

CHAIN-SYS

Mathematics for Class 10

Aptitude Test

Duration: 1hr

SET-B

1. Sri invested some amount(x) at the rate of 12% simple interest and a certain amount(y) at the rate of 10% simple interest. He received yearly interest of Rs.140. But if he had interchanged the amounts invested, he would have received Rs.4 more as interest.

Quantity I: The value of x

Quantity II: The value of y

- a. Quantity I > Quantity II
b. Quantity I < Quantity II
c. Quantity I \geq Quantity II
d. Quantity I \leq Quantity II

2. A seller bought 2750 Mangoes and 1210 Apples at the same price. He sells in such a way that he can buy 406 Mangoes with the sale of 322 Mangoes and he can buy only 289 Apples with the sale of 391 Apples. Then what is the overall profit percentage made by him?

- a. 0%
b. 2%
c. 5%
d. 6%

3. 7, 4.5, 5.5, 12, 49, ?

- a. 393
b. 351
c. 362
d. 375

4. A can do a piece of work in 30 days, B can do in 45 days and C can do same work alone in 60 days. If on the first day A worked alone and on the second day A and B worked together and on the third day A and C worked together. If they repeat the cycle as follows then in how many days total work can be completed?

- a. 21 Days
b. 21 $\frac{7}{8}$ Days
c. 21 $\frac{5}{6}$ Days
d. 21 $\frac{4}{9}$ Days

$$5. (1421/47) + (49/828) * (1645/23) = 73 + 603$$

- a. 33
b. 34
c. 35
d. 36

6. If a quarter kg of potato costs 60 paise, how many paise does 200 gm cost?

- a. 65 paise
b. 70 paise
c. 52 paise
d. 48 paise

7. Which of the following fractions is greater than $\frac{3}{5}$ and less than $\frac{6}{7}$?

- a. $\frac{7}{8}$
b. $\frac{1}{5}$
c. $\frac{2}{3}$
d. $\frac{1}{2}$

8. If $x = (8 + 3\sqrt{7})$, what is the value of $(\sqrt{x} - 1/\sqrt{x})$?

- a. $\sqrt{12}$
b. 4
c. 2
d. 14

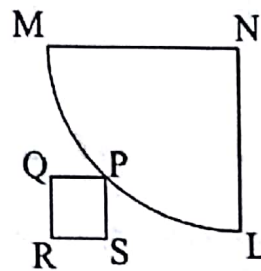
9. Sakshi invests a part of Rs. 12,000 in 12% stock at Rs. 120 and the remainder in 15% stock at Rs. 125. If his total dividend per annum is Rs. 1360, how much does he invest in 12% stock at Rs. 120?

- a. 6000 b. 4500 c. 5500 d. 4000

10. Solve $5x^2 + 6x + 1 = 0$

- a. $x = -0.2 \pm 0.4i$ b. $x = 0.2 \pm 0.4i$ c. $x = 2 \pm 0.4i$ d. $x = -2 \pm 0.4i$

11. In the figure given below MN and NL are adjacent sides of a square and the arc MPL is drawn with N as centre and MN as radius. P is a point on the arc and PQRS is a square such that, RS, if extended, passes through L while RQ, if extended, passes through M. What is the ratio of the area of a square of side MN and the square PQRS?



- a. $1:(3-22-\sqrt{\quad})$ b. $2:(3-22-\sqrt{\quad})$ c. $3:(3-22-\sqrt{\quad})$ d. $4:(3-22-\sqrt{\quad})$

12. What is the least multiple of 7 which leaves a remainder of 4 when divided by 6, 9, 15 and 18?

- a. 364 b. 350 c. 343 d. 371

13. A boat takes 30 hours for travelling downstream from point A to point B and coming back to point C midway between A and B. If the velocity of the stream is 2 kmph and the speed of the boat in still water is 15 kmph, what is the distance between A and B?

a.342km

b.356km

c.316km

d.308km

(14-16) Each of the questions below consists of a question and two statements I and II numbered given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the three statements and give answer: –

- a. If the data in statement I alone is sufficient to answer the question.
- b. If the data in statement II alone is sufficient to answer the question.
- c. If the data either in statement I alone or statement II alone are sufficient to answer the question.
- d. If the data given in both I and II together are not sufficient to answer the question.

14. What is the man's speed in still water?

- I. The speed of the stream is one-third of the man's speed in still water.
- II. In a given time, the man can swim twice as far with the stream as he can against it.

15. What is the Ratio of male to female officers in the police force in town T?

- I. The number of female officers is 250 less than half the number of male officers.
- II. The number of female officers is $\frac{1}{7}$ the number of male officers.

16. What is the rate of the Compound Interest?

- I. A certain amount invested at the compound interest rate amounts to Rs. 1331
- II. The amount was invested for a period of three years.

Synonym

17. Officious

a. concerning office

b. Legal

c. interfering

d. Permissible

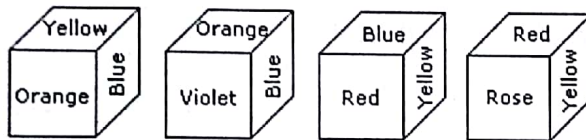
18. Defer

- a. Differ b. Respect c. Postpone d. disagree

19. Imperious

- a. Proud b. Temper c. Tamper d. Distant

20. From the four positions of a dice given below, find the color which is opposite to yellow?



- a. Violet b. Red c. Rose d. Blue

21. Two buses start from the opposite points of a main road, 150kms apart. The first bus runs for 25kms and takes a right turn and then runs for 15 kms. It then turns left and runs for another 25 kms and takes the direction back to reach the mai road. In the meantime, due to a minor breakdown, the other bus has run only 35 kms along the main road. What would be the distance between the two buses at this point?

- A. 65kms b. 75kms c. 80 kms d. 85kms

22. If $a \times b = a^2b^2 - ab$, then $3 \times 8 =$

- a. 600 b. 552 c. 576 d. 625

23. A software engineer has the capability of thinking 100 lines of code in five minutes and can type 100 lines of code in 10 minutes. He takes a break for five minutes after every ten minutes. How many lines of codes will he complete typing after an hour?

- a.250 b.220 c.150 d.200

24. Find the odd man out. 445, 221, 109, 46, 25, 11, 4

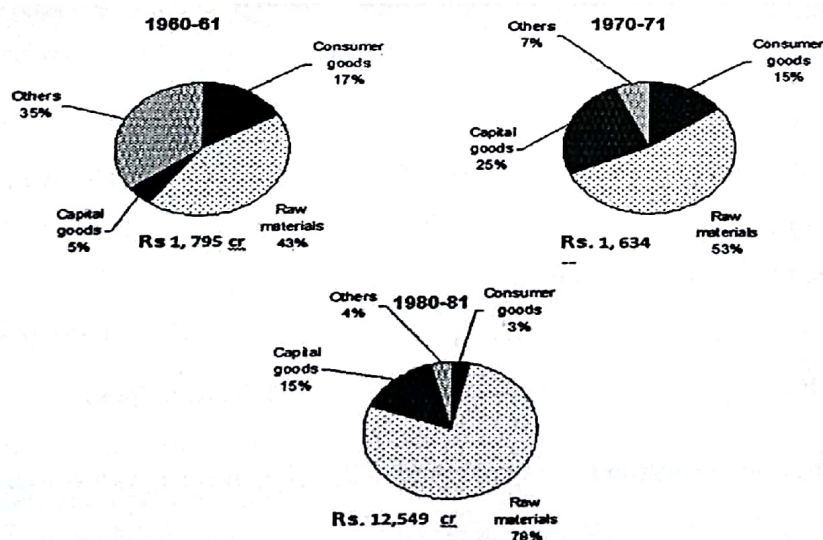
- a.25 b.109 c.46 d.226

25. In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there?

- a.159 b.209 c.201 d.212

26. In a two digit positive number, the digit at the units place is equal to the square of the digit in ten's place and the difference between the number and the number obtained by interchanging the digits is 54. What is 40% of the original number?

- a. 15.6 b. 37.2 c. 39.4 d. 24.8

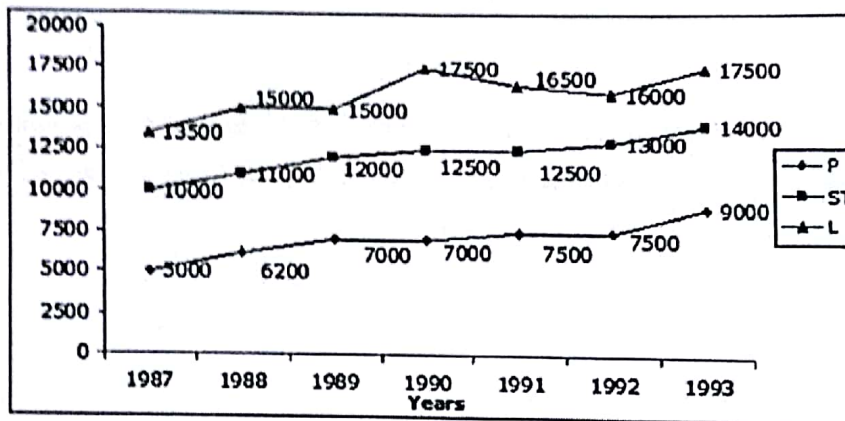


27. The import of Consumer Goods in 1960-61 cost how much Rs (in crore)?

- a. 245 b. 108 c. 395 d. 305

28. What is the difference in the percentage of import of raw materials to the total from 1970-71 to 1980-81?

- a. 10 b. 15 c. 17 d. None of these



29. In 1993, a company's total sales was made of 40% of P, 30% of ST and 30% of L. The average realization per m³ in 1993 was:

1. Rs. 81212. Rs. 72113. Rs. 65674. None of these

- a. Rs. 8121 b. Rs. 7211 c. Rs. 6567 d. None of these

30. Which of the following has shown maximum %age change in its value over any two consecutive years?

a. ST

b.P

c.L

d.None of these

31. The average of the linear factors of $x^2 - 14x + 48 = 0$ is

a. $x - 7$

b. $x + 7$

c. $x - 17$

d. $x + 8$

32. Chicks : cheep :: Zebras : ?

a.bark

b. Buzz

c.scream

d.whinny

33. Arrange the following P, Q, R, S sentences in correct order:

When they heard the bell

P) out of his clothes

Q) as quickly

R) every boy scrambled

S) and got into bed

as possible

a.QRPS

b.RPSQ

c.RQSP

d. None of these.

34. Given four/five statements which need not be proper in order, choose the correct option which makes these statements arranged in the correct sequential order.

The symptoms of

P) and certain other changes

Q) what is popularly called

R) serious forgetfulness, confusion

S) 'sterility' include

in personality behaviour.

a.QSRP

b.PQRS

c. SRQP

d.QPSR

Q(35 – 38) Each of the questions below consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the three statements and give answer: –

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- d. If the data in both the statements I and II together are necessary to answer the question

35.A car dealer sold 80% of the cars in its inventory during September. What was the total revenue from the sales of cars?

- I. All but 60 cars in the showroom inventory were sold during September.
- II. Cars were sold for an average price of Rs.4.5 lakh during September.

36.Did Incumbent P get over 60% of the vote?

- I. Challenger M got 39% of the vote
- II. Incumbent P got 40000 of the total votes cast

37.How much money did X invest?

- I. An increase in the Simple Interest from $39\frac{1}{8}\%$ to $41\frac{1}{8}\%$ per annum increases his yearly income by 25%.
- II. The sum invested gets doubled, when invested at 8% per annum for $25\frac{1}{2}$ year.

38.What is the weighted average of marks obtained by Deepak?

I. Maths, Science and English have weights 5, 4 and 3 respectively.

II. Simple Arithmetic mean of Maths and science is 140, which is twice the average of Science and English.

$$39. 1/[2 + (1/(4 + (1/(5 - 1/3)))))] = ?$$

a. 131/57

b. 47/121

c. 117/39

d. 59/132

40. The Indian property sector must **proactively** adopt such progressive **initiatives**, voluntarily disclose its social and environmental **performance**, and stay in tune with changing investment **norms** and practices.

a) vague, cryptic, enigmatic, eternal

b) ambushcade, bushwhack, waylay, dabbler

c) obliging, agreeable, pleasant, affable

d) no correction required