

PRACTICE TEST OF TOP RANK

TEST OF REASONING & MENTAL ABILITY - NO.12

Time : 30 minutes

Marks : 100

1. Subtracting 40% of a number from the number, we get the result as 30. Find the number ?
A. 10 B. 40 C. 50 D. 30 E. None of these
2. If $y = 5$, then what is the value of $10y\sqrt{y^3 - y^2}$?
A. $50\sqrt{2}$ B. 100 C. $200\sqrt{2}$ D. 500 E. None of these
3. If 'rat' is called 'dog', 'dog' is called 'mangoose', 'mangoose' is called 'lion', 'lion' is called 'snake' and 'snake' is called 'elephant', which is reared as a pet ?
A. rat B. Dog C. Mangoose D. Lion E. Elephant
4. Choose one word out of the given alternatives, which cannot be formed from the letters of the word CONSULTATION.
A. CONSTANT B. NATION C. SALUTE D. STATION E. None of these
5. If the radius of a sphere is 6 cm, then its volume is;
A. $288\pi \text{ cm}^3$ B. $388\pi \text{ cm}^3$ C. $684\pi \text{ cm}^3$ D. $864\pi \text{ cm}^3$ E. None of these
6. If $\frac{1}{3} + \frac{1}{2} + \frac{1}{x} = 4$, then $x =$?
A. $\frac{5}{18}$ B. $\frac{6}{19}$ C. $\frac{18}{5}$ D. $\frac{24}{11}$ E. None of these
7. What is the sum of two consecutive even numbers, the difference of whose squares is 84?
A. 34 B. 38 C. 42 D. 46 E. None of these
8. The value of $(\sqrt{8})^{\frac{1}{2}}$ is,
A. 2 B. 4 C. $\sqrt{2}$ D. 8 E. None of these
9. Find the odd one among the following :
A. Donkey B. Camel C. Cow D. Mule E. None of these
10. Sparrow is to seed as silkworm is to _____
A. Mulberry B. Silk C. maple D. pine E. None of these
11. How many A's are there in the following series which are immediately followed by B as well as immediately preceded by z ?
A M B Z A N A A B Z A B A Z B A P Z A B A Z A B
A. Nil B. one C. two D. three E. More than three
12. The ratio of $4^{3.5} : 2^5$ is same as
A. 2 : 1 B. 4 : 1 C. 7 : 5 D. 7 : 10 E. None of these
13. If x% of y is the same as $\frac{4}{5}$ of 80, then the value of xy is :
A. 320 B. 400 C. 640 D. None of these
E. Cannot be determined
14. $\frac{1}{0.04}$ is equal to :
A. $\frac{1}{40}$ B. $\frac{2}{5}$ C. 2.5 D. 25 E. None of these

15. In the following question, one term in the number series is wrong. Find out the wrong term?
2, 5, 10, 17, 26, 37, 50, 64
A. 17 B. 26 C. 37 D. 64 E. None of these
16. Anthropology is related to man in the same way as Anthology is related to,
A. Nature B. Poems C. Apes D. Trees E. None of these
17. If DRIVER = 12, PEDESTRIAN = 20, ACCIDENT = 16, then CAR = ?
A. 3 B. 6 C. 8 D. 10 E. None of these
18. In a certain code, '123' means 'bright little boy'. '145' means 'tall big boy' and '637' means 'beautiful little flower'. Which digit in that language means 'bright'?
A. 1 B. 2 C. 3 D. 4 E. None of these
19. The sum of squares of three numbers is 138, while the sum of their products taken two at a time is 131. Their sum is :
A. 20 B. 30 C. 40 D. None of these
E. Cannot be determined
20. A car moves at the speed of 80 km/hr. What is the speed of the car in metres per second ?
A. 8 m/s B. $20\frac{1}{5}$ m/s C. $22\frac{2}{9}$ m/s D. None of these
E. Cannot be determined
21. In a certain code, SCRIPT is written as TCQIQT. How is DIGEST written in that code ?
A. TIHETT B. EIHETT C. EIFETT D. TIFETT E. EIFERT
22. Ignorance : ————— :: darkness : light
A. knowledge B. intelligence C. Innocence D. Clever E. stupidity
23. When $20 \times 2 = 20$
 $25 \times 4 = 50$
then, $30 \times 8 = ?$
A. 120 B. 270 C. 500 D. 600 E. None
24. A book is most likely to have —————
A. pages B. chapters C. cover D. pictures E. index
25. A party consisted of a man, his wife, his three sons and their wives and three Children in each son's family. How many were there in the party ?
A. 22 B. 17 C. 13 D. 24 E. 71

ANSWER WITH EXPLANATION

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1. C Let the number be x.

$$\begin{aligned}\therefore x - \frac{40}{100}x &= 30 \\ \text{i.e., } x\left(1 - \frac{2}{5}\right) &= 30 \\ \therefore x &= 30 \times \frac{5}{3} = 50\end{aligned}$$

2. D
$$\begin{aligned}10y\sqrt{y^3 - y^2} &\Rightarrow 10 \times 5\sqrt{5^3 - 5^2} \\ &\Rightarrow 50 \times \sqrt{125 - 25} \\ &\Rightarrow 50 \times 10 = \underline{\underline{500}}\end{aligned}$$

3. C Clearly Dog is reared as a pet and the code for dog is mangoose

4. C Carefully looking at the words, we find that the word 'CONSULTATION' does not contain the letter 'E'. So the word 'SALUTE' cannot be formed.

5. A
$$\begin{aligned}\text{Volume} &= \frac{4}{3}\pi r^3 \\ &= \frac{4}{3}\pi \times 6 \times 6 \times 6 \\ &= 288\pi \text{ cm}^3\end{aligned}$$

6. B
$$\begin{aligned}\frac{1}{x} &= 4 - \left(\frac{1}{3} + \frac{1}{2}\right) \\ &= 4 - \left(\frac{2+3}{6}\right) \Rightarrow \frac{4-5}{6} \\ &\Rightarrow \frac{24-5}{6} = \frac{19}{6} \\ \therefore x &= \frac{6}{19}\end{aligned}$$

7. C Let the numbers be x and x + 2.

$$\text{Then, } (x+2)^2 - x^2 = 84$$

$$\Rightarrow 4x + 4 = 84$$

$$\Rightarrow 4x = 80$$

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

$$\begin{aligned} 8. \quad C \quad & (\sqrt[3]{8})^{\frac{1}{2}} \\ & = 8^{\frac{1}{2} \times \frac{1}{3}} = 8^{\frac{1}{6}} \\ & = (2^3)^{\frac{1}{6}} = 2^{3 \times \frac{1}{6}} = 2^{\frac{1}{2}} = \underline{\underline{\sqrt{2}}} \end{aligned} \quad \left[\begin{array}{l} \because \sqrt[n]{a} = a^{\frac{1}{n}} \\ (a^m)^n = a^{mn} \end{array} \right]$$

9. C All except cow are beasts of burden

10. A First feeds on the second

11. D A M B Z A N A A B Z A B A Z B A P Z A B A Z A B

$$\begin{aligned} 12. \quad B \quad & 4^{35} : 2^5 \Rightarrow \frac{(2^2)^{35}}{2^5} = \frac{2^{2 \times 35}}{2^5} \\ & = \frac{2^7}{2^5} = 2^2 = \underline{\underline{4}} \end{aligned}$$

\therefore ratio is 4 : 1

$$\begin{aligned} 13. \quad D \quad & \frac{x}{100} \text{ of } y = \frac{4}{5} \text{ of } 80 \\ & \Rightarrow \frac{x}{100} \times y = \frac{4}{5} \times 80 \\ & \Rightarrow xy = 64 \times 100 = \underline{\underline{6400}} \end{aligned}$$

$$14. \quad D \quad \frac{1}{0.04} = \frac{1 \times 100}{4} = \frac{100}{4} = \underline{\underline{25}}$$

15. D The terms of the series are

$$(1^2 + 1), (2^2 + 1), (3^2 + 1), (4^2 + 1), (5^2 + 1), (6^2 + 1), (7^2 + 1), \underline{\underline{8^2 + 1 = 65}}$$

16. B Anthropology deals with study of man.

Similarly anthology deals with collection of poems.

17. B Clearly each word is coded by the numeral which is twice the number of letters in the word.

So, CAR = (Number of letters in CAR) \times 2

$$= 3 \times 2 = 6$$

18. B 1 2 3 \rightarrow Bright little boy \rightarrow (1)

1 4 5 → tall big boy → (2)

6 3 7 → beautiful little flower → (3)

from (1) & (2), 1 = boy

From (1) & (3), 3 means little

∴ Code for Bright is 2

19. A Let the numbers be a, b and c

Then $a^2 + b^2 + c^2 = 138$ and $ab + bc + ca = 131$

$$\begin{aligned}(a + b + c)^2 &= a^2 + b^2 + c^2 + 2(ab + bc + ca) \\&= 138 + 2 \times 131 = 400 \\&\Rightarrow (a + b + c) = \sqrt{400} = \underline{\underline{20}}\end{aligned}$$

20. C Speed = $80 \times \frac{5}{18} \text{ m/s} = \frac{200}{9} \text{ m/s} = 22\frac{2}{9} \text{ m/s}$

21. C In the code, first and fifth letters are moved one step forward while third letter is moved one step backward. The other letters remain unchanged. Hence

DIGEST = EIFETT

22. A

23. A

$$20 \times 2 = 20 \Rightarrow 20 \times \frac{2}{1} = 20 \times 2 = 20$$

$$25 \times 4 = 50 \Rightarrow 25 \times \frac{4}{2} = 25 \times 2 = 50$$

$$\text{Similarly } 30 \times 8 = \underline{\hspace{1cm}} \Rightarrow 30 \times \frac{8}{2} = 30 \times 4 = 120$$

24. A Without pages, there cannot be any book

25. B. Total members = Man + Wife + 3 sons + 3 daughters in law + 3 × 3 = (9) grand children

$$= 17$$