

# PRACTICE TEST OF TOP RANK

## TEST OF REASONING & MENTAL ABILITY - NO.13

1. Introducing Reena, Monika said, "She is the only daughter of my father's only daughter". How is Monika related to Reena ?  
 A. Aunt                      B. Niece                      C. Cousin                      D. Data Inadequate  
 E. None of these
2. If 'sand' is called 'air', 'air' is called 'plateau', 'plateau' is called 'well', 'well' is called 'island' and 'island' is called 'sky', then from where will a woman draw water ?  
 A. plateau                      B. well                      C. island                      D. Air                      E. None of these
3. If  $\sqrt{1 + \frac{x}{169}} = \frac{14}{13}$ , then x is equal to,  
 A. 1                      B. 13                      C. 27                      D. None of these                      E. 26
4.  $\frac{1}{1+a^{(n-m)}} + \frac{1}{1+a^{(m-n)}} = ?$   
 A. 0                      B.  $\frac{1}{2}$                       C. 1                      D.  $a^{m+n}$                       E. None of these
5. If every third letter from the following English alphabet is dropped, which letter will be fourth to the right of fourteenth letter from your right ?  
 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
 A. M                      B. N                      C. E                      D. A                      E. None of these
6. In a certain code language 'RESIN' is written as 'EINRS' and 'INTER' is written as 'EINRT'. How will 'EARTH' be written in the same code of language ?  
 A. EINRU                      B. AEHRT                      C. ATHER                      D. TEAHR                      E. None of these
7. A tin of oil was  $\frac{4}{5}$  full. When 6 bottles of oil were taken out and four bottles of oil were poured into it, it was  $\frac{3}{4}$  full. How many bottles of oil can the tin contain ?  
 A. 20                      B. 40                      C. 60                      D. 30                      E. 50
8. The value of  $\frac{(6+6+6+6) \div 6}{4+4+4+4 \div 4}$  is equal to,  
 A. 1                      B.  $\frac{3}{2}$                       C.  $\frac{4}{13}$                       D.  $3\frac{6}{13}$                       E. None of these
9.  $\frac{\sqrt{625}}{11} \times \frac{14}{\sqrt{25}} \times \frac{11}{\sqrt{196}}$  is equal to,  
 A. 5                      B. 6                      C. 8                      D. 11                      E. 14
10. Find the average of first 20 multiples of 7 ?  
 A. 70.5                      B. 72.5                      C. 74.5                      D. None of these                      E. 78.5
11. Rajan got married 8 years ago. His present age is  $\frac{6}{5}$  times his age at the time of his marriage. Rajan's sister was 10 years younger to him at the time of his marriage. The age of Rajan's sister is ;  
 A. 32 years                      B. 36 years                      C. 38 years                      D. 40 years                      E. 60 years
12. Choose the group of letters which is different from others : -  
 A. RAT                      B. CAT                      C. BED                      D. OUT                      E. LOT
13. Choose the odd one : -  
 A. Hostel                      B. Hotel                      C. Inn                      D. Club                      E. Motel
14. In a ratio, which is equal to 3 : 4, If the antecedent is 12, then the consequent is :  
 A. 9                      B. 16                      C. 20                      D. 24                      E. 30
15. The difference between two integers is 5. Their product is 500. Find the numbers ?

- A. 15, 20      B. 20, 25      C. 30, 25      D. 21, 26      E. None of these

16. The square root of  $(7 + 3\sqrt{5})(7 - 3\sqrt{5})$  is

- A.      B. 2      C. 4      D.  $3\sqrt{5}$       E. None of these

17. A conference is most likely to involve

- A. speeches      B. agenda      C. delegates      D. resolutions      E. policies

18. If HKUJ means FISH, what does UVCD mean ?

- A. STAR      B. STAK      C. STAL      D. STAB      E. SILK

19. Going 50 m to the south of her house, Radhika turns left and goes another 20 m. Then turning to the north, she goes 30 m and then starts walking to her house. In which direction is she walking now ?

- A. North-west      B. North      C. South-east      D. East      E. None of these

20. Video : Casette :: Computer : \_\_\_\_\_

- A. feels      B. Recordings      C. files      D. floppy      E. None of these

21. How many 1's are there in the following sequence which are immediately preceded by 9. But not immediately followed by 7 ?

719117189171213145713917

- A. one      B. two      C. three      D. four      E. None of these

22.  $\sqrt{8649} + \sqrt{5 + (?)^2} = 123$

- A. 2      B. 4      C. 3      D. None of these      E. 6

23. If blue is called white, white is called green, green is called yellow and yellow is called black, what is the colour of the lowest part of the indian national flag ?

- A. white      B. blue      C. black      D. yellow      E. green

24. If BLUR is coded as 5152421, CLUE is coded as 615248, then how flexible can be coded ?

- A. 61252492125      B. 91585692458      C. 915827125158      D. 915857125158      E. None of these

25. Court is related to Lawyer in the same way as Hospital is related to \_\_\_\_\_

- A. Patient      B. Medicine      C. Nurse      D. Doctor      E. None of these

## ANSWER WITH EXPLANATION

### TEST OF REASONING & MENTAL ABILITY - NO.13

1. E Monika's father's only daughter is Monika herself so Reena is Monika's daughter ie, Monika is Reena's mother.

2. C A woman shall draw water from a 'well' and here code for 'well' is island.

3. C  $\sqrt{1 + \frac{x}{169}} = \frac{14}{13}$

$$\Rightarrow 1 + \frac{x}{169} = \frac{196}{169}$$

$$\Rightarrow \frac{x}{169} = \left( \frac{196}{169} - 1 \right) = \frac{27}{169}$$

$$\Rightarrow \underline{\underline{x = 27}}$$

4. C 
$$\frac{1}{1 + a^{(n-m)}} + \frac{1}{1 + a^{(m-n)}} = \frac{1}{1 + \frac{a^n}{a^m}} + \frac{1}{1 + \frac{a^m}{a^n}} \left( \because \frac{a^m}{a^n} = a^{m-n} \right)$$

$$= \frac{a^m}{a^n + a^m} + \frac{a^n}{a^m + a^n}$$

$$= \frac{(a^m + a^n)}{(a^m + a^n)} = \underline{\underline{1}}$$

5. A When the letters are dropped, the series becomes as follows;

A B D E G H J K M N P Q S T V W Y Z

Hence, 4th letter to the right of 14th letter from the right is  $(14 - 4) = 10$ th letter from the right and ie, M

6. B                      Given order                      Alphabetic order

RESIN                      →                      EINRS

INTER                      →                      EINRT

∴ EARTH                      →                      AEHRT

7. B Suppose the tin contain 'x' bottles of oil.

$$\text{Then, } \frac{4}{5}x - \frac{3}{4}x = (6 - 4)$$

$$\Rightarrow \frac{x}{20} = 2$$

$$\Rightarrow \underline{\underline{x = 40}}$$

8. C  $\frac{(6+6+6+6) \div 6}{4+4+4+4 \div 4} = \frac{24 \div 6}{4+4+4+1} = \frac{4}{13}$  (In the denominator apply BODMAS)

9. A

$$\frac{\sqrt{625}}{11} \times \frac{14}{\sqrt{25}} \times \frac{11}{\sqrt{196}}$$

$$\Rightarrow \frac{25}{11} \times \frac{14}{5} \times \frac{11}{14} = \underline{\underline{5}}$$

10. D Required Average =  $7 \frac{(1+2+3+\dots+20)}{20}$

$$= 7 \times \frac{20 \times 21}{20 \times 2} = \frac{147}{2} = \underline{\underline{73.5}}$$

11. C Let Rajan's present age be 'x' years. Then his age at the time of marriage = (x - 8) years.

$$\therefore x = \frac{6}{5}(x - 8) \Rightarrow 5x = 6x - 48$$

$$\Rightarrow \underline{\underline{x = 48}}$$

∴

Rajan's sister's age at the time of his marriage = (x - 8) - 10 = x - 18 = 30 years

∴ Rajan's sister's present age = 30 + 8 = 38 years

12. D. This is the only group containing two vowels.

13. D All except club are places, where people can stay.

14. B We have  $\frac{3}{4} = \frac{12}{x} \Rightarrow 3x = 48$

$$\Rightarrow \underline{\underline{x = 16}}$$

15. B Let the integers be x and (x + 5)

Then x (x + 5) = 500

$$\Rightarrow x^2 + 5x - 500 = 0$$

$$\Rightarrow (x + 25)(x - 20) = 0$$

$$\Rightarrow \underline{\underline{x = 20}}$$

integers are 20 and 25

16. B  $\sqrt{(7+3\sqrt{5})(7-3\sqrt{5})} = \sqrt{7^2 - (3\sqrt{5})^2}$

$$= \sqrt{49 - 9 \times 5}$$

$$= \sqrt{49 - 45} = \underline{\underline{2}}$$

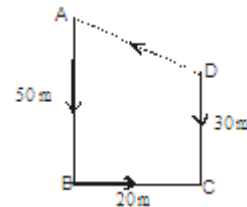
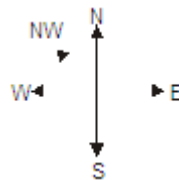
17. C Without delegates, there cannot be any conference

18. D
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>H</i> | <i>K</i> | <i>U</i> | <i>J</i> |
| -2↓      | -2↓      | -2↓      | -2↓      |
| <i>F</i> | <i>I</i> | <i>S</i> | <i>H</i> |

Similarly

|          |          |          |          |
|----------|----------|----------|----------|
| <i>U</i> | <i>V</i> | <i>C</i> | <i>D</i> |
| ↓(-2)    | ↓(-2)    | ↓(-2)    | ↓(-2)    |
| <i>S</i> | <i>T</i> | <i>A</i> | <i>B</i> |

19. A DA = North west



20. D Here, the recording of the second are visualised on the first

21. A 7 1 9 1 1 7 1 8 9 1 7 1 2 1 3 1 4 5 7 1 3 9 1 7

22. A  $\sqrt{86.49} + \sqrt{5+x^2} = 12.3$

$$\Rightarrow 9.3 + \sqrt{5+x^2} = 12.3$$

$$\Rightarrow \sqrt{5+x^2} = 12.3 - 9.3 = 3$$

$$\Rightarrow 5+x^2 = 9$$

$$\Rightarrow x^2 = 9 - 5 = 4$$

$$\Rightarrow \underline{\underline{x = 2}}$$

23. D The colour of lowest part of national flag is yellow and here code for yellow is green

24. C The coding is as follows.

The letters are coded as - the position number of letter in the alphabet +3

ie,  $B \rightarrow 2 + 3 = 5$                        $C \rightarrow 3 + 3 = 6$

$L \rightarrow 12 + 3 = 15$                        $L \rightarrow 12 + 3 = 15$

$U \rightarrow 21 + 3 = 24$                        $U \rightarrow 21 + 3 = 24$

$R \rightarrow 18 + 3 = 21$                        $E \rightarrow 5 + 3 = 8$

|          |          |          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|----------|
| <i>F</i> | <i>L</i> | <i>E</i> | <i>X</i> | <i>I</i> | <i>B</i> | <i>L</i> | <i>E</i> |
| ↓        | ↓        | ↓        | ↓        | ↓        | ↓        | ↓        | ↓        |
| 9        | 15       | 8        | 27       | 12       | 5        | 15       | 8        |