2]

Ex:- No. of letters skipped in between adjacent letters in the series is odd. which of the following series absorb this rule. [d]

a) F I M R X b) E I M Q V c) M P R U X d) B D H L R

Odd

1, 3, 5, 7, ---

F (2) I M R X X

E (3) I (3) M Q V X

d) B (1) D (3) H L R X

Ex:- No. of letters skipped in between adjacent letters in the series increases by one. Which of the following series absorb this rule. [d]

a) C P T O V b) H C F K P c) H J H Q U d) I K N R W

d) I (1) K (3) N R W X

Ex:- No. of letters skipped in between adjacent letters in the series are multiple of three. which of the following series absorbs this rule. [a]

a) A E L P Z b) G K O T Z c) L O R U X d) D H L P U

Multiple of 3

3, 6, 9, 12. . .

A E (3) L P (3) Z X

Ex:- No. of letters skipped in between adjacent letters in the series is in the order of $1^2, 2^2, 3^2, \ldots$ which of the following series absorb this rule given above.

a) C É J T b) E G L O c) E G L P d) R T W Z

$1^2, 2^2, 3^2$

1, 4, 9

C (1) E (3) J T X

Ex:- No. of letters skipped in between adjacent letters in the series is in the order of 2, 5, 7, 10. which of the following series absorbs the rule given above. [C]

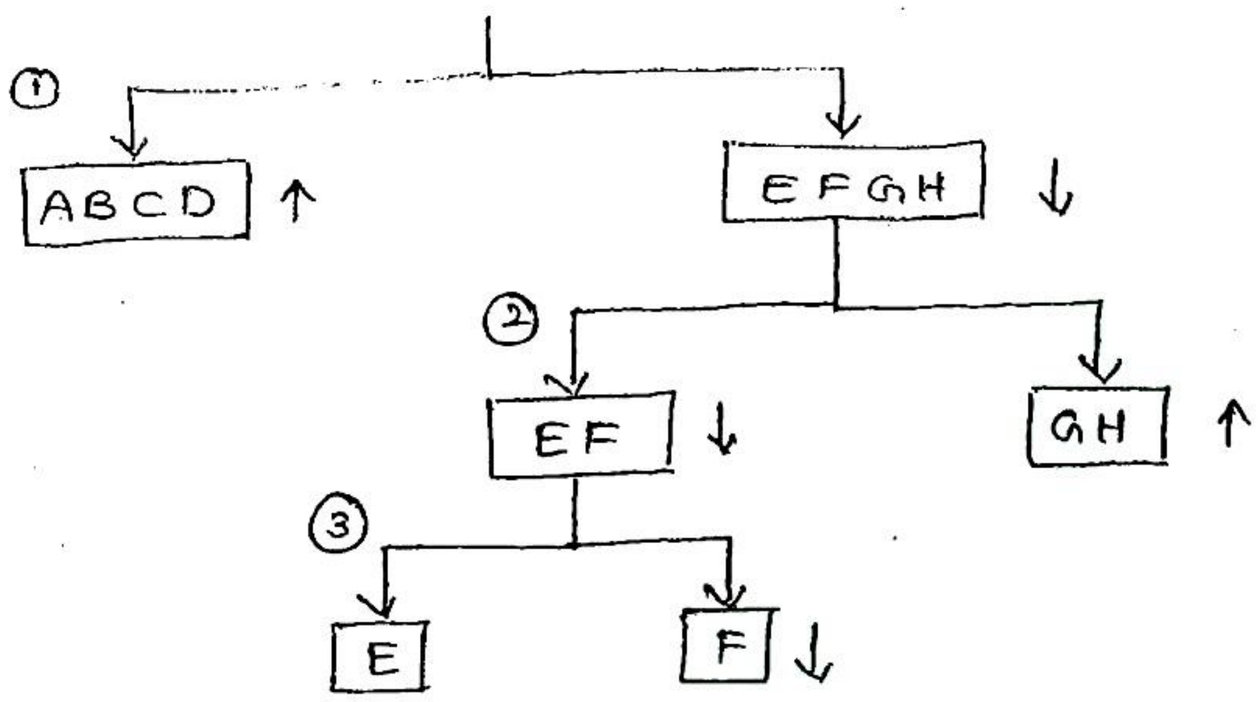
a) CEGLJ b) FNKOT c) QTZHS d) SYBEP

[2] [7]
Q T Z H S
[5] [10]

LOGICAL PUZZLES

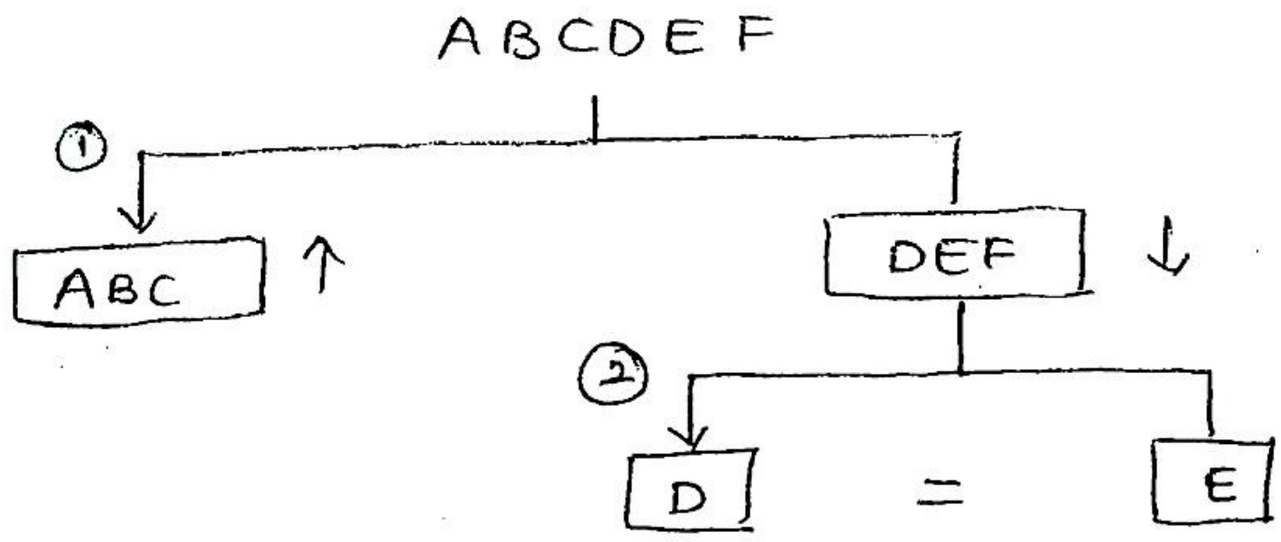
P.9 No:- 35

1. A B C D E F G H



∴ 3 times weighing

Another way let us pickup 6 bags amoung 8 bags and weighing it



∴ Both are equal, the heavier bag is F

∴ In this method two times weighing.

∴ The minimum number of weighing required to identify the heavier bag is 2

2. $x + y = 14 \rightarrow ① \times 10$

$20x + 10y = 230 \rightarrow ②$

$10x + 10y = 140$

$10x = 90$

$x = 9$

$9 + y = 14$

$\boxed{y = 5}$

6. Given 100 wines, succesfully delievered for each glass = 3 ps

100 X 3 = 300 paise = 3 Rs.

Rs 3 — Rs. 2.40 — 60 paise

$G + B = 100 \rightarrow ① \times 3$

$3G + 3B = 300$

$3G - 9B = 240 \rightarrow ②$

$12B = 60$

$B = 5$

∴ Broken glasses = 5

5 x 9 paise = 45 paise but there are 60 paise

∴ The remaining 15 paise (3 ps x 5 glasses) are not given because if he succesfully delieved the glass that amount will be counted. He is broken so we reduced 15 paise.

3. Avg. height = 74"

$$74 = \frac{x + x + 2 + x + 4 + x + 10}{4}$$

$x = 70$

5. Upside down = Mirror Image + water Image

0 1 6 8 9 (original image)

↓ ↓ ↓ ↓ ↓

0 1 9 8 6 (upside down image)

a) $81 \longrightarrow (9)^2$

(b) $101 \longrightarrow X$

(c) $169 \longrightarrow (13)^2 \Rightarrow 691 = (X)$ not perfect square

(d) $196 \longrightarrow (14)^2$
$\downarrow$
$961 \Rightarrow (31)^2$
} It is a perfect square

$\therefore$ No. is '196'.

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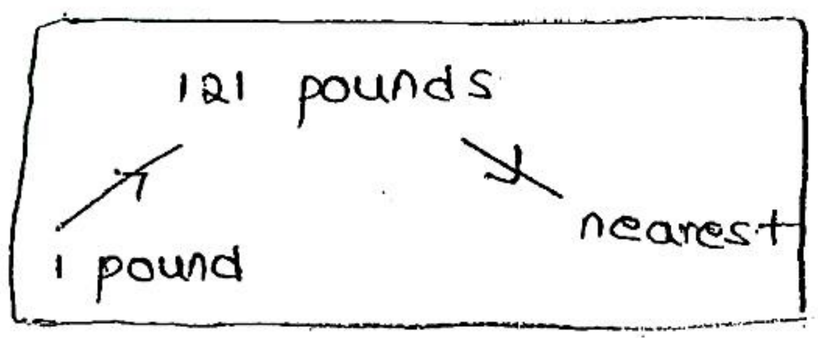
4. 0, 1, 6, 8, 9

check it options
(1 0 9 6 8) → actual number
(+)
7 8 6 3 3
(=)
(8 9 6 0 1) → upside down imag

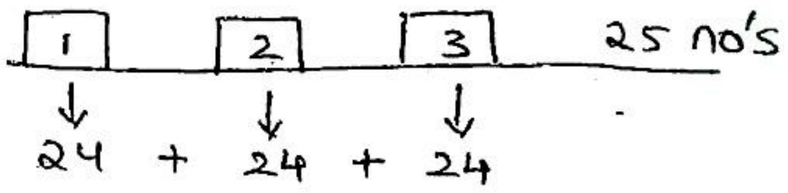
P.9 NO:-36

5. a) $1+3+9+27 = 40$ X

c) $1+3+9+27+81 = 121$ ✓



7.

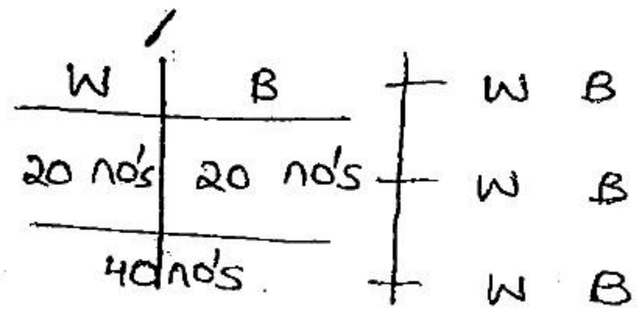


$24 \times 25 = 600$

8. check option (i) denominator is greater than '6' than numerator

9. Must no. of matching pairs $= n+1$
$= 2+1$
$= 3$

n = no. of colors



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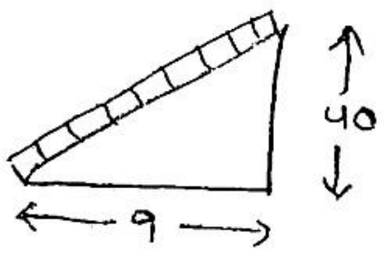
6. No. of pairs $= n+1$
$= 3+1 = 4$

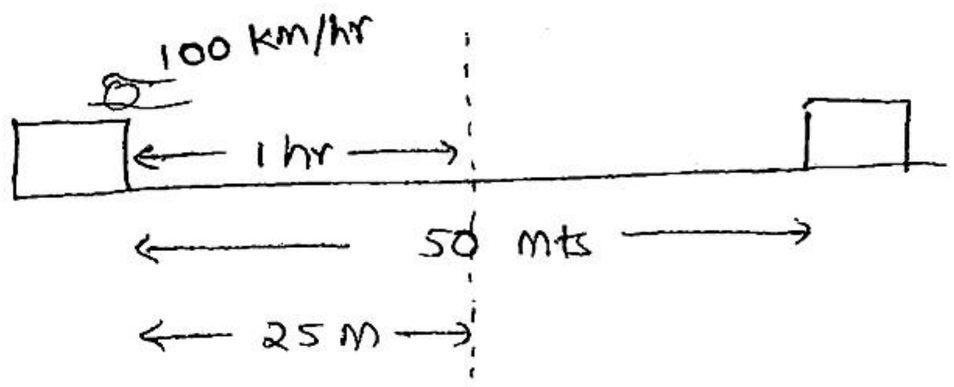
10.

$\sqrt{9^2+40^2} = 41$ feets



1. To meet the trains 1 hour time required because the distance between 50 at centre point they meet.

For 1 hour time the bird can travel 100 km



2. 2000/- per year, 1000 per every half year

	300 per year		100 each half year
1st year	1000 + 100 = 2000		1000 + 1100 = 2100
2nd year	1150 + 1150 = 2300		1200 + 1300 = 2500
3rd year	1300 + 1300 = 2600		1400 + 1500 = 2900

3. As many as you mean equal.

a) 4 8

+1 −1

5 ≠ 7

b) 3 5

+1 −1

4 ≠ 4

−1/2 +1/6

2 × 3 thrice

c) 5 7

+1 −1

6 = 6

−1 +1

4 8

4 × 2 twice

5. C.P > S.P = Loss ; Loss = C.P − S.P

$$\text{Loss \%} = \frac{\text{C.P} - \text{S.P}}{\text{C.P}} \times 100$$

C.P < S.P = profit ; profit = S.P − C.P

$$\text{profit \%} = \frac{\text{S.P} - \text{C.P}}{\text{C.P}} \times 100$$

$$C.P = \frac{100}{100 - L\%} \times S.P$$

$$C.P = \frac{100}{100 + P\%} \times S.P$$

S.P = 600 % each

Total S.P = 600 + 600 = 1200

C.P = 750 + 500 = 1250

Loss = 50 %

1. $C.P = \frac{100}{100-20} \times 600 = 750$

2. $C.P = \frac{100}{100+20} \times 600 = 500$

7. 25 W, 20 D, 18 DE, 12 B.E

5W = 4D W : D = 4 : 5

12D = 9DE D : DE = 9 : 12 = 3 : 4

6DE = 8B DE : B = 8 : 6 = 4 : 3

W : D : DE : B

4 : 5

3 : 4

4 : 3

(4 x 3 x 4) : (5 x 3 x 4) : (5 x 4 x 4) : (5 x 4 x 3)

12 : 15 : 20 : 15 = W : D : DE : B

25W : 20D : 18DE : 12B = 25x12 : 20x15 : 18x20 : 12x15

= 5 : 5 : 6 : 3 ⟶ Total 19 parts

19 parts = 1330

1 part = 70

⇒ 5x70 : 5x70 : 6x70 : 3x70

⇒ 350 : 350 : 420 : 210

~~Short cut~~ :-

25 = W

20 = D

A B

9. At present $x : y$

After T years $a : b$

① At present age of A $= \frac{x \times T(a-b)}{xb-ya}$

② At present age of B $= \frac{y \times T(a-b)}{xb-ya}$

③ After T years aged A $= \frac{a \times T(x-y)}{xb-ya}$

④ After T years aged B $= \frac{b \times T(x-y)}{xb-ya}$

	F	:	S
At present	4	:	1
After 30 years	2	:	1

$F = \frac{4 \times 30 \times (2-1)}{4-2}$ $\quad S = \frac{1 \times 30(2-1)}{4-2}$

$F = 60$ years $\quad = 15$ years

11. $x - y = 3$

12. $x^2 - y^2 = 51$

$(x+y)(x-y) = 51$

$x+y = \frac{51}{3} = 17$

$x+y = 17$

$x-y = 3$

$2x = 20$

$x = 10$

$y = 7$

12. condition - ① Reversing woman and husbands age

condition - ② Difference of their age $= \frac{1}{11}$ of their sum

ⓐ 34, 43

$9 = \frac{(34+43)}{11}$

$9 \neq 7$

ⓑ 45 54

$9 = \frac{99}{11}$

$9 = 9$

13. 100 kg — 100 people

old	young	child
3 kg	2 kg	$\frac{1}{2}$ kg

(a) 5, 45, 50 = 100 ✓ (b) 5 + 15 + 75 = 95 ✗

(c) 5 + 25 + 70 = 100 ✓ (d) 5 + 70 + 80 = 155 ✗

(a) → $5\times3 + 45\times2 + 50\times0.5 = 130 > 100$

(c) → $5\times3 + 25\times2 + 70\times0.5 = 100 = 100$

14. $h + c = 40$; $h + s = 60$; $c + s = 90$

In one day they can eat

$h + c = \frac{1}{40}$ $h + s = \frac{1}{60}$ $c + s = \frac{1}{90}$

All in one day

$$h+c+h+s+c+s = \frac{1}{40} + \frac{1}{60} + \frac{1}{90}$$

$$h+c+s = \frac{19}{720} \text{ in one day}$$

whole pastur can eat all $= \frac{720}{19}$ days

15. x, y $x \sim y = 30$

$x \times y = 1624$

$$y = \frac{1624}{x}$$

$$\frac{1624}{x} - x = 30$$

$$1624 - x^2 = 30x$$

$$x^2 + 30x - 1624 = 0$$

$$x = 28$$

16. (a) 5 and 6 $\Rightarrow$ $5^2 - 6^2 = 9$ not cube ✗

(c) 5 and 10 $\Rightarrow$ $5^2 - 10^2 = 75$ not cube ✗

✓(d) 10 and 6 $\Rightarrow$ $10^2 - 6^2 = 64 \Rightarrow (4)^3$

$10^3 - 6^3 = 1000 - 216$

$= 784$

$= (28)^2$