

PRACTICE TEST OF TOP RANK

TEST OF REASONING & MENTAL ABILITY - NO.15

1. If MOBILITY is coded as 46293927, then EXAMINATION is coded as,
A. 45038401854 B. 56149512965 C. 57159413955 D. 67250623076 E. None of these
2. A student has to obtain 33% of the total marks to pass. He got 125 marks and failed by 40 marks. The maximum marks are ;
A. 300 B. 500 C. 800 D. 1000 E. None of these
3. In a certain code language, if 'Sun is Bright' is coded as 256. 'Rose is Red' is coded as 785 and 'Red is Bright' is coded as 257. Then how is 'Bright sun is Rose Red' coded in that language ?
A. 26517 B. 26583 C. 26587 D. 24587 E. None of these
4. How many 9's are there in the following sequence which are immediately followed by 9 or immediately preceded by 9 ?
7 9 3 9 9 2 8 9 6 7 9 3 5 7 9 9 7 5
A. Four B. Two C. Three D. One E. None of these
5. Arjun started walking towards north and covered a distance of 10 M, then turned right and walked 20 M. Further he turned right and walked 10 M. In what direction was Arjun with respect to his starting point ?
A. West B. East C. North-east D. South-east E. None of these
6. $23 : 13 :: 54 : \underline{\hspace{2cm}}$
A. 44 B. 39 C. 40 D. 41 E. 42
7. A person was asked to state his age in years. His reply was "Take my age three years hence, multiply it by 3 and then subtract three times my age three years ago and you will know how old I am" what was the age of the person ?
A. 18 years B. 20 years C. 24 years D. 32 years E. 26 years
8. $\frac{4}{5}$ of $\frac{5}{7}$ of a number is greater than $\frac{4}{9}$ of $\frac{2}{5}$ of the same number by 8. What is half of that number ?
A. 320 B. 315 C. 325 D. 340 E. None of these
9. Evaluate the value of $\frac{\sqrt{80} - \sqrt{112}}{\sqrt{45} - \sqrt{63}}$ is,
A. $\frac{3}{4}$ B. $1\frac{1}{3}$ C. $1\frac{7}{9}$ D. $1\frac{3}{4}$ E. $1\frac{1}{2}$
10. If $\frac{a}{3} = \frac{b}{4} = \frac{c}{7}$, then find the value of $\frac{a+b+c}{C}$?
A. $\frac{1}{\sqrt{7}}$ B. $\sqrt{2}$ C. 2 D. 7 E. 4
11. Infestation is to food as Infection is to _____
A. Germs B. Diseases C. Body D. Microbes E. None of these
12. Touch : feel :: Greet : _____
A. Smile B. Manners C. Acknowledge D. Success E. None of these
13. Pick out the odd one : -
A. Tonnes B. Quintals C. Grams D. Kilograms E. Kilometres
14. If the animals which can walk are called 'swimmers', animals who crawl are called flying, those living in water are called 'Snakes', and those which fly in sky are called 'hunters', then what will be a lizard called ?
A. Swimmers B. Snakes C. flying D. Hunters E. None of these

15. Find the value of $\left(1 - \frac{1}{3}\right)\left(1 - \frac{1}{4}\right)\left(1 - \frac{1}{5}\right) \dots \left(1 - \frac{1}{100}\right)$?
- A. $\frac{1}{25}$ B. $\frac{1}{30}$ C. $\frac{1}{20}$ D. $\frac{1}{50}$ E. $\frac{1}{40}$
16. If $\frac{1}{8}$ cm of a pencil is black, $\frac{1}{2}$ cm of the remaining is white and the remaining $3\frac{1}{2}$ cm is blue, find the total length of the pencil ?
- A. 4 cm B. 8 cm C. 6 cm D. None of these E. 2 cm
17. If North becomes East, East becomes South and so on, then what would South-east become?
- A. South B. North-East C. South-West D. None of these E. East
18. If PRIMARY = 49 and RECAP = 25, what is the value of PERSONALIZE ?
- A. 121 B. 55 C. 77 D. 99 E. None of these
19. Which is the odd one among the following : -
- A. Hour : Day B. Day : Week C. Day : Month D. Month : Year E. None of these
20. $24 : 625 :: 32 : \text{_____}$
- A. 961 B. 1089 C. 900 D. 1156 E. 800
21. Which one of the following is not a prime number ?
- A. 31 B. 61 C. 71 D. 91 E. 11
22. The greatest possible length which can be used to measure exactly the length 7 m, 3 m 85 cm, 12 m 95 cm is :
- A. 15 cm B. 25 cm C. 35 cm D. 42 cm E. 40 cm
23. How many $\frac{1}{8}$ are there in $37\frac{1}{2}$?
- A. 300 B. 400 C. 500 D. Cannot be determined E. 700
24. $\sqrt{.0025} \times \sqrt{2.25} \times \sqrt{.0001} = ?$
- A. .000075 B. .0075 C. .075 D. None of these E. .0000075
25. Put the odd one out : -
- A. QAP B. GOM C. TDV D. XIJ E. MEP

ANSWER WITH EXPLANATION

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1. B Let A = 1, B = 2, C = 3, ----- y = 25, z = 26.
Then M = 13 = 1 + 3 = 4, O = 15 = 1 + 5 = 6
L = 12 = 1 + 2 = 3 T = 20 = 2 + 0 = 2 Y = 25 = 2 + 5 = 7
So, MOBILITY = 46293927
∴ Examination = 56149512965
2. B Let the maximum marks be x
Then 33% of x = 125 + 40 = 165

$$\Rightarrow \frac{33}{100}x = 165$$
$$\Rightarrow x = \frac{165 \times 100}{33} = \underline{\underline{500}}$$

3. C Sun is Bright → 2 5 6 → (1)
Rose is Red → 7 8 5 → (2)
Red is Bright → 2 5 7 → (3)
From (1), (2) & (3), code for is = 5
From (1) & (3), Bright = 2
From (2) & (3) Red = 7
SUN = 6 ROSE = 8

∴ Bright sun is Rose Red → 26587

4. A 7 9 3 9 9 2 8 9 6 7 9 3 5 7 9 9 7 5

In 99, the first digit 9 is followed by the second digit 9 and the second digit 9 is preceded by the first digit 9. Hence there are four such 9, which are either immediately followed by 9 or immediately preceded by 9.

5. B
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- The diagram shows a square ABCD. The top side BC is labeled 20m and the right side CD is labeled 10m. Arrows on the bottom side AD and the left side AB indicate a clockwise direction. To the right of the square is a compass rose with N at the top, S at the bottom, W on the left, and E on the right.

We have to find AD and it is east

6. D $23 \Rightarrow 2^2 + 3^2 = 13$
 $\therefore 54 \Rightarrow 5^2 + 4^2 = 41$

7. A Let the present age of person be 'x' years

Then, $3(x+3) - 3(x-3) = x$

$$\Rightarrow 3x + 9 - 3x + 9 = x$$

$$\therefore \underline{\underline{x = 18}}$$

8. B Let the number be x.

Then $\frac{4}{15}$ of $\frac{5}{7}$ of $x - \frac{4}{9}$ of $\frac{2}{5}$ of $x = 8$

$$\Rightarrow \frac{4}{15} \times \frac{5}{7}x - \frac{4}{9} \times \frac{2}{5}x = 8$$

$$\Rightarrow \frac{4}{21}x - \frac{8}{45}x = 8$$

$$\Rightarrow x \left[\frac{4}{21} - \frac{8}{45} \right] = 8$$

$$\Rightarrow x \left[\frac{60 - 56}{315} \right] = 8$$

$$\Rightarrow x = \frac{8 \times 315}{4} = 630$$

$$\Rightarrow \frac{1}{2}x = \underline{\underline{315}}$$

9. B
$$\frac{\sqrt{80} - \sqrt{112}}{\sqrt{45} - \sqrt{63}} \Rightarrow \frac{\sqrt{16 \times 5} - \sqrt{16 \times 7}}{\sqrt{9 \times 5} - \sqrt{9 \times 7}}$$

$$= \frac{4\sqrt{5} - 4\sqrt{7}}{3\sqrt{5} - 3\sqrt{7}} = \frac{4(\sqrt{5} - \sqrt{7})}{3(\sqrt{5} - \sqrt{7})}$$

$$= \frac{4}{3} = 1\frac{1}{3}$$

10. C Let $\frac{a}{3} = \frac{b}{4} = \frac{c}{7} = K$

Then, $a = 3K$, $b = 4K$, $c = 7K$

$$\therefore \frac{a+b+c}{c} = \frac{3k+4k+7k}{7k} = \frac{14k}{7k} = 2$$

11. C Contamination of food by germs is called infestation. Similarly, attack on body by germs is called infection.

12. C Touch is felt and greet is acknowledged.

13. E All others are units for measuring weights

14. C Clearly a lizard crawls and here code for animals who crawl are flying.

15. D Given expression $= \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \times \frac{5}{6} \times \dots \times \frac{99}{100}$

$$= \frac{2}{100} = \underline{\underline{\frac{1}{50}}}$$

16. B Let total length of pencil be 'x' cm. Then Black part $= \left(\frac{x}{8} \right) \text{cm}$

$$\text{Remaining part} = \left(x - \frac{x}{8}\right) = \left(\frac{7x}{8}\right) \text{ cm}$$

$$\therefore \text{White part} = \frac{1}{2} \times \frac{7x}{8} = \left(\frac{7x}{16}\right) \text{ cm}$$

$$\text{Remaining part} = \frac{7x}{8} - \frac{7x}{16} = \frac{7x}{16}$$

$$\therefore \frac{7x}{16} = \frac{7}{2} \text{ or } x = \frac{16}{2} = 8 \text{ cm}$$

17. C

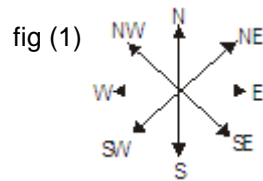


fig (2)

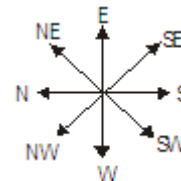


Fig (1) represents the actual directions.

Fig (2) represents the changed directions.

If North becomes East, and East becomes South, then South-East become South-West

18. A

PRIMARY = (no : of letters in the word)² = 7² = 49

$$\therefore \text{PERSONALIZE} = (11)^2 = \underline{\underline{121}}$$

19. C

24 hours \Rightarrow a day

7 days \Rightarrow a week

12 months \Rightarrow an year

Where as 28, 29, 30 or 21 days \Rightarrow a month.

Here the quantity is not fixed.

20. B

Next number to 24 is 25 and $(25)^2 = 625$

Similarly, Next number to 32 is 33 and $(33)^2 = \underline{\underline{1089}}$

21. D

91 is divisible by 7, So it is not a prime number.

22. C

Required length = HCF of 700 cm, 385 cm, 1295 cm

$$= \underline{\underline{35 \text{ cm}}}$$

23. A

$$\text{Required number} = \frac{37 \frac{1}{2}}{\frac{1}{8}} = \frac{\frac{75}{2}}{\frac{1}{8}} = \frac{75}{2} \times 8 = \underline{\underline{300}}$$

24. D

$$\begin{aligned} \text{Given expression} &= \sqrt{\frac{25}{10000}} \times \sqrt{\frac{225}{100}} \times \sqrt{\frac{1}{10000}} \\ &= \frac{5}{100} \times \frac{15}{10} \times \frac{1}{100} \\ &= \frac{75}{100000} = \underline{\underline{0.00075}} \end{aligned}$$

25. C

All other contain one vowel.