

# PRACTICE TEST OF TOP RANK

## TEST OF REASONING & MENTAL ABILITY - NO.9

Time : 30 minutes

Marks : 100

1. Four of the following five are alike in a certain way. Which is the one that does not belong to this group ?  
A. Plastic      B. Nylon      C. Polythene      D. Terelyne      E. Silk
2.  $\sqrt{?} + \sqrt{961} = \sqrt{2025}$   
A. 28      B. 24      C. 160      D. 256      E. None of these
3. In a certain code language 'tis sa ra' means 'Ram is honest', 'sa la ja' means shyan is dishonest and 'ra da pa' means 'I am honest' which of the following means 'Ram' in that code language ?  
A. tis      B. sa      C. ra      D. Cannot be determined  
E. None of these
4. If  $2^x = \sqrt[3]{32}$ , then find the value of x.  
A. 5      B. 3      C.  $\frac{3}{5}$       D.  $\frac{5}{3}$       E. None of these
5. A's salary is 40% of B's salary which is 25% of C's salary. What percentage of C's salary is As salary ?  
A. 5%      B. 10%      C. 15%      D. 20%      E. None of these
6. Which of the following ratio is greatest ?  
A. 7 : 15      B. 15 : 23      C. 17 : 25      D. 21 : 29      E. None of these
7. What is the ratio whose terms differ by 40 and the measure of which is  $\frac{2}{7}$  ?  
A. 16 : 56      B. 14 : 56      C. 15 : 56      D. 16 : 72      E. None of these
8. Pipes A and B can fill a tank in 5 and 6 hours respectively. Pipe C can empty it in 12 hours. If all the three pipes are opened together, than the tank will be filled in,  
A.  $1\frac{13}{17}$  hours      B.  $2\frac{8}{11}$  hours      C.  $3\frac{9}{17}$  hours      D.  $4\frac{1}{2}$  hours      E. None of these
9. How many digits are there which are divisible by 3 are immediately preceded by the digits divisible by 3 in the following sequence ?  
1 9 9 4 5 6 3 7 8 6 6 9 4 3 6 7 5 3 9 2 1 3 9 6 5 7 9 3  
A. four      B. five      C. seven      D. More than seven      E. None of these
10. Find the odd one among the following  
A. Hostel      B. Hotel      C. Inn      D. Club      E. Motel
11. Aravind walks 10 km north. Then he walks 6 km South, then 3 km east. How far and in which direction is he with respect to his starting point ?  
A. (2, North)      B. 5, North east      C. 10 South      D. None of these  
E. Cannot be determined
12. Which of the missing numbers will complete the following series ?  
0, 6, 24, 60, 120, 210, \_\_\_\_\_  
A. 330      B. 363      C. 336      D. None of these      E. 340
13. Choose the odd one among the following  
A. CTOODR      B. FIFROCE      C. TRACO      D. RNSUE      E. None of these
14. If a clock shows 4 hours 12 minutes, what time does the mirror image show ?  
A. 8 hours 12 minutes      B. 7 hours 58 minutes  
C. 7 hours 48 minutes      D. 8 hours 48 minutes      E. None of these
15. Find the odd one among the following.  
A. Arc      B. Diagonal      C. Tangent      D. Radius      E. Diameter

16. A and B are married couple. C and D are brothers. C is the brother of A. How is D related to B ?  
 A. Brother-in-law    B. Brother    C. Son-in-law    D. Cousin    E. None of these
17. Which of the following pairs indicates similar relationship between its two elements as is indicated by Darkness : Lamp ?  
 A. Medicine : illness    B. Study : Classroom  
 C. Thirsty : water    D. Fatigue : Exercise    E. Smell : Nose
18. If three-fifth of a number is 30 more than 40 percent of that number, what is that number ?  
 A. 200    B. 250    C. 300    D. 150    E. None of these
19. A, B, C and D are four consecutive even numbers and their averages is 65. What is the product of A and D ?  
 A. 3968    B. 4216    C. 4092    D. 4352    E. None of these
20. Four of the following five are alike in a certain way which is the odd one in that group ?  
 A. Sharpener    B. Calculator    C. Eraser    D. Pencil    E. None of these
21. If 'Star' is called 'planet', 'planet' is called 'Satellite', Satellite is called 'Galaxy', 'Galaxy' is called 'Comet', then 'Earth' is classified under which Category ?  
 A. Galaxy    B. Comet    C. Planet    D. Star    E. Satellite
22. In a certain code 'HUMANITY' is written as 'BNVIZUJO'. How is 'EQUATION' written in that code ?  
 A. BVREVJPQ    B. BVRFOPJU    C. BUVJPRFO    D. BVJURFPO    E. None of these
23. Which of the missing number will complete the following series ?  
 6, 7, 16, 41, 90, ———, 292  
 A. 7    B. 16    C. 171    D. 154    E. None of these
24.  $(27)^{\frac{2}{3}} - (8)^{\frac{2}{3}} = ?$   
 A. 1    B. 2    C. 17    D. 19    E. None of these
25. 23 : 13 :: 54 : ———  
 A. 44    B. 39    C. 40    D. 41    E. None of these

## ANSWER WITH EXPLANATION

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1. E All others are artificial

$$\begin{aligned} \sqrt{?} &= \sqrt{2025} - \sqrt{961} \\ &= 45 - 31 = 14 \\ ? &= 14^2 = \underline{\underline{196}} \end{aligned}$$

3. A tis sa ra  $\rightarrow$  Ram is honest  $\rightarrow$  (1)  
sa la ja  $\rightarrow$  Shyam is dishonest  $\rightarrow$  (2)  
ra da pa  $\rightarrow$  I am honest  $\rightarrow$  (3)  
from (1) & (2) is  $\rightarrow$  sa  $\rightarrow$  (4)  
from (1) & (3) ra  $\rightarrow$  honest  $\rightarrow$  (5)  
from (1), (4) & (5), Ram  $\rightarrow$  tis

$$\begin{aligned} 2^x &= \sqrt[3]{32} \\ &= (32)^{\frac{1}{3}} \\ 2^x &= (2^5)^{\frac{1}{3}} \\ \Rightarrow x &= \frac{5}{3} \end{aligned}$$

$$\begin{aligned} 5. \quad B \quad A &= 40\% \text{ of } B \\ &= 40\% \text{ of } (25\% \text{ of } C) \\ &= \left( \frac{40}{100} \times \frac{25}{100} \times 100 \right) \% \text{ of } C \\ &= \underline{\underline{10\% \text{ of } C}} \end{aligned}$$

$$6. \quad D \quad \frac{7}{15} = 0.466, \frac{15}{23} = 0.652, \frac{17}{25} = 0.68, \frac{21}{29} = 0.724$$

Clearly 0.724 is greatest and  $\therefore$  21 : 29 is greatest

7. A Let the ratio be  $x : (x + 40)$ . Then

$$\begin{aligned} \frac{x}{(x+40)} &= \frac{2}{7} \\ \Rightarrow 7x &= 2x + 80 \\ \Rightarrow 5x &= 80 \\ \Rightarrow x &= \underline{\underline{16}} \end{aligned}$$

∴ Required ratio = 16 : 56

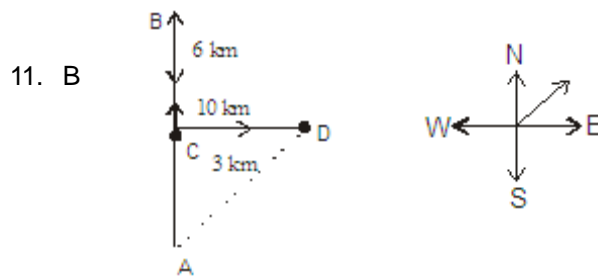
8. C Net part filled in 1 hour

$$= \left( \frac{1}{5} + \frac{1}{6} - \frac{1}{12} \right) = \frac{17}{60}$$

∴ The tank will be full in  $\frac{60}{17}$  hours. ie,  $3\frac{9}{17}$  hours

9. D 1 9  $\frac{9}{1}$  4 5 6  $\frac{3}{2}$  7 8 6  $\frac{6}{3}$   $\frac{9}{4}$  4 3  $\frac{6}{5}$  7 5 3  $\frac{9}{6}$  2 1 3  $\frac{9}{7}$   $\frac{6}{8}$  5 7 9  $\frac{3}{9}$

10. D Except d, all others are staying places.



We have to find AD and its direction.

From Triangle ACD,

$$\begin{aligned} AD &= \sqrt{AC^2 + CD^2} \\ &= \sqrt{4^2 + 3^2} = \sqrt{16 + 9} \\ &= \sqrt{25} = 5 \end{aligned}$$

$$\begin{aligned} AC &= AB - BC \\ &= 10 - 6 \\ &= 4 \end{aligned}$$

Direction of AD = North - East

12. C The given series is, of the form ,

0, 6, 24, 60, 120, 210, 336

$1^3 - 1$  ,  $2^3 - 2$  ,  $3^3 - 3$  ,  $4^3 - 4$  ,  $5^3 - 5$  ,  $6^3 - 6$  ,  $7^3 - 7$

13. B The words are jumbled

The words are DOCTOR, OFFICER, ACTOR and NURSE

Except OFFICER, all others are Professionals

14. C To find the mirror image, subtract clock image from 11.60

15. B Except Diagonal, all others are associated with circle

16. A A and B are husband and wife. Since C and D are brothers, C is the brother of A. So D is also the brother of A. Hence D is the brother-in-law of B.

17. C Lamp helps in removing darkness, similarly water helps in quenching thirst.

18. D Let 'x' be the number

then,

$$\frac{3}{5}x = 40\% \text{ of } x + 30$$
$$\Rightarrow \frac{3}{5}x = \frac{2}{5}x + 30$$
$$\Rightarrow x = \underline{\underline{150}}$$

19. B We have,  $\frac{x + (x+2) + (x+4) + (x+6)}{4} = 65$

$$\therefore x = 62$$

$$\therefore x + 6 = 68$$

$$\text{Required value} = 62 \times 68 \Rightarrow \underline{\underline{4216}}$$

20. B All of others are stationery items, but Calculator is an electronic item.

21. E Earth is a planet and Code for planet is Satellite

22. B First reverse the letters of each half.

Thus HUMANITY  $\rightarrow$  AMUH YTIN

Now, write each letter one place forward in the alphabet  $\Rightarrow$  BNVIZUJO

Similarly, EQUATION  $\rightarrow$  AUQE NOIT

Now, write each letter one place forward in the alphabet,  
BVRFOPJU

23. C The pattern of the number series is,

$$6 + 1^2 = 7$$

$$7 + 3^2 = 16$$

$$16 + 5^2 = 41$$

$$41 + 7^2 = 90$$

$$90 + 9^2 = 171$$

$$171 + 11^2 = 292$$

24. A  $27^{\frac{1}{3}} - 8^{\frac{1}{3}} \Rightarrow (3^3)^{\frac{1}{3}} - (2^3)^{\frac{1}{3}} \left[ (a^m)^n = a^{mn} \right]$

$$\Rightarrow 3 - 2 = \underline{\underline{1}}$$

25. D  $23 \rightarrow 2^2 + 3^2 = 13$

$$54 \rightarrow 5^2 + 4^2 = \underline{\underline{41}}$$