APTITUDE

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50+ Puzzles for Analytical skills

1. Chain Rule

1. If 15 men make 234m long wall, then what is the length of wall made by 35 men:
   a) 540 b) 546 c) 546 d) 570
2. If 36 men can do a piece of work in 25 hours, how many hours will 15 men take to do it:
   a) 40 hours b) 50 hours c) 60 hours d) 70 hours
3. If the wages of 6 men for 15 days to be Rs. 2100, then wages of 9 men for 12 days :
   a) 2500 b) 2520 c) 2600 d) 2700
4. If 20 men can build a wall 56 meters long in 6 days, what length of a similar wall can be built by 35 men in 3 days :
   a) 50m b) 49m c) **45m** d) 48m
5. If 15 men working 9 hours a day, can reap a field in 16 days, in how many days will 18 men reap the field, working 8 hours a day:
   a) 12 b) 14 c) **15** d) 16
6. 36 men can complete a piece of work in 18 days. In how many days will 27 men complete the work:
   a) 12 b) 18 c) **22** d) 24
7. **A fort had** provision of food for 150 men for 45 days. After 10 days, 25 men left the fort. The number of days for which the remaining food will last is :
   a) **$29\frac{1}{5}$** b) $37\frac{1}{4}$ c) **42** d) 54
8. 12 men working 8 hours per day completes a piece of work in 10 days. To complete the same work in 8 days, working 15 hours a day , the number of men required is:
   a) 4 b) 5 c) **6** d) 8

   CARTE BLANCHE: COMPLETE FREEDOM TO ACT AS ONE WISHES OR THINKS BEST
9. **10** men working 6 hours a day can complete a work in 18 days. How many hours a day must 15 men work to complete the same work in 12 days:
   a) 6 b) 10 c) **12** d) 15
10. **In a** camp, 95 men had provision for 200 days. After 5 days, 30 men left the camp. For how many days will the remaining food last:
    a) 180 b) 285 c) **$139\frac{16}{19}$** d) none
11. **A garrison of 500** men **had** provision for 27 days. After 3 days a reinforcement of 300 men arrived. For how many more days will the remaining food last now:
    a) 15 b) 16 c) **$17\frac{1}{2}$** d) 18
12. 3 pumps, working 8 hours a day, can empty a tank in 2 days. How many hours a day must 4 pumps work to empty the tank in 1 day?
    A. 9 B. 10 C. 11 D. 12
13. If the cost of x metres of wire is d rupees, then what is the cost of y metres of wire at the same rate?
    a) Rs. $\frac{xy}{d}$ b) Rs. (xd) c) Rs. (yd) d) Rs. $\frac{yd}{x}$
14. Running at the same constant rate, 6 identical machines can produce a total of 270 bottles per minute. At this rate, how many bottles could 10 such machines produce in 4 minutes?
    A. 648 B. 1800 C. 2700 D. 10800
15. In a dairy farm, 40 cows eat 40 bags of husk in 40 days. In how many days one cow will eat one bag of husk?
    A. 1 B. 1/40 C. 40 D. 80

16. A wheel that has 6 cogs is meshed with a larger wheel of 14 cogs. When the smaller wheel has made 21 revolutions, then the number of revolutions mad by the larger wheel is:
A. 4 B. 9 C. 12 D. 49
17. If 7 spiders make 7 webs in 7 days, then 1 spider will make 1 web in how many days?
A. 1 B. 7/2 C. 7 D. 49
18. 4 mat-weavers can weave 4 mats in 4 days. At the same rate, how many mats would be woven by 8 mat-weavers in 8 days?
A. 4 B. 8 C. 12 D. 16
19. If 100 typist types 100 pages in 100 days, then how many typist will type 7 pages in 7 days?
a. 7 b. 1 c. 100 d.70
20. A garrison of 3300 men had food provision for 32 days, when given at the rate of 850 gm per head. At the end of the 7 days, a reinforcement arrives and it was found that the provision will last for 17 days more if given at the rate of 825gm per head. What is the strength of reinforcement?
a) 2000 b) 1500 d) 1700 d) 1800
21. A contract is to be completed in 46 days and 117 men were set to work, each working 8 hours a day. After 33 days, $\frac{4}{7}$ of the work is completed. How many additional men may be employed so that the work may be completed in time, each man now working 9 hours a day ?
A) 81 B) 90 C) 75 D) 53

2. Calendar

1. It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010?
A. Sunday B. Saturday C. Friday D. Wednesday
2. What was the day of the week on 28th May, 2006?
A. Thursday B. Friday C. Saturday D. Sunday
3. Today is Monday. After 61 days, it will be:
A. Wednesday B. Saturday C. Tuesday D. Thursday
4. On what dates of April, 2001 did Wednesday fall?
A. 1st, 8th, 15th, 22nd, 29th
B. 2nd, 9th, 16th, 23rd, 30th
C. 3rd, 10th, 17th, 24th
D. 4th, 11th, 18th, 25th
5. The calendar for the year 2007 will be the same for the year:
A. 2014 B. 2016 C. 2017 D. 2018
6. Which of the following is not a leap year?
A. 700 B. 800 C. 1200 D. 2000
7. January 1, 2008 is Tuesday. What day of the week lies on Jan 1, 2009?
A. Monday B. Wednesday C. Thursday D. Sunday
8. What was the day on 15th august 1947 ?
A) Friday B) Saturday C) Sunday D) Thursday
9. The last day of a century cannot be
A) Monday B) Wednesday C) Tuesday D) Friday
10. What was the day of the week on, 16th July, 1776?
A) Tuesday B) Wednesday C) Monday D) Saturday
11. The maximum gap between two successive leap year is?
A) 4 B) 8 C) 2 D) 1
12. How many leap years do 400 years have?
A) 98 B) 100 C) 97 D) 99
13. Total number of days in x weeks x days are?
a) $7x^2$ b) 8x c) 14x d) 7

3. Permutation And Combination

1. In how many ways can letters of the word 'ORANGE' can be arranged:
a) 120 b) 130 c) 720 d) 740
2. In how many ways can the letters of the word 'LEADER' be arranged?
a) 72 b) 144 c) 360 d) 720
3. In how many ways can 10 students can be arranged in a row?
A. 9! B. 6! C. 8! D. 10!
4. How many 4-letter words with or without meaning, can be formed out of the letters of the word, 'LOGARITHMS', if repetition of letters is not allowed?
A. 40 B. 400 C. 5040 D. 2520
5. How many two digit numbers can be generated using the digits 1,2,3,4 without repeating any digit?
A. 4 B. 10 C. 12 D. 16
6. How many 3-digit numbers can be formed from the digits 2, 3, 5, 6, 7 and 9, which are divisible by 5 and none of the digits is repeated?
A. 5 B. 10 C. 15 D. 20
7. How many 5-digit numbers can be formed from the digits 2, 3, 0, 4, 5, 6, 7 and 9, if none of the digits is repeated?
a) 5500 b) 5880 c) 5640 d) 5850
8. How many 4-digit numbers can be formed from the digits 2, 3, 5, 0, 6, 8, 7 and 9, which are divisible by 2 and none of the digits is repeated?
a) 720 b) 750 c) 840 d) 810
9. How many 4-digit number contains 2?
a) 3170 b) 3172 c)3174 d) 3168
10. How many words can be formed using the word 'DAUGHTER' so that all vowels always come together:
a) 4000 b) 4320 c) 5000 d) 5320
11. In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?
a) 810 b) 1440 c) 2880 d) 50400
12. In how many different ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions?
A. 32 B. 48 C. 36 D. 60
13. In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?
A. 360 B. 480 C. 720 D. 5040
14. How many words can be formed from the letters of 'LEADING' so that all vowels never come together?
15. How many words can me formed using the letter "DIRECTOR" so that vowels are always together:
a) 2100 b) 2160 **c)** 2200 d) 2400
16. An event manager has ten patterns of chairs and eight patterns of tables. In how many ways can he make a pair of table and chair?
A. 100 B. 80 C. 110 D. 64
17. In how many ways can 10 books be arranged on a shelf such that a particular pair of books should always be together?
A. 9! × 2! B. 9! C. 10! × 2! D. 10!

18. In how many ways can 10 books be arranged on a shelf such that a particular pair of books will never be together?
A. 9! × 8 B. 9! C. 9! × 2! D. 10! × 2!

19. In how many ways can 11 persons be arranged in a row such that 3 particular persons should always be together?
A. 9!×3! B. 9! C. 11! D. 11!×3!

20. A company has 11 software engineers and 7 civil engineers. In how many ways can they be seated in a row so that all the civil engineers are always together?
A. 18! × 2 B. 12! × 7! C. 11! × 7! D. 18!

21. A company has 11 software engineers and 7 civil engineers. In how many ways can they be seated in a row so that no two of the civil engineers will sit together?
A. 12! B. $11!\times\frac{12!}{5!}$ C. 11! D. $12\times\frac{12!}{5!}$

22. what is the rank of the word "ZENITH" ?
a) 540 b) 616 c) 600 d) 450

23. What is rank of “BANANA” in dictionary?
a) 30 b) 32 c) 35 d) 40

24. In how many ways can cricket eleven be chosen out of a batch of 15 players:
a) 1300 b) 1360 **c)** 1365 d) 1400

25. A company has 10 software engineers and 6 civil engineers. In how many ways can a committee of 4 engineers be formed from them such that the committee must contain at least 1 civil engineer?
A. 1640 B. 1630 C. 1620 D. 1610

26. A box contains 4 red, 3 white and 2 blue balls. Three balls are drawn at random. Find out the number of ways of selecting the balls of different colours?
A. 62 B. 48 C. 12 D. 24

27. A question paper has two parts P and Q, each containing 10 questions. If a student needs to choose 8 from part P and 4 from part Q, in how many ways can he do that?
A. None of these B. 6020 C. 1200 D. 9450

28. In how many ways a committee of 5 members can be selected from 6 men and 5 ladies, consisting of 3 men and 2 ladies:
a) 210 b) 240 **c)** 200 d) 260

DESPISE: HATE, LOATHE, DEPLORE, ABOMINATE

29. In how many ways can the word ‘JUDGE’ be arranged so that the vowels always come together:
a) 48 b) 120 **c)** 124 d) 160

30. In how many ways can a group of 5 men and 2 women be made out of total 7 men and 3 women:
a) 63 b) 90 **c)** 126 d) 45

31. From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?
A. 564 B. 645 C. 735 D. 756

32. 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

33. 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. 194 C. 205 D. 209

34. Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?
A. 210 B. 1050 C. 25200 D. 21400

35. A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the box, if at least one black ball is to be included in the draw?
A. 32 B. 48 C. 64 D. 96

36. A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the box, if at most two red ball is to be included in the draw:

42. A box contains 4 red balls, 3 blue balls and 5 yellow balls. In how many ways 5 balls be selected so as there will be exactly 3 red balls?

43. In how many ways can 7 beads can be arranged to form a necklace?
A. 720 B. 360 C. 120 D. 60

43. In how many ways can 5 blue balls, 4 white balls and the rest 6 different colour balls be arranged in a row?
A. 15! B. $\frac{15!}{5!\times 4!}$ C. 15P6 D. 15P7

44. In how many ways can 10 software engineers and 10 civil engineers be seated around a round table so that they are positioned alternatively?
A. 9! × 10! B. 10! × 10! C. 2 × (10!)2 D. 2 × 9! × 10!

45. In a birthday party, every person shakes hand with every other person. If there was a total of 28 handshakes in the party, how many persons were present in the party?
A. 9 B. 8 C. 7 D. 6

46. In how many different ways can 5 girls and 5 boys form a circle be arranged such that the boys and the girls are alternate?
A. 2880 B. 1400 C. 1200 D. 3212

47. There are 6 Indians and 4 Americans to be seated on a circular table. Find
a) Total arrangements.
b) When Indians and Americans sit together.
c) When no Americans sit together .

48. There are 6 Indians and 4 Americans and 3 British to be seated on a circular table. Find
a) Total arrangements.
b) When Indians, Americans and British sit together.
c) When no Americans sit together .
d) when no Indians sit together.
e) when no British sit together.

4. PROBABILITY

1. In a simultaneous throw of two coins, the probability of getting at least one head is:
a) $\frac{2}{3}$ b) $\frac{1}{2}$ c) $\frac{1}{3}$ d) $\frac{3}{4}$

2. In a simultaneous throw of two coins, the probability of getting at most one head is:
a) $\frac{2}{3}$ b) $\frac{1}{2}$ c) $\frac{1}{3}$ d) $\frac{3}{4}$

3. Three unbiased coins are tossed. What is the probability of getting at least two heads:
a) $\frac{1}{4}$ b) $\frac{1}{3}$ c) $\frac{1}{2}$ d) $\frac{1}{8}$

4. Three unbiased coins are tossed. What is the probability of getting at most two heads:

a) $\frac{3}{4}$ b) $\frac{1}{4}$ c) $\frac{3}{8}$ d) $\frac{7}{8}$

5. In a single throw of dice what is the probability of getting a number greater then 4:

$a)$ $\frac{1}{3}$ b) $\frac{1}{2}$ c) $\frac{2}{3}$ d) $\frac{1}{4}$

6. What is the probability of getting a sum of 7 from two throw of a dice:

a) $\frac{1}{6}$ b) $\frac{1}{4}$ c) $\frac{2}{3}$ d) $\frac{3}{4}$

7. In a simultaneous throw of two dice, what is the probability of getting a doublet:

a) $\frac{1}{6}$ b) $\frac{1}{4}$ c) $\frac{2}{3}$ d) $\frac{3}{7}$

8. in a simultaneous throw of a pair of dice, find the probability of getting a total more than 7:

a) $\frac{7}{12}$ b) $\frac{5}{12}$ c) $\frac{5}{6}$ d) $\frac{1}{3}$

9. two dice are thrown together. What is the probability that the sum of the numbers on the two faces is divisible by 4 or 6:

a) $\frac{5}{18}$ b) $\frac{4}{18}$ c) $\frac{7}{18}$ d) $\frac{11}{18}$

10. one card is drawn from a pack of 52 cards. What is the probability that the card drawn is face card:

a) $\frac{1}{13}$ b) $\frac{4}{13}$ c) $\frac{1}{4}$ d) $\frac{9}{52}$

11. the probability that a card drawn from a pack of 52 cards will be a diamond or a king is:

a) $\frac{2}{13}$ b) $\frac{4}{13}$ c) $\frac{1}{13}$ d) $\frac{1}{52}$

12. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

a) ½ b) 2/5 c) 8/15 d) 9/20

13. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?

a) 10/21 b) 11/21 c) 2/7 d) 5/7

14. In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither red nor green?

a) 1/3 b) ¾ c) 7/19 d) 8/21

15. What is the probability of getting a sum 9 from two throws of a dice?

a) 1/6 b) 1/8 c) 1/9 d) 1/12

16. Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even?

a) ½ b) ¾ c) 3/8 d) 5/16

17. In a class, there are 15 boys and 10 girls. Three students are selected at random. The probability that 1 girl and 2 boys are selected, is:

a) 21/46 b) 25/117 c) 1/50 d) 3/25

18. In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?

a) 1/10 b) 2/5 c) 2/7 d) 5/7

19. From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?

a) 1/15 b) 25/57 c) 35/256 d) 1/221

20. Two dice are tossed. The probability that the total score is a prime number is:

a) 1/6 b) 5/12 c) ½ d) 7/9

21. A card is drawn from a pack of 52 cards. The probability of getting a queen of club or a king of heart is:

a) 1/13 b) 2/13 c) 1/26 d) 1/52

22. A bag contains 4 white, 5 red and 6 blue balls. Three balls are drawn at random from the bag. The probability that all of them are red, is:

a) 1/22 b) 3/22 c) 2/91 d) 2/77

23. Two cards are drawn together from a pack of 52 cards. The probability that one is a spade and one is a heart, is:

a) 3/20 b) 29/34 c) 47/100 d) 13/102

24. What is the probability of getting 53 Mondays in a leap year?

a) 1 b) 1/7 c) 2/7 d) 3/7

25. Two dice are thrown together .What is the probability that the sum of the number on the two faces is divided by 4 or 6.

A) 7/18 B) 14/35 C) 8/18 D) 7/35

26. A bag contains 6 black and 8 white balls. One ball is drawn at random. What is the probability that the ball drawn is white?

A) 3/7 B) 4/7 C) 1/8 D) ¾

27. If two letters are taken at random from the word HOME, what is the probability that none of the letters would be vowels?

A) 1/6 B) ½ C) 1/3 D) ¼

28. A word consists of 9 letters; 5 consonants and 4 vowels. Three letters are choosen at random. What is the probability that more than one vowel will be selected ?

A) 13/42 B) 17/42 C) 5/42 D) 3/14

29. Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even?

A) ¾ B) 3/8 C) 5/16 D) 2/7

5. Clock

1. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through:

a) 145° b) 150° **c)** 155° d) 160°

2. At 3.40, the hour hand and the minute hand form an angle of :

a) 120° b) 125° c) 130° d) 135°

3. The angle between minute hand and hour hand of a clock when the time is 4:20 is:
   a) 0° b) 10° c) 5° d) 20°
4. At what angle the hands of a clock are inclined at 15 minutes past 5:
   a) $58\frac{1^\circ}{2}$ b) 64 c) $67\frac{1^\circ}{2}$ d) $72\frac{1^\circ}{2}$
5. At what time between 2 and 3 o'clock will the hands of a clock be together:
   a) 10 mins past 2 b) $10\frac{10}{11} min$ pst 2
   c) 5 mins past 2 d) 20 mins past 2
6. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through:
   A. 145º B. 150º C. 155º D. 160º
7. How many times do the hands of a clock coincide in a day:
   a) 20 b) 21 c) 22 d) 24
8. How many times in a day the hands of a clock are straight:
   a) 22 b) 24 c) 44 d) 48

MISOLOGIST: ONE WHO HATES OR DISLIKES REASONING OR ARGUMENT

9. How many times are the hands of a clock are at right angle in a day;
   a) 22 b) 24 c) 44 d) 48
10. How many times in a day clock of the hands are in straight line but opposite in direction:
   a) 20 b) 22 c) 24 d) 48

11.At what time between 5.30 and 6 will the hands of a clock be at right angles?

A. $43\frac{5}{11}$ min. past 5

B. $43\frac{7}{11}$ min. past 5

C. 40 min. past 5

D. 45 in. past 5

12.At what time between 9 and 10 o'clock will the hands of a watch be together?

A. 45 min. past 9

B. 50 min. past 9

C. $49\frac{1}{11}$ min. past 9

D. $48\frac{2}{11}$ min. past 9

6. Ratio

1. If a:b= 5:9 and b:c is 4:7, then a:b:c is
   a) 5:9:7 b) 5:4:7
   c) 20:36:63 d) 20:30:63
2. If A:B= 2:3, B:C is 4:5, C:D is 6:7 then A:B:C:D is :
   a) 16:22:30:35 b) 16:24:15:35
   c) 16:24:30:35 d) 18:24:30:35
3. If A:B =8:15, B:C= 5:8, C:D =4:5 then A:D =
   a) 2:7 b) 4:15 c) 8:15 d) 15:4
4. If A:B = $\frac{1}{2}:\frac{3}{8}$, B:C= $\frac{1}{3}:\frac{5}{9}$, C:D= $\frac{5}{6}:\frac{3}{4}$, then the ratio of A:B:C:D is:
   a) 4:6:8:10 b) 6:4:8:10
   c) 6:8:9:10 d) 8:6:10:9
5. Fourth proportional of 4,9 and 12 is:
   a) 22 b) 24 c) 26 d) 27

EMBRYONIC: RUDIMENTARY, UNDEVELOPED, IMMATURE, INCHOATE, NASCENT, GERMINAL

6. The third proportional of 16 and 36 is:
   a)79 b) 80 c) 81 d) 82
7. The mean proportional of 144 and 225 is:
   a) 160 b) 170 c) 180 d) 181
8. Divide 672 in the ratio 5:3 ratio. Two parts are :
   a) 420, 252 b) 440, 250 c) 450, 252 d) 420, 250
9. Rs. 1162 is divided among A,B and C in the ratio 35:28:20. amount received by A is :
   a) 450 b) 460 c) 470 d) 490
10. A bag contains 50p, 25p and 10p coins in the ratio 5:9:4, amounting to Rs. 206. Then the number of coins of each type is :
   a) 200, 360 and 160 b) 200, 160,360
   c) 200, 350, 120 d) 180, 120 and 360
12. A mixture contains alcohol and water in the ratio 4:3. If 5 litres of water is added to the mixture, the mixture ratio becomes 4:5. Then the quantity of alcohol in the mixture is:
   a)8 litres b) 10 litres c) 12 litres d) 14 litres
12. 782 is divided into three parts in the ratio $\frac{1}{2}:\frac{2}{3}:\frac{3}{4}$, then the first part is:
   a) 182 b) 190 c) 196 d) 204
13. In a bag there are coins of 25P, 10p and 5p in the ratio 1:2:3. I there are Rs. 30 in all, how many 5p coins are there:
   a) 50 b) 100 c) 150 d) 200
14. Two numbers are in the ratio of 5:7. If 25 be subtracted from each, they are in the ratio of 35:59. Find the numbers?
   A. 55,77 B. 45,63 C. 40,56 D. 60,84
15. In a mixture of 60 liters, the ratio of milk and water is 2:1. What amount of water must be added to make the ratio of milk and water as 1:2?
   a) 42 litres b) 56 litres c) 60 litres d) 77 litres
16. The incomes of two persons A and B are in the ratio 3:4. If each saves Rs.100 per month, the ratio of their expenditures is 1:2 . Find their incomes?
   A. 100, 200 B. 200, 300 C. 150, 200 D. 250, 300
17. Amar, Bhavan and Chetan divide an amount of Rs.5600 among themselves in the ratio 3:6:5. If an amount of Rs.400 is deducted from each of their shares, what will be the new ratio of their shares of the amount?
   A. 4:7:6 B. 1:4:3 C. 2:5:4 D. 5:11:9

18. The ratio of the present ages of Giri and Hari is 5:8. 12 years hence, the ratio of their ages will be 11:14. Find the difference in their present ages?

A. 10 years B. 6 years C. 3 years D. 5 years

19. Two candles of same height are lighted at the same time. The first is consumed in 3 hours and second in 2 hours. Assuming that each candles burns at a constant rate, in how many hours after being lighted, the ratio between the first and second candles becomes 2:1?

A.2 hour B.2.5 hour C.4 hour

D.4.5 hour E.None of these

20. A vessel contains milk and water in the ratio of 4:3. If 14 litres of the mixture is drawn and filled with water, the ratio changes to 3:4. How much milk was there in the vessel initially?

a) 24 b) 32 c) 40 d) 48 e) None of these

21. A bucket contains liquid A and B in the ratio 4:5. 36 litre of the mixture is taken out and filled with 36 litre of B. Now the ratio changes to 2:5. Find the quantity of liquid B initially.

a) 55ltr b) 56ltr c) 57ltr d) 58ltr e) None of these

7. Partnership

1. A, B and C started a business by investing Rs. 1,20,000, Rs. 1,35,000 and Rs. 1,50,000 respectively. Find the share of A, out of an annual profit of Rs. 56,700:
   a) 16000 b) 16,800 c) 17000 d) 17,500
2. Alfred started a business investing Rs. 45,000. After 3 months peter joined him with a capital of Rs. 60,000. After another 6 months, Ronald joined them with a capital of Rs. 90,000. At the end of the year, they made a profit of 16,500. The share of peter is:
   a) 6500 b) 6800 c) 6700d) 6600
3. A,B and C start a business each investing Rs. 20,000. After 5 months A withdrew Rs. 5000, B withdrew Rs. 4000 and C invests Rs. 6000 more. At the end of the year, a total profit of Rs. 69,900 was recorded. Share of C is:
   a) 28000 b) 28200 c) 29000 d) 29000
4. Reena and shaloo are partners in a business. Reena invested Rs. 35000 for 8 months and shaloo invests Rs. 42000 for 10 months. Out of a profit of Rs. 31,570, reena's share is :
   a) 9471 b) 12,628 c) 18,040 d) 18,942
5. A and B invest in a business in the ratio 3 : 2. If 5% of the total profit goes to charity and A's share is Rs. 855, the total profit is:
   A. Rs. 125 B. Rs. 1500 C. Rs. 1537.50 D. Rs. 1576
6. A, B and C jointly thought of engaging themselves in a business venture. It was agreed that A would invest Rs. 6500 for 6 months, B, Rs. 8400 for 5 months and C, Rs. 10,000 for 3 months. A wants to be the working member for which, he was to receive 5% extra of the profits. The profit earned was Rs. 7400. Calculate the share of B in the profit.
   A. Rs. 1900 B. Rs. 2660 C. Rs. 2800 D. Rs. 2840

VENERABLE: ACCORDED GREAT RESPECT BECAUSE OF AGE, WISDOM OR CHARACTER, REVERED, ESTEEMED, HALLOWEED

7. A, B and C enter into a partnership in the ratio $\frac{7}{2}:\frac{4}{3}:\frac{6}{5}$. After 4 months, A increases his share 50%. If the total profit at the end of one year be Rs. 21,600, then B's share in the profit is:
   A. Rs. 2100 B. Rs. 2400 C. Rs. 3600 D. Rs. 4000
8. A, B, C subscribe Rs. 50,000 for a business. A subscribes Rs. 4000 more than B and B Rs. 5000 more than C. Out of a total profit of Rs. 35,000, A receives:
   A. Rs. 8400 B. Rs. 11,900 C. Rs. 13,600 D. Rs. 14,700
9. A starts business with Rs. 3500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2 : 3. What is B's contribution in the capital?
   A. Rs. 7500 B. Rs. 8000 C. Rs. 8500 D. Rs. 9000
10. A and B started a partnership business investing some amount in the ratio of 3 : 5. C joined then after six months with an amount equal to that of B. In what proportion should the profit at the end of one year be distributed among A, B and C?
    A. 3 : 5 : 2 B. 3 : 5 : 5
    C. 6 : 10 : 5 D. Data inadequate
11. A, B, C rent a pasture. A puts 10 oxen for 7 months, B puts 12 oxen for 5 months and C puts 15 oxen for 3 months for grazing. If the rent of the pasture is Rs. 175, how much must C pay as his share of rent?
    A. Rs. 45 B. Rs. 50 C. Rs. 55 D. Rs. 60
12. A began a business with Rs. 85,000. He was joined afterwards by B with Rs. 42,500. For how much period does B join, if the profits at the end of the year are divided in the ratio of 3 : 1?
    A. 4 months B. 5 months C. 6 months D. 8 months
13. A invested Rs. 70,000 in a business. After few months, B joined him with Rs. 60,000. At the end of the year, the total profit was divided between them in ratio 2 : 1. After how many months did B join?
    a) 3 months b) 4 months c) 5 months d) 6 months
14. A, B and C are partners in a business. Their capitals are respectively, Rs.5000, Rs.6000 and Rs.4000. A gets 30% of the total profit for managing the business. The remaining profit is divided among three in the ratio of their capitals. In the end of the year, the profit of A is Rs.200 more than the sum of the profits of B and C. Find the total profit.

A. Rs.4500 B. Rs.5200 C. Rs.1800 D. Rs.3000

15. A, B and C are entered into a partnership. A invested Rs.6500 for 6 months, B invested Rs.8400 for 5 months and C invested for Rs.10000 for 3 months. A is a working partner and gets 5% of the total profit for the same. Find the share of C in a total profit of Rs.7400.

A. 1750 B. 1900 C. 2400 D. 2800

16. X and Y started a business with capitals Rs. 20000 and Rs. 25000. After few months Z joined them with a capital of Rs. 30000. If the share of Z in the annual profit of Rs. 50000 is Rs. 14000, then after how many months from the beginning did Z join?

A. 7 B. 5 C. 3 D. 4

17. A, B and C enter into a partnership. They invest Rs. 40,000, Rs. 80,000 and Rs. 1,20,000 respectively. At the end of the first year, B withdraws Rs. 40,000, while at the end of the second year, C withdraws Rs. 80,000. IN what ratio will the profit be shared at the end of 3 years?

A. 2:3:5 B. 3:4:7 C. 4:5:9 D. None of these

8. Time And Work

1. Worker A takes 8 days to do a job. Worker B takes 10 days to do the same job. How long should it take both A and B, working together but independently, to do the same job?

a) $4\frac{4}{9}$ days b) $5\frac{4}{9}$ days c) 6 days d) 7 days

2. A and B together can complete a piece of work in 4 days. If A alone can complete the same work in 12 days, in how many days can B alone complete the work?

a) 4 days b) 5 days c) 6 days d) 7 days

3. A, B and C can complete the work in 24, 6 and 12 days respectively. Working together they will complete the same work in:

a) $\frac{1}{24}\ days$ b) $\frac{7}{24}\ days$ c) $3\frac{3}{7}\ days$ d) 4 days

4. A man can do a piece of work in 5 days, but with the help of his son, he can do it in 3 days. In what time can the son do it alone:

a) $6\frac{1}{2}$ days b) 7 days c) $7\frac{1}{2}$ days d) 8 days

5. A can lay a railway line in 16 days and B can do the same job in 12 days. With the help of C, they did the job in 4 days only. Then C alone can do the job in:

a) $9\frac{1}{5}\ days$ b) $9\frac{2}{5}$ days c) $9\frac{3}{5}\ days$ d) 10 days

6. P can complete a work in 12 days working 8 hours a day. Q can complete the same work in 8 days working 10 hours a day. If both P and Q work together, working 8 hours a day, in how many days can they complete the work?

a) $5\frac{5}{11}\ days$ b) $5\frac{6}{11}\ days$ c) $6\frac{5}{11}\ days$ d) $7\frac{5}{11}\ days$

7. A can finish a work in 18 days and B can do the same work in 15 days. B worked for 10 days and left the job. In how many days, A alone can finish the remaining work?

a) 5 b) $5\frac{1}{2}$ c) 6 d) 8

8. P and Q can do a piece of work in 10 days and 20 days respectively. Both of them start the work but P leaves the work 5 days before its completion. Find the time in which work is completed

a) 10 b) 15 c) 20 d) 25

9. A and B can complete a work in 15 days and 10 days respectively. They started doing the work together but after 2 days B had to leave and A alone completed the remaining work. The whole work was completed in :

A. 8 days B. 10 days C. 12 days D. 15 days

10. X and Y can do a piece of work in 20 days and 12 days respectively. X started the work alone and then after 4 days Y joined him till the completion of the work. How long did the work last?

A. 6 days B. 10 days C. 15 days D. 20 days

11. A and B together can do a piece of work in 30 days. A having worked for 16 days, B finishes the remaining work alone in 44 days. In how many days shall B finish the whole work alone?

A. 30 days B. 40 days C. 60 days D. 70 days

12. A and B can together finish a work 30 days. They worked together for 20 days and then B left. After another 20 days, A finished the remaining work. In how many days A alone can finish the work?

A. 40 B. 50 C. 54 D. 60

13. A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

A. Rs. 375 B. Rs. 400 C. Rs. 600 D. Rs. 800

CYNOSURE: A PERSON OR THING THAT IS CENTRE OF ATTENTION OR ADMIRATION

14. A takes twice as much time as B and thrice as much time as C to finish a piece of work. Working together they can finish the work in 2 days. B alone can do the work in:

a) 4 days b) 6 days c) 8 days d) 12 days

15. A and B can do a piece of work in 72 days, B and C can do it in 120 days; A and C can do it in 90 days. In what time can A alone do it:

a) 80 days b) 100 days c) 120 days d) 150 days

16. A and B can do a piece of work in 5 days; B and C can do it in 7 days; A and C can do it in 4 days. Who among these will take the least time if put to do it alone?

a) A b) B c) C d) data inadequate

17. A can do a piece of work in 4 hours; B and C together can do it in 3 hours, while A and C together can do it in 2 hours. How long will B alone take to do it?

A. 8 hours B. 10 hours C. 12 hours D. 24 hours

18. A is twice as good a workman as B and together they take 14 days to finish the work. The number of days taken by A alone to finish the work is :
a) 11 b) 21 c) 28 d) 42

CONUNDRUM: A CONFUSING AND DIFFICULT PROBLEM, MYSTERY, ENIGMA, PUZZLE

19. Sakshi can do a piece of work in 20 days. Tanya is 25% more efficient than Sakshi. The number of days taken by Tanya to do the same piece of work is:
A. 15 B. 16 C. 18 D. 25
20. P can do a piece of work in 20 days. Q is 25 percent more efficient than P. In how many days half the work is completed when both are working simultaneously?
a) 41/9 b) 40/9 c) 39/9 d) 43/9
21. A can do a work in 32 days. P who is 60 percent more efficient than A. Find how much time they will take together to do the same work?
a) 150/13 days b) 160/13 days c) 170/3 days d) 190/3 days
22. A is 30% more efficient than B. How much time will they, working together, take to complete a job which A alone could have done in 23 days?
A. 11 days B. 13 days C. 15 days D. 18 days
23. A can do a certain work in the same time in which B and C together can do it. If A and B together could do it in 10 days and C alone in 50 days, then B alone could do it in:
A. 15 days B. 20 days C. 25 days D. 30 days
24. A does 80% of a work in 20 days. He then calls in B and they together finish the remaining work in 3 days. How long B alone would take to do the whole work?
A. 23 days B. 37 days C. $37\frac{1}{2}\ days$ D. 40 days
25. Ram and shyam can do a piece of work in 5 and 7 days respectively. They start working alternatively starting from shyam, then in how many days the work is completed
a) 5.(3/7) days b) 6.(5/7) days
c) 7.(5/6) days d) 5.(6/7) days
26. A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?
A. 12 days B. 15 days C. 16 days D. 18 days
27. A and B can do a work in 8 days, B and C can do the same work in 12 days. A, B and C together can finish it in 6 days. A and C together will do it in :
A. 4 days B. 6 days C. 8 days D. 12 days
28. A and B can do a job together in 7 days. A is 13/4 times as efficient as B. The same job can be done by A alone in :
a) 10 days b) 11 days c) 1 days d) 13 days
29. A is twice as good a workman as B and together they finish a piece of work in 18 days. In how many days will A alone finish the work?
a) 25 days b) 27 days c) 28 days d) 29 days
30. Twenty women can do a work in sixteen days. Sixteen men can complete the same work in fifteen days. What is the ratio between the capacity of a man and a woman?
A. 3 : 4 B. 4 : 3 C. 5 : 3 D. Data inadequate
31. If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be:
A. 4 days B. 5 days C. 6 days D. 7 days
32. 4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it?
A. 35 B. 40 C. 45 D. 50
33. 10 women can complete a work in 7 days and 10 children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?
A. 3 B. 5 C. 7 D. 8
34. 2 men and 3 boys can do a piece of work in 10 days while 3 men and 2 boys can do the same work in 8 days. In how many days can 2 men and 1 boy do the work?
a) 12 days b) $12\frac{1}{2}$ days c) 13 days d) $13\frac{1}{2}$ days
35. P can do 2/5 of the work in 10 days and Q can do 4/5 of the work in 16 days. If both of them start working together then the time in which the work can be done?
a) 12.1/9 days b) 11.1/9 days c) 11.2/9 days d) 12.4/9 days
36. P and Q were assigned to do a work for an amount of 1200. P alone can do it in 15 days while Q can do it in 12 days. With the help of R they finish the work in 6 days. Find the share if C.
a) 100 b) 120 c) 140 d) 160

9. Pipes and Cisterns

1. Two pipes A and B can fill a tank in 36 hours and 45 hours respectively. If both the pipes are opened simultaneously, how much time will be taken to fill the tank?
a.15 hours b. 20 hours c.25 hours d. 30 hours
2. Pipe A can fill a tank in 5 hours, pipe B in 10 hours and pipe C in 30 hours. If all the pipes are opened, in how many hours will the tank be filled :
a) 2 b) 2.5 c) 3 d) 3.5
3. A can fill a tank in 15 hours alone, but with the help of B it can fill tank only in 10 hours. In what time B alone can fill the tank?
a) 20 hours b) 25 hours c)30 hours d) 40 hours
4. Two pipes can fill a tank in 10 hours and 12 hours respectively while a third pipe empties the full tank in 20 hours. If all the three pipes operate simultaneously, in how much time will the tank be filled?
a. 6 hours 10 mins b. 7 hours 20 mins.
c. 7 hours 30 mins d. 8 hours 20 mins.

5. If two pipes function simultaneously, the reservoir will be filled in 12 hours. First pipe fills the reservoir 10 hours faster than the second pipe. How many hours does it take the second pipe to fill the reservoir?
SUCCOUR: ASSISTANCE AND SUPPORT IN TIMES OF HARDSHIP AND DISTRESS, HELP
a.20 hours b. 30 hours c.40 hours d. 45 hours

6. Pipe A and B running together can fill a cistern in 6 minutes. If B takes 5 minutes more than A to fill the cistern then the times in which A and B will fill the cistern separately will be, respectively:

(a) 15 min, 20 min (b) 15 min, 10 min

(c) 10 min, 15 min (d) 25 min, 20 min

7. Three pipes A, B and C can fill a tank in 6 minutes, 8 minutes and 12 minutes, respectively. The pipe C is closed 6 minutes before the tank is filled. In what time will the tank be full?

(a) 4 min (b) 6 min (c) 5 min (d) Data inadequate

8. An electric pump can fill a tank in 3 hours. Because of a leak in the tank, it took $3\frac{1}{2}$ hours to fill the tank. If the tank is full, how much time will the leak take to empty it:
a) 20 hours b) 21 hours c) 22 hours d) 24 hours
9. A pump can fill a tank in 2 hours. Because of a leak, it took $2\frac{1}{3}$ hours to fill the tank. The leak can drain all the water of a tank in:
a)$4\frac{1}{3}$ $hours$ b) 7 hours c) 8 hours d) 14 hours
10. One pipe can fill a tank three times as fast as another pipe. If together the two pipes can fill the tank in 36 minutes, then time taken by slower pipe to fill the tank in:
a)81 minutes b) 108 mins c)144 mins d) 192 mins
11. Two pipes A and B can fill a tank in 15 minutes and 20 minutes respectively. Both the pipes are opened together but after 4 minutes, pipe A is turned off. What is the total time required to fill the tank?
A. 10 min. 20 sec. B. 11 min. 45 sec.
C. 12 min. 30 sec. D. 14 min. 40 sec.
12. Two pipes A and B can fill a cistern in 37 minutes and 45 minutes respectively. Both pipes are opened. The cistern will be filled in just half an hour, if the B is turned off after:
A. 5 min. B. 9 min. C. 10 min. D. 15 min
13. Two pipes can fill a tank in 20 and 24 minutes respectively and a waste pipe can empty 3 gallons per minute. All the three pipes working together can fill the tank in 15 minutes. The capacity of the tank is:
A. 60 gallons B. 100 gallons
C. 120 gallons D. 180 gallons
14. A tank is filled in 5 hours by three pipes A, B and C. The pipe C is twice as fast as B and B is twice as fast as A. How much time will pipe A alone take to fill the tank?
A. 20 hours B. 25 hours
C. 35 hours D. Cannot be determined
16. A large tanker can be filled by two pipes A and B in 60 minutes and 40 minutes respectively. How many minutes will it take to fill the tanker from empty state if B is used for half the time and A and B fill it together for the other half?
A. 15 min B. 20 min C. 27.5 min D. 30 min
17. A tap can fill a tank in 6 hours. After half the tank is filled, three more similar taps are opened. What is the total time taken to fill the tank completely?
A. 3 hrs 15 min B. 3 hrs 45 min
C. 4 hrs D. 4 hrs 15 min
18. Three taps A, B and C can fill a tank in 12, 15 and 20 hours respectively. If A is open all the time and B and C are open for one hour each alternately, the tank will be full in:
A. 6 hours B. 7 hours C. 8 hours D. 9 hours
19. Three pipes A, B and C can fill a tank in 6 hours. After working at it together for 2 hours, C is closed and A and B can fill the remaining part in 7 hours. The number of hours taken by C alone to fill the tank is:
A. 10 B. 12 C. 14 D. 16

21. A boy and girl together fill a cistern with water. The boy pours 4 litres of water every 3 minutes and the girl pours 3 litres of water every 4 minutes. How much time will it take to fill 100 litres of water in the cistern?
(a) 36 minutes (b) 42 minutes (c) 48 minutes (d) 44 minutes
22. A tank can be filled by pipe A in 2 hours and pipe B in 6 hours. At 10 am pipe A was opened. At what time will the tank be filled if pipe B is opened at 11 A.M.?
(a) 12.45 A.M. (b) 5 P.M. (c) 11.45 A.M. (d) 12 P.M.
23. Two pipes X and Y can fill a cistern in 24 minutes and 32 minutes respectively. If both the pipes are opened together, then after how much time (in minutes) should Y be closed so that the tank is full in 18 minutes?
(a) 10 (b) 8 (c) 6 (d) 5
24. A cistern is provided with two pipes A and B. A can fill it in 20 minutes and B can empty it in 30 minutes. If A and B be kept open alternatively for one minute, each, how soon will the cistern be filled?

(a) 121 minutes (b) 110 minutes (c) 115 minutes (d) 120 minutes

25. One pipe fill 1/4 of the tank in 4 minutes and another pipe fills 1/5 of the tank in 4 minutes. Find the time taken by both pipe together to fill half the tank?

a) 40/9 minutes b) 50/9 minutes c) 44/9 minutes d) 53/9 minutes

10. Speed and Time

1. A cyclist covers a distance of 750 m in 2 mins 30 secs. What is the speed in km/hr of the cyclist:
a) 15 km/hr b) 17km/hr c)18 km/hr d) 20 km/hr
2. Peter can cover a certain distance in 1 hr. 24 min. by covering two third of the distance at 4 kmph and the rest at 5kmph . total distance of of the journey is:
ELUCIDATE: MAKE CLEAR, EXPLAIN, UNRAVEL, UNRIDDLE

a) 5 km b) 6km c) 7km d) 8km

3. A man traveled from the village to the post-office at the rate of 25 kmph and walked back at the rate of 4 kmph. If the whole journey took 5 hours 48 minutes, find the distance of the post-office from the village ?
   a) 40km b) 20km c) 30km d) 10km
4. A can completes a journey in 10 hours. He travels first half of the journey at the rate of 21km/hr and second half at the rate of 24 km/hr. the total journey in km:
   a) 220km b) 224km c) 230km d) 234km
5. A person travels equal distance with 3km/hr, 4km/hr and 5km/hr and takes a total time of 47 mins. The total distance is:
   a) 2km b) 3km c) 4km d) 5km
6. If Ram walks from his house at 5 kmph, he reaches school 5 min early, and if he walks at 4 kmph he reaches it 5 min late. What is the actual distance between Ram's house and his school?
   a) 3km b) $3\frac{1}{3} km$ c) 4km d) $4\frac{1}{3} km$
7. If a man rides at 20 kmph, he will reach office 10 minutes late. If he rides at 30 kmph, he will reach office 10 min early. What is the distance travelled by person?
   a) 20km b) 24km c) 25km d) 30km
8. The distance of the college and home of Rajeev is 80km. One day he was late by 1 hour than the normal time to leave for the college, so he increased his speed by 4km/h and thus he reached to college at the normal time. What is the changed (or increased) speed of Rajeev?
   a) 28kmph b) 30kmph c) 40kmph d) 20kmph
9. In a flight of 600 km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 200 km/hr and the time of flight increased by 30 minutes. The duration of the flight is:
   a) 1 hour b) 2 hours c) 3 hours d) 4 hours
10. Excluding stoppages, the speed of a bus is 54 kmph and including stoppages, it is 45 kmph. For how many minutes does the bus stop per hour?
    a) 9 b) 10 c) 12 d) 20
11. A man on tour travels first 160 km at 64 km/hr and the next 160 km at 80 km/hr. The average speed for the first 320 km of the tour is
    a) 35.55kmph b) 36kmph c) 71.11 kmph d) 71kmph
12. A man takes 6 hours 15 minutes in walking a distance and riding back to the starting place. He could walk both ways in 7 hours 45 minutes. The time taken by him to ride both ways, is?
    a) 4 hours b) 4 hours 30 minutes c) 4 hours 45 minutes d) 5 hours
13. A man in a train notices that he can count 41 telephone posts in one minute. If they are known to be 50 metres apart, then at what speed is the train travelling?
    a) 60kmph b) 100kmph c) 110kmph d) 120kmph
14. Walking at $\frac{5}{6}$ of its usual speed, a train is 10 minutes too late. Then its usual time to cover the journey is:
    a) 40 mins b) 50 mins c) 30 mins d) 45 mins
15. Walking at $\frac{5}{6}$ of its usual speed, a train is 10 minutes too late. Its usual time to cover the journey is:
    a) 40 mins b) 50 min c) 60 min d) 45 min
16. Walking $\frac{6}{7}$ of his usual speed a man is 12 minutes too late. The usual time taken by him to cover that distance is:
    a) 1 hour b) 1 hour 12 min.
    c) 1 hour 15 min. d) 1 hour 20 min.
17. Three persons are walking from a place A to another place B. their speeds are in the ratio 4:3:5. The time ratio to reach B by these persons will be :
    a) 4:3:5 b) 5:3:4 c) 15:9:20 d) 15:20:12

LILLIPUTIAN: A TRIVIAL OR VERY SMALL, NARROW-MINDED, PAROCHIAL, SECTARIAN

11. Problems Based on Train

1. In what time will a train 100 metres long cross an electric pole, if its speed be 144km/hr:
   a) 2.5 seconds b) 4.25 seconds c) 5 seconds d) 12.5 seconds
2. How long a train 110 metres long running at the speed of 72km/hr take to cross a bridge 132 metres in length in:
   a) 9.8 secs b) 12.1 secs c) 12.42 secs d) 14.3 secs
3. A train running at the speed of 60 km/hr crosses a pole in 9 seconds. What is the length of the train:
   a) 120 metres b) 180 metres c) 324 metres d) 300 metres
4. A train 132 m long passes a telegraph pole in 6 seconds. The speed of the train is:
   a) 70kmph b) 72kmph c) 79.2kmph d) 80kmph
5. A train covers a distance of 12km in 10 minutes. If it takes 6 seconds to pass a telegraph post, then length of the train is :
   a) 90m b) 100m c) 120m d) 140m
6. A train 240m long passed a pole in 24 seconds. How long will it take to pass a platform 650m long:
   a) 65sec b) 89 sec c) 100 sec d) 150 sec
7. The length of a bridge, which a train 130 m long and travelling at 45 km/hr can cross in 30 seconds is:
   a) 200m b) 225m c) 245m d) 250m
8. A train passes a station platform in 36 seconds and a man standing on the platform in 20 seconds. If the speed of the train is 54kmph, what is the length of the platform:
   a) 120m b) 240m c) 300m d) 360m
9. A train takes 18 seconds to pass completely through a station 162m long and 15 seconds through another station 120m long. The length of the train is:
   a) 70m b) 80m c) 90m d) 100m

10. A train 110 m long is running with a speed of 60kmph. In what time will it pass a man who is running at 6kmph in the direction opposite to that in which train is going:
    a) 5 secs b) 6 secs c) 7 secs d) 10 secs
11. Two trains 200m and 150m long are running on parallel rails at the rate of 45kmph and 40kmph respectively. In how much time will they cross each other, if they are running in the same direction:
    a) 72 secs b) 132 secs c) 192 secs d) 252 secs
12. Two train 140m and 160m long run at the speed of 60kmph and 40kmph respectively in opposite direction on parallel tracks. The time they take to cross each other is:
    a) 9 sec b) 9.6secs c) 10secs d) 10.8secs
13. Two trains are running in opposite direction with the same speed. If the length of each train is 120 metres and they take 12 seconds to cross each other, then speed of each train is :
    a) 10kmph b) 18kmph c) 36 kmph d) 72kmph
14. Two trains each 100m long moving in opposite directions, cross each other in 8 seconds. If one is moving twice as fast as other, then speed of the faster train is :
    a) 30kmph b) 45kmph c) 60kmph d) 75kmph
15. A and B are two stations 390 km apart. A train starts from A at 10 a.m. and travels towards B at 65 kmph. Another train starts from B at 11 a.m. and travels towards A at 35kmph. At what time do they meet:
    a)2.20 p.m. b) 1.15 p.m. c) 3.20 p.m d) 2.15 pm
15. A thief is spotted by a policeman from a distance of 100 metres. When the policeman starts the chase, the thief also starts running. If the speed of the thief be 8 km/hr and that of the policeman 10km/hr, how far the thief will have run before he is overtaken:
    a) 200m b) 300m c) 400m d) 500m
16. Two trains start from two stations 455km apart in opposite directions, one at 60kmph and other at 70kmph. At what distance from first station this two train meets?
    a) 200km b) 210km c)220km d) 240km
17. Two trains one from Mumbai to Delhi and other from Delhi to Mumbai start simultaneously. After they meet, the trains reach their destination after 9 hours and 16 hours respectively. The ratio of their speeds is:
    a) 2:3 b) 4:3 c) 6:7 d) 9:16
18. Two trains A and B starting from two points and travelling in opposite directions, reach their destinations 9 hours and 4 hours respectively after meeting each other. If the train A travels at 80kmph, find the rate at which the train B runs.
    (A) 40 (B) 60 (C) 120 (D) 80

12.Boats And Stream

1. A boat can row upstream at 7kmph and downstream at 10kmph. Find the speed of boat in still water:
    a) 7kmph b) 8.5kmph c) 9kmph d) 9.5kmph
2. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.
    a) 3 hours b) 4 hours c) 5 hours d) 2 hours
3. A man takes 3 hours 45 minutes to row a boat 15km downstream and 2 hours 30 minutes to cover a distance of 5km upstream. Then speed of the river current is:
    a) 2kmph b) 1kmph c) 4kmph d) 6kmph
4. A man rows downstream 32 km and 14km upstream. If he takes 6 hours to cover each distance, then velocity of the current is:
    a) $\frac{1}{2}\ kmph$ b) 1kmph c)1.5kmph d) 2kmph
5. If a boat goes 7km upstream in 42 minutes and speed of the current is 3kmph, then the speed of the boat in still water is:
    a) 4.2kmph b) 9kmph c) 13kmph d) 21kmph
6. A boat running upstream takes 8 hours 48 minutes to cover a certain distance, while it takes 4 hours to cover the same distance running downstream. What is the ratio between the speed of the boat and speed of the water current respectively?
    a) 2:1 b) 3:2 c) 8:3 d) Can't be found
7. In a stream running at 2kmph, a motorboat goes 6km upstream and back again to the starting point in 33 minutes. Then speed of the motorboat in still water is:
    a) 20kmph b) 18kmph c) 22kmph d) 24kmph
8. A motorboat, whose speed in 15 km/hr in still water goes 30 km downstream and comes back in a total of 4 hours 30 minutes. The speed of the stream (in km/hr) is:
    a) 4 b) 5 c)6 d) 10
9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:
    a) 3km/hr b) 5km/hr c) 8km/hr d) 9km/hr
10. A boat running downstream covers a distance of 16 km in 2 hours while for covering the same distance upstream, it takes 4 hours. What is the speed of the boat in still water?
    a) 4km/hr b) 6km/hr c) 8km/hr d) data not sufficient
11. A boat takes 90 minutes less to travel 36 miles downstream than to travel the same distance upstream. If the speed of the boat in still water is 10 mph, the speed of the stream is:
    a) 2kmph b) 2.5kmph c) 3kmph d) 4kmph
12. A boatman goes 2 km against the current of the stream in 1 hour and goes 1 km along the current in 10 minutes. How long will it take to go 5 km in stationary water?
    a) 40mins b) 1 hour
    c) 1 hour 15 mins d) 1 hour 30 mins

13. A man takes twice as long to row a distance against the stream as to row the same distance in favour of the stream. The ratio of the speed of the boat (in still water) and the stream is:

a) 3:1 b) 1:3 c) 1:2 d) 2:1

14. A boat goes 24km upstream and 28 km downstream in 6 hours. It goes 30km upstream and 21km downstream in 6 hours 30 mins. The speed of the boat in still water is :

a) 4kmph b) 10kmph c) 6kmph d) 14kmph

13. Percentage

Successive percentage increase or decrease :

1. A number is first increased by 30% and then decreased by 20%. What is the % change in number?

a)6% increase b) 4% decrease c) 6% decrease d) 4% increase

2.A number is increased by 20% and then again by 20%. By what % should the increased number be decreased so as to get back the original number :

a)$19\frac{11}{13}\%$ b) $30\frac{5}{9}\%$ c) 40% d) 44%

3. The price of tea being increased by 20%, a man reduces his consumption by 20%. By how much percent will his expenses for tea be decreased?

a) 2% b) 4% c) 6% d) 8%

4.Raman's salary was decreased 50% and subsequently increased by 50%. What % does he lose?

a) 10% b) 20% c) 25% d) 30%

5. A number is first decreased by 25%. The decreased number is then increased by 20%. The resulting number is less than the original number by 40. Then the original number is –

a) 100 b) 200 c) 300 d) 400

% Increase or Decrease in salary, consumption or number:

6. A's salary is 50% more than B's. how much percent is B's salary less than A's:

a) 33% b) $33\frac{1}{3}\%$ c) $33\frac{1}{4}\%$ d) $33\frac{1}{2}\%$

7. If the price of petrol is increased by 30% , by how much percent a car owner must reduce his consumption in order to maintain same budget:

a) 21% b) $21\frac{1}{3}\%$ c) $23\frac{1}{13}\%$ d) 33%

8. The price of wheat falls by 16%. By what percentage a person can increase the consumption of wheat so his overall budget does not change:

a) 16% b) 18% c) 18.5% d) 19%

9. The salary of a person was reduced by 10%. By what % should his reduced salary be raised so as to bring it at par with his original salary:

a) 12% b) 10% c) $11\frac{1}{9}\%$ d) 11%

10.If A earns $33\frac{1}{3}\%$ more than B, how much percent does B earn less than A?

a) 20% b) 24% c) 25% d) 28%

11. If A's salary is 20% less than B's salary, by how much percent is B's salary more than A's:

a) 20% b) 24% c) 25% d) 23%

12. What % decrease in salaries would exactly cancel out the 20 percent increase:

a) $16\frac{2}{3}$ b) 18 c) 20 d) $33\frac{1}{3}$

% Increase or Decrease in Area, Surface Area and Volume:

13. If the length and breadth of a rectangular plot be increased by 50% and 20% respectively, then what is percentage increase in its area:

a) 60% b)70% c) 75% d) 80%

14. The percentage increase in the area of a rectangle, if each of its side is increased by 20% is :

a) 40% b) 42% c) 44% d) 46%

15. A towel when bleached was found to have lost 20% of its length and 10% of its breadth. The percentage of decrease in area is:

a) 10% b) 10.08%
c) 20% d) 28%

16. If radius of cylinder is increased by 40% and height is decreased by 25%, then what is percentage change in surface area of cylinder?

a) 5%gain b) 5% loss c) 15% gain d) none

Salaey of a person or total savings distribution based questions:

17. Rohith spend 40% of his salary on food, 20% on house rent, 10% on entertainment and 10% on conveyance. If his savings at the end of a month are Rs. 1500, then his monthly salary is:

TUMULTUOUS: VERY LOUD OR UPROARIOUS, EXCITED, CONFUSED, VOCIFEROUS, BOISTEROUS, FRENZIED, RUMBUSTIOUS

a) 6000 b) 7500 c) 8000 d) 10,000

18. A person gave 20% of his income to his son,30% of the remaining to his daughter and 10% of the remaining to his wife, if he is left with Rs. 10080, then he has total how many rupees?

A]50000 B]40000 C]30000 D]20000

Election Based Question:

19. In an election a candidate who gets 84% of the votes is elected by a majority of 476 votes. The total no. of votes polled is:

a) 672 b) 700 c) 749 d) 848

20. In an election between two candidates, 75% of the voters cast their votes, out of which 2% of the voters were declared invalid. A candidate got 9261 votes which were 75% of the total valid votes. Then total no of votes enrolled in that election:

a) 16000 b) 18000 c) 16800 d) 17000

21. In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was :

A) 2500 B) 2700 C) 2900 D) 3100

22.In an election between two candidates, A and B, A secured 56% of the total votes and won by 48000 votes. Find the total number of votes polled if 20% of the votes were declared invalid.

1. 500000 2. 400000 3. 600000 4. None

Population/Value of machine Based Questions

23.The population of a town 2 years ago was 62,500. Due to migration of big cities, it decreases every year at a rate of 4% . the present population of the town is:

a) 56,700 b) 57,600 c) 58800 d) 60,000

24.The value of machine depreciates at the rate of 10%. It was purchased 3 years ago. If its present value is 8748, its purchase price was:

a) 10,000 b) 11,372 c) 12,000 d) 12,500

25.The population of a town is 1, 76,400. If it increases at the rate of 5% per annum, what was its population 2 years ago:

a) 12000 b) 15000 c) 14000 d) 16000

APLOMB: SELF-CONFIDENCE, POISE, COMPOSURE, SANGFROID, EQUILIBRIUM, EQUANIMITY

Miscellaneous:

26.Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?

A. 2 : 3 : 4 B. 6 : 7 : 8

C. 6 : 8 : 9 D. None of these

27. If the numerator of a fraction be increased by 15% and its denominator be diminished by 8%, the value of the fraction is $\frac{15}{16}$. find the original fraction:

a) $\frac{3}{4}$ b) $\frac{1}{2}$ c) $\frac{5}{4}$ d) $\frac{6}{7}$

28.A REDUCTION OF 25 % IN THE PRICE OF EGGS WILL ENABLE ONE TO BUY 4 DOZEN MORE EGGS FOR RS. 96.WHAT IS THE NEW AND OLD PRICE PER DOZEN ?

29.A reduction in the price of petrol by 10% enables a motorist to buy 5 gallons more for 1800. Then original price of petrol per gallon was?

a) 20 b) 30 c) 40 d) 50

30.A spends 60% of his salary and saves the remaining. His salary is increased by 25% and he increased his expenditure by 20%. By what % does his saving increase?

a)30% b)32.5% c)35% d)40%

31.A man spends 75% of his income, when his income is increased by 20%, he increases his expenditure by 10%. By how much per cent are his savings increased?

a) 30.5% b) 31.25% c) 32.5% d) 31.75%

32.A man spends 80% of his income. If his income is increased by 40% and expenditure is increased by 10%, by what percentage is savings increased?

33.Paulson spends 75% of his income.His income is increased by 20% and he increased his expenditure by 10%.Find % increase in his savings?

a)35% b)42% c)45% d)50%

34. Fresh grapes contain 90% water while dry grapes contain 20% water. What is the weight of dry grapes obtained from 20 kg fresh grapes?

a) 2 kg b) 2.4 kg c) 2.5 kgd) 10 kg

35. Fresh fruit contains 68% water and dry fruit contains 20% water. How much dry fruit can be obtained from 100 kg of fresh fruits ?

A) 20 B) 30 C) 40 D) 50

36.Fresh fruit contains 75% of water and dry fruits contain 25% of water. If the weight of dry fruit is 400kg then what was the total weight when fruit was fresh?

18. Profits and Loss

1. 100 oranges are bought at the rate of Rs. 350 and sold at the rate of Rs. 48 per dozen.The percentage of profit or loss is:
   EXCRUCIATING: intensely painful, very embarrassing, agonizing, intense
   a) $14\frac{2}{7}$% gain b) 15% gain
   c) $14\frac{2}{7}$% loss d) 15% loss
2. Some articles were bought at 6 for Rs. 5 and sold at 5 for Rs. 6. Gain% is:
   a) 30% b) $33\frac{1}{3}$% c) 35% d) 44%
3. A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20% ?
   A.3 B. 4 C. 5 D. 6
4. By selling 12 toffees for a rupee, a man loses 20%. How many for a rupee should he sell to get a gain of 20% ?

A. 5 B. 8 C. 10 D. 15

5. By selling 45 lemons for Rs. 40, a man loses 20%. How many should he sell for Rs. 24 to gain 20% in the transaction ?
   A. 16 B. 18 C. 20 D. 22
6. A man bought apples at the rate of 8 for Rs. 34 and sold them at the rate of 12 for Rs. 57. How many apples should be sold to earn a net profit of Rs. 45 ?
   A. 90 B. 100 C. 135 D. 150
7. When a plot is sold for 18,700, the owner loses 15%. At what price must the plot be sold in order to gain 15%:
   a) 21,000 b) 22,500 c) 25,300 d) 25,800
8. Two articles were sold at 24,000 each, one at 20% profit and other at 20% loss. What is overall profit% or loss% in transcation?
   a) 8% gain b) 4% profit c)8% loss d) 4% loss
9. Two articles were sold at 40,000 each, one at 30% profit and other at 30% loss. What is overall profit% or loss% in transcation?

   a) 9% gain b) 10% profit c) 9% loss d) 10% loss

10. A shopkeeper sold two watches, each $100, and had 10% profit on one and 10% loss on another. What was his common loss or gain percent?
    a) 1%profit b) 1% loss c) 2% profit d) 2% loss
11. A man sold two articles for 1000 each. On one, he gains 20% and on other,he loses 10%. How much does he gain or lose in the whole transaction?
    a)2.86% gain b) 2.86% profit
    c)3% loss d) 4% profit
12. Two articles bought at 24,000 each, one at 20% profit and other at 20% loss. What is overall profit% or loss% in transcation?
    a)4% gain b) 4% loss c)8% loss d) none
13. The S.P of an article is $\frac{4}{3}$ of its C.P, the profit in the transaction is :
    a) $16\frac{2}{3}\%$ b) $20\frac{1}{2}\%$ c) $25\frac{1}{2}\%$ d) $33\frac{1}{3}\%$
14. The ratio of C.P and S.P is 4:5. The profit percent is
    a) 10% b) 20% c) 30% d) 25%
15. If the cost price of 12 pens is equal to the S.P of 8 pens, the gain % is:
    a) 25% b) $33\frac{1}{3}\%$ c)50% d) $66\frac{2}{3}\%$
16. The CP of 19 articles is equal to the selling price of 16 articles. Gain % is:
    a) $3\frac{9}{17}\%$ b) $15\frac{15}{19}\%$ c) $18\frac{3}{4}\%$ d) 20%
17. Oranges are bought at the rate of 10 for Rs. 25 and sold at the rate of 9 for Rs. 25. The profit % is:
    a) $9\frac{1}{11}\%$ b) 10% c) $11\frac{1}{9}\%$ d) $12\frac{1}{2}\%$

TROGLODYTE: A PERSON WHO IS OLD DELIBERATELY IGNORANT OR OLD FASHIONED

18. A bag marked at Rs. 80 is sold for Rs. 68. The rate of discount is :
    a) 12% b) 15% c) 16% d) 20%
19. A fan is listed at Rs 1500 and a discount of 20% is offered on the list price. What additional discount must be offered to the customer to bring the net price to Rs. 1104:
    a) 8% b) 10% c) 12% d) 15%
20. List price of an article is 2000 and it is being sold at successive discount of 20% and 10%. Its selling price will be:
    a) 1400 b) 1440 c) 1520 d) 1700
21. After successive discounts of 12% and 5% an article was sold for Rs. 209. What was the original price of the article:
    a) 226 b) 250 c) 252 d) 269
22. The marked price of a watch was Rs. 720. A man bought the same for Rs. 550.80 after getting two successive discounts, the first being 10%. What was the second discount:
    a) 12% b) 14% c) 15% d) 18%
23. A tradesman marked his goods 30% above the CP. If he allows a discount of 10%, then his gain % is:
    a) 15% b) 16% c) 17% d) 18%
24. A shopkeeper fixed the marked price of his article 35% above its cost price. The percentage of discount allowed to gain 8% is:
    a) 20% b) 27% c) 31% d) 43%
25. A person loses 5% by selling a watch for Rs. 1140. At what price should the watch be sold to earn 5% profit:
    a) 1200 b) 1260 c) 1300 d) 1400
26. A vendor bought bananas at 6 for Rs. 10 and sold them at 4 for Rs. 6. Loss % is:
    a) 5% b) 10% c) 12% d) 14%
27. The manufacturer gains 10%, the wholesale dealer 15% and the retailer 25%. If its retail price is 1265 then cost of production of table is:
    a) 700 b) 800 c) 900 d) 600
28. Monika purchased a pressure cooker at $\frac{9}{10}th$ of its SP and sold it at 8% more than its SP. Her gain % is :

MOUNTBANK: A PERSON WHO DECEIVES OTHERS, CHARLATAN, IMPOSTER, QUACK

    a) 16% b) 18% c) 25% d) 20%
29. The price of jewel, passing through three hands, rises on the whole 65%. If the first and second sellers earned 20% and 25% profit respectively. Then profit earned by third seller is :

a) 12% b) 10% c) 15% d) 16%

30. A man bought a horse and a carriage for Rs. 3000. He sold the horse at a gain of 20% and the carriage at a loss of 10%, thereby gaining 2% on the whole. Then CP of the horse is:
    a) 1000 b) 1200 c) 1500 d) 1400
31. Find the equivalent single discount to a series discount of 20% and 10%:
    a) 25% b) 26% c) 27% d) 28%
32. Find the equivalent discount to a series of discount 20%, 10% and 5% :
    a) 25% b) 30% c) 31.6% d) 32%
33. A shopkeeper professes to sell his goods at cost price but uses a weight of 800 gm instead of kilogram weight. Thus, he makes a profit of :
    A. 20% B. 16 C. 25% D. None of these

Mixtures and Alligation

1. In what ratio must rice at Rs. 9.30 per kg be mixed with rice at Rs. 10.80 per kg so that the mixture be worth Rs. 10 per kg:
   a) 7:8 b) 6:5 c) 8:7 d) 4:5
2. In what ratio must water be mixed with milk costing Rs. 12 per litre to obtain a mixture worth Rs. 8 per litre:
   a) 1:2 b) 2:1 c) 2:3 d) 3:2
3. In what ratio must a person mix three kinds of wheat costing him Rs 1.20,Rs 1.44 and Rs 1.74 per Kg so that the mixture may be worth Rs 1.41 per Kg?
   A. 11 : 77 : 7 B. 25 : 45 : 8
   C. 27 : 23 : 6 D. 11 : 45 : 7

5. A can contains a mixture of two liquids A and B is the ratio 7 : 5. When 9 litres of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7 : 9. How many litres of liquid A was contained by the can initially?
   A. 10 B. 20 C. 21 D. 25

6. A milk vendor has 2 cans of milk. The first contains 25% water and the rest milk. The second contains 50% water. How much mixture should he mix from each of the containers so as to get 12 litres of mixture such that the ratio of water to milk is 3 : 5?
   A. 4 litres, 8 litres B. 6 litres, 6 litres
   C. 5 litres, 7 litres D. 7 litres, 5 litres

9. A dishonest milkman professes to sell his milk at cost price but he mixes it with water and thereby gains 25%. The percentage of water in the mixture is:
   A. 4% B. 6% C. 20% D. 25%

10. How many kilogram of sugar costing Rs. 9 per kg must be mixed with 27 kg of sugar costing Rs. 7 per kg so that there may be a gain of 10% by selling the mixture at Rs. 9.24 per kg?
    A. 36 kg B. 42 kg C. 54 kg D. 63 kg

11. In what ratio must a person mix three kinds of tea costing Rs.60/kg, Rs.75/kg and Rs.100 /kg so that the resultant mixture when sold at Rs.96/kg yields a profit of 20%?
    (1) 1 : 2 : 4 (2) 3 : 7 : 6
    (3) 1 : 4 : 2 (4) None of these

12. A container contains 40 litres of milk. From this container 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container?
    A. 26.34 litres B. 27.36 litres
    C. 28 litres D. 29.16 litres

12. In what ratio must a grocer mix two varieties of tea worth Rs. 60 a kg and Rs. 65 a kg so that by selling the mixture at Rs. 68.20 a kg he may gain 10%?
    A. 3 : 2 B. 3 : 4 C. 3 : 5 D. 4 : 5

13. The cost of Type 1 rice is Rs. 15 per kg and Type 2 rice is Rs. 20 per kg. If both Type 1 and Type 2 are mixed in the ratio of 2 : 3, then the price per kg of the mixed variety of rice is:
    A. Rs. 18 B. Rs. 18.50 C. Rs. 19 D. Rs. 19.50

20. 8 litres are drawn from a cask full of wine and is then filled with water. This operation is performed three more times. The ratio of the quantity of wine now left in cask to that of water is 16 : 65. How much wine did the cask hold originally?
    A. 18 litres B. 24 litres C. 32 litres D. 42 litres

21. An alloy of copper and zinc contains copper and zinc in the ratio 5 : 3. Another alloy of copper and zinc contains copper and zinc in the ratio 1 : 7. In what ratio should the two alloys be mixed so that the resultant alloy contains equal proportions of copper and zinc?
    A. 1 : 5 B. 7 : 3 C. 5 : 3 D. 3 : 1 E. 4 : 3

22. An alloy contains zinc and copper in the ratio 5:8 and another alloy contains zinc and copper in the ratio 5:3. If equal amount of both the alloys are melted together, then the ratio of zinc and copper in the resulting alloy is:

    1) 25:24 2) 111:110 3) 98:99 4) 105:103

23. In an alloy, zinc and copper are in the ratio 1 : 2. In the second alloy, the same elements are in the ratio 2 : 3. In what ratio should the two alloys be mixed so that the resultant alloy contains zinc and copper in the ratio 5 : 8?

(1) 3 : 10 (2) 3 : 7 (3) 10 : 3 (4) 7 : 3

(5) None of these

LCM and HCF

1. Three numbers are in the ratio 1:2:3 and their HCF is 12. The numbers are:
   a) 4,8,12 b) 5,10,15 c) 10,20,30 d) 12,24,36

2. Two numbers are in the ratio 5:6.if HCF is 30 than The sum of the two number is :
   a) 530 b) 355 c) 330 d) 365
3. The HCF of two numbers is 11 and their LCM is 7700. If one of the number is 275, then the other is :
   a) 279 b) 283 c) 308 d) 318
4. The greatest number that exactly divides 105, 1001 and 2436 is :
   a) 3 b) 7 c) 11 d) 21
5. Three different containers contain 496 litres, 403 litres and 713 litres of mixtures of milk and water respectively. What biggest measure can measure all the different quantities exactly:
   a) 1 litre b) 7 litres c) 31 litres d) 41 litres
6. The maximum number of students among them 1001 pens and 910 pencils can be distributed in such a way that each students get same number of pens and pencil:
   a) 91 b) 910 c) 1001 d) 1911
7. Find the greatest number that will divide 43,91 and 183 so as to leave the same remainder in each case is :
   a) 4 b) 7 c) 9 d) 13

8. Find the greatest number that will divide 1356, 1868 and 2764 leaving the same remainder in each case:
   a) 64 b) 124 c) 156 d) 240
9. The greatest number which on dividing 1657 and 2037 leaves remainders 6 and 5 respectively, is :
   a) 123 b) 127 c) 235 d) 305
10. Which of the following is a pair of co-primes?
   a) (16,62) b) (18,25) c) (21, 35) d) (23, 92)
11. The least number which is exactly divisible by 12, 15 and 18 is :
   a) 160 b) 170 c) 180 d) 190
11. The least number which when divided by 12, 15, 20 and 54 leaves in each case a remainder of 8 is:
   A)504 b) 536 c) 544 d) 548
12. Find the greatest number which on dividing 1657 and 2037 leaves remainders 6 and 5 respectively:
   a) 125 b) 126 c) 127 d) 128
13. Find the least number exactly divisible by 12, 15, 20 and 27:
   a) 540 b) 550 c) 560 d) 570
14. The HCF of two numbers is 12 and their sum is 288. How many pairs of such numbers are possible?
   a) 2 b) 3 c) 4 d) 5
15. The product of two numbers is 2028 and their H.C.F. is 13. The number of such pairs is:
   A) 1 B) 2 C) 3 D) 4
19. The sum of two numbers is 588 and their HCF is 49. How many such pairs of numbers can be formed?
   A. 6 B. 5 C. 4 D. 3 E. 2
20. Find the least number which when divided by 6, 7, 8, 9 and 12 leaves the same remainder 1 in each case:
   a) 504 b) 505 c) 506 d) 507
21. The LCM of $\frac{1}{3}, \frac{5}{6}, \frac{2}{9}, \frac{4}{27}$ is:
   a) $\frac{1}{54}$ b) $\frac{10}{27}$ c) $\frac{20}{3}$ d) none
22. The HCF of $\frac{2}{3}, \frac{8}{9}, \frac{64}{8}, \frac{10}{27}$ is
   a) $\frac{2}{3}$ b) $\frac{2}{81}$ c) $\frac{160}{3}$ d) $\frac{160}{81}$

23. The traffic lights at three different road crossing changes after every 48 secs. ,72 secs. and 108 secs. respectively. If they all change simultaneously at 8:20:00 hours, then at what time will they again change simultaneously:
   a) 8:27:00 b) 8:27:08
   c) 8:27:12 d) 8:27:15
24. Six bells commence ringing together and ring at intervals 2, 4, 6 ,8,10 and 12 seconds respectively. in 40 minutes how many times do they ring together?
   a) 18 b) 19 c) 20 d) 21
25. Four different electronic devices make a beep after every 30 minutes, 1 hour, $1\frac{1}{2}$ $hour$ and 1 hour 45 minutes respectively. All the devices beeped together at 12 noon they will again beep together at:
   a) 12 midnight b) 3 a.m c) 6 a.m d) 9 a.m

b) A, B and C start at the same time in the same direction to run around a circular park. A completes a round in 252 seconds, B in 308 seconds and C in 198 seconds. All starting at the same point. After what time will they all meet again at starting point?

REFUTE: PROVE TO BE WRONG, DENY, DISAPPROVE, CONTROVERT, REBUT, DEBUNK, REPUDIATE

a) 26 minutes 18 seconds
b) 42 minutes 36 seconds
c) 45 minutes
d) 46 minutes 12 seconds

Average

1. The average of first 40 natural numbers is:
   a) 20 b) 20.5 c) 21 d) 22
2. The average of four consecutive even numbers is 27. The largest number is :
   a) 28 b) 29 c) 30 d) 31

CONSENSUS: GENERAL AGREEMENT, ACCORD, UNITY, SOLIDARITY

3. If the average of 2, 7, 6 and x is 5 and the average of 18, 1, 6, x and y is 10. What is the value of y?

a) 5 b) 10 c) 20 d) 30

4. The average age of 35 students in a class is 16 years. The average age of 21 students is 14. What is the average age of remaining 14 stubents?
   a) 15 years b) 17 years
   c) 18 years d) 19 years
5. In the first 10 overs of a cricket game, the run rate was only 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?
   A. 6.25 B. 6.5 C. 6.75 D. 7
6. The average monthly income of P and Q is Rs. 5050. The average monthly income of Q and R is Rs. 6250 and the average monthly income of P and R is Rs. 5200. The monthly income of P is:
   A. 3500 B. 4000 C. 4050 D. 5000
7. The average age of husband, wife and their child 3 years ago was 27 years and that of wife and the child 5 years ago was 20 years. The present age of the husband is:
   A. 35 years B. 40 years C. 50 years D. None
8. The average of runs of a cricket player of 10 innings was 32. How many runs must he make in his next inning so as to increase his average of runs by 4
   a) 2 b) 4 c) 70 d) 76
9. A man whose bowling average is 12.4 takes 5 wicket for 26 runs and thereby decrease his average by 0.4. find the number of wicket taken by him before his last match.
   a) 82 b) 84 c) 85 d) 88
10. A cricketer whose bowling average is 24.85runs/wicket, takes 5 wickets for 52 runs and thereby decreases his average by 0.85. The number of wickets taken by him till the last match was:
    a) 64 b) 72 c) 80 d) 96
11. A car owner buys petrol at Rs.7.50, Rs. 8 and Rs. 8.50 per litre for three successive years. What approximately is the average cost per litre of petrol if he spends Rs. 4000 each year?
    A. Rs. 7.98 B. Rs. 8 C. Rs. 8.50 D. Rs. 9
12. A library has an average of 510 visitors on Sundays and 240 on other days. The average number of visitors per day in a month of 30 days beginning with a Sunday is:
    A. 250 B. 276 C. 280 D. 285
13. If the average marks of three batches of 55, 60 and 45 students respectively is 50, 55, 60, then the average marks of all the students is:
    A. 53.33 B. 54.68 C. 55 D. None
14. Out of 9 persons , 8 persons spent Rs. 30 each for their meals. The ninth one spent 20 more than the average expenditure of all the nine. The total money spent by all of them was:
    a) 260 b) 290 c) 292.50 d) 400.50
15. The mean of 50 observations was 36. It was found later that an observation 48 was wrongly taken as 23. The corrected new mean is:
    a) 35.2 b) 36.1 c) 36.5 d) 39.1
16. The average age of 15 students in a class is 15 years. Out of these, the average age of 5 students is 14 years and that of the other 9 is 16 years. The age of the 15^{th} student is:
    a) 11 years b) 14 years c) 15 yerars d) $15\frac{2}{7}$ years
17. The average of 11 numbers is 10.9. if the average of the first six numbers is 10.5 and that of last six is 11.4, then the middle number is :
    a) 11 b) 11.3 c) 11.4 d) 11.5

PETULANT: CHILDISHLY SULKY, BAD TEMPERED, PEEVISH

18. The avg. weight of A,B and C is 45 kg. if the avg. weight of A and B be 40 kg and that of B and C be 43 kg., then the weight of B is:
    A) 17 kg b) 20 kg c) 26kg d) 31kg
19. The avg. age of 36 students in a class is 14 years. When teacher's age is included to it, the average increases by one. What is the teacher's age?
    a) 31 years b) 36 years
    c) 51 years d) 60 year
20. The average age of 15 persons increases by 1.2 years when one of the person who weighs 53kg is replaced by a new man. Weight of the new man is
    a) 65kg b) 70kg c) 71kg d) 75kg

Logarithms

1. Which of the following statements is not correct?

A. $\log_{10} 10 = 1$

B. $\log (2 + 3) = \log (2 \times 3)$

C. $\log_{10} 1 = 0$

D. $\log (1 + 2 + 3) = \log 1 + \log 2 + \log 3$

2.
If $\log_{10} 5 + \log_{10}(5x + 1) = \log_{10}(x + 5) + 1$, *then x is equal to*

A. 1 B. 3 C. 5 D. 10

3. The value of $1/\log_3 60 + 1/\log_4 60 + 1/\log_5 60$ is:

A. 0 B. 1 C. 5 D. 60

4. If log(k2 - 4k + 5) = 0, then the value of k is

5. If $\log_4 \log_2 \log_3 (2x - 1) = \frac{1}{2}$, find x?

6.

If $\log_a b = \frac{1}{2}$, $\log_b c = \frac{1}{3}$ and $\log_c a = \frac{k}{5}$, the value of k is

7. What is the value of $\log(ab^2) - \log(ac) + \log(abc^4) - 3\log(bc)$?

8. The value of $\log_3 27$

9.

The value of $\frac{1}{\log_{xy} xyz} + \frac{1}{\log_{yz} xyz} + \frac{1}{\log_{zx} xyz}$ is

10. **The value of $\log_2 3 \times \log_3 2 \times \log_3 4 \times \log_4 3$ is ?**

11. The equation $\log_a x + \log_a (1+x) = 0$ can be written as ?

A. $x^2 + x - 1 = 0$
B. $x^2 + x + 1 = 0$
C. $x^2 + x - e = 0$
D. $x^2 + x + e = 0$

12. If $\log_5 (x^2 + x) - \log_5 (x + 1) = 2$, then the value of x is

A. 30 **B**. 25
C. 10 **D**. 5

13. If $\log_9 x + \log_3 x = 9$, then the value of x is

A. 27 **B**. 81
C. 243 **D**. 729

14. $\log x + \log(x-1) = \log(3x+12)$

15. $2\log_9(\sqrt{x}) - \log_9(6x-1) = 0$

16. $\log_5(2x+4) = 2$

17. $\log x = 1 - \log(x-3)$

18. $\log_2(x^2 - 6x) = 3 + \log_2(1-x)$

Number System

Finding Number of Zeroes in Factorial of a Number:

1.Find number of zeroes in :

a) 50! b) 49! c)100! d) 200!
e) 50!+30! f) 50!*30!

Finding Highest power of a number in factorial:

2.Find Highest power of 7 in 100!
3. Find Highest power of 4 in 60!
4. Find Highest power of 27 in 100!
5. Find Highest power of 6 in 100!
6. Find Highest power of 21 in 100!
7. Find Highest power of 22 in 100!

Two Digit Number Formation:

8. The difference between a two-digit number and the number obtained by interchanging the digits is 36. What is the difference between the sum and the difference of the digits of the number if the ratio between the digits of the number is 1: 2?

a) 6 b) 8 c) 4 d) 5

9. The difference between a two-digit number and the number obtained by interchanging the positions of its digits is 45. What is the difference between the two digits of that number?

a) 4 b) 5 c) 6 d) 3

10. If a number is added with the number obtained by interchanging number itself , then it is always divisible by :

a) 8 b) 7 c) 11 d) 9

11. On dividing a number by 56, we get 29 as remainder. On dividing the same number by 8 the remainder will be :

a) 4 b) 5 c)6 d) 7

12. On dividing a certain number by 342, we get 47 as remainder. If the same number is divided by 18, then remainder will be:

a) 9 b) 10 c) 11 d) 12

13. A number when divided by 340 gives a remainder 47. What would be the remainder when the same number is divided by 17 ?

a) 11 b) 12 c) 13 d) 9

Divisibility Rules:

14. The least value of *for which 8*3464 is divisible by 9:

a) 1 b)2 c)3 d)4

15. Find the least value of * for which 4832*18 is divisible by 11

a) 6 b)7 c) 8 d)9

16.If the number $653xy\ is\ divisible$ by 90 then (x +y) is:

a) 2 b) 3 c)4 d) 6

17.Which digits should come in place of * and # such that the number 12386*# is divisible by both 8 and 5 ?

a) 2 and 4 b) 4 and 0 c) 0 and 4 d) 8 and 5

18. If a number 774958A96B is to be divisible by 8 and 9, the respective values of A and B will be?

a) 7 and 8 b) 8 and 0 c) 5 and 8 d) None

Simple Interest and compound Interest

1. At the rate of $8\frac{1}{2}\%$ p.a. simple interest, a sum of Rs. 4800 will earn how much interest in 2 years 3 months:

MUNDANE: LACKING INTEREST OR EXCITEMENT, BORING, TIRESOME, UNREMARKABLE

a) 796 b) 816 c) 918 d) 956

2. The simple interest on Rs. 1820 from march 9, 2003 to may 21, 2003 at $7\frac{1}{2}\%$ rate will be:

a) 22.50 b) 27.30 c) 28.80 d) 29

3. A sum of Rs. 1600 gives a simple interest of 252 in 2 years and 4 months. The rate of interest per annum is:

a) 6% b) $6\frac{1}{4}\%$ c) $6\frac{1}{2}\%$ d) $6\frac{3}{4}\%$

4. What will be the ratio of simple interest earned by certain amount at the same rate of interest for 6 years and that for 9 years:

a) 1:3 b) 1:4 c) 2:3 d) 2:3

5. A sum of money at simple interest amounts to Rs. 815 in 3 years and 854 in 4 years. The sum is:

a) 650 b) 690 c) 698 d) 700

6. In how much time would the simple interest on a certain sum be 0.125 times the principal at 10% per annum:

a) $1\frac{1}{4}\ years$ b) $1\frac{3}{4}\ years$ c)$2\frac{1}{4}\ years$ d) $2\frac{3}{4}\ years$

7. At what rate percent per annum will a sum of money double in 16 years:

a) 25% b) $6\frac{1}{4}\%$ c) 26% d) 30%

8. A sum of Rs. 1550 is lent out into two parts, one at 8% and other one at 6%. If the total annual income is Rs. 106, then the second part is:

a) 800 b) 900 c) 1000 d) 700

9. Find compound interest on sum of 7500 at 4% per annum for 2 years, compounded annually :

a) 610 b) 620 c) 612 d) 650

10. Find compound interest on Rs. 8000 at 15% per annum for 2 years 4 months, compounded annually :

a) 3110 b) 11109 c) 3109 d) 4000

11. Compound interest on Rs. 5000 for $1\frac{1}{2}\ years$ compounded half yearly:

SOLACE: COMFORT OR CONSOLATION IN TIMES OF DISTRESS, SUPPORT

a) 306.04 b) 307.5 c) 308 d) 309.4

12. The compound interest on Rs 30,000 at 7% per annum is Rs 4347. Then time in years is:

a) 2 b) $2\frac{1}{2}$ c) 3 d) 4

13. The principal that amounts to Rs. 4913 in 3 years at $6\frac{1}{4}\%$ per annum compounded annually is :

a) 3096 b) 4076 c) 4085 d) 4096

14. The difference between compound interest and simple interest on a amount of Rs. 15,000 for 2 years is Rs. 96. What is the rate of interest per annum:

a) 8 b) 10 c) 12 d) none

15. The difference between simple interest and compound interest compounded annually on a certain sum of money for 2 years at 4% per annum is Rs. 1. The sum is :

a) 625 b) 630 c) 640 d) 650

16. The sum of money invested at compound interest amounts to Rs. 800 in 3 years and to 840 in 4 years. The rate of interest per annum is:

a) $2\frac{1}{2}\%$ b) 4% c) 5% d) $6\frac{2}{3}\%$

17. A sum of money invested at compound interest amounts to Rs. 4624 in 2 years and to Rs. 4913 in 3 years. The sum of money is:

a) 4096 b) 4260 c) 4335 d) 4360

18. A sum of Rs. 12000 deposited at compound interest becomes double after 5 years. After 20 years it will become:

a) 96000 b) 1,20,000 c) 1,24,000 d) 1,92,000

19. If the simple interest on a sum of money at 5% per annum for 3 years is Rs. 1200, Find the compound interest on the same sum for the same period of time and at same rate:

a) 1200 b) 1250 c) 1261 d) 1300

20. In what time will Rs. 1000 become Rs. 1331 at 10% per annum compounded annually:

a) 2 years b) 3 years c) 4 years d) 5 years

21. The difference between the compound interest and simple interest on an amount of Rs. 18,000 in 2 years was Rs. 405. What was the rate of interest:

a) 10% b) 12% 15% d) 18%

22. A sum of money amount to Rs. 6690 after 3 years and Rs. 10,035 after 6 years on compound interest. The sum is:

a) 4400 b) 4500 c) 4460 d) 4600

QUAGMIRE: A DIFFICULT, COMPLICATED OR UNPLEASANT SITUATION

23. A sum of money doubles itself at compound interest in 15 years. In how many years will it become eight times:

a) 30 years b) 40 years c) 45 years d) 50 years

a. 0 b. 20 c. 10 d. 18

Reasoning:

Coded Inequality

Directions:-

P @Q means P is either greater than or equal to Q

P+ Q means P is either smaller than or equal to Q

P%Q means P is greater than Q

PX Q means P is smaller than Q

P$ Q means P is neither greater than nor smaller than Q

Now in each of the following questions assuming the given statement to be true ,find which of the two conditions I and II given below them is /are definitely true ? Give answer.

a) If only conclusion I is true

b) If only conclusion II is true

c) If either I or II is true

d) If neither I or II is true

e) If both I and II is true

1) Statements : M @R , R%T , T$ K

Conclusion : I) KXM, II) TXM

2) Statements : H%J, B+J, B@F

Conclusion: I)F$J, II) J%F

3) Statements : D$M, M%W, W@R

Conclusion : I) RXD, II) W+D

4) Statements : A+N , NXV, V$J

Conclusion: I) J@N, II) A +V

5) Statements : KXT , T@B , B+M

Conclusion : I)M%T II) K+B

6) Statements : B@H, HXM , M$N

Conclusion : I) B@N, Ii) N%H

Directions- P * Q means P is not smaller than Q

P % Q means P is not greater than Q

P # Q means P is neither smaller than nor equal to Q

P @ Q means P is neither greater than nor smaller than Q

P $ Q means P is neither greater than nor equal to Q

Now in each of the following questions assuming the given statement to be true ,find which of the two conditions I and II given below them is /are definately true ? Give answer.

a) If only conclusion I is true

b) If only conclusion II is true

c) If either I or II is true

d) If neither I or II is true

e) If both I and II is true

7) Statements F % T, T @ J, J # W.

Conclusions 1) J @ F. 2) J # F.

8) Statements – R # D, D * K, K $ M.

Conclusions – 1) M # R. 2) K $ R.

9) Statements – Z * F, F $ M, M % K

Conclusions – 1) K # F. 2) Z # M.

10) Statement – H @ B, B * R, A $ R

Conclusion – 1) B * A 2) R % H.

A * B means A is either equal to or greater than B.

A $ B means A is equal to B.

A # B means A is either equal to or smaller than B.

A & B means A is smaller than B.

A @ B means A is greater than B

In each question, three statements showing relationships have been given, which are followed by two conclusions I & II. Assuming that the given statements are true, find out which conclusion(s) is/are definitely true.

Mark answer

A) if only conclusion I is true.

B) if only conclusion II is true.

C) if either conclusion I or II is true.

D) if neither I nor II is true.

E) if both conclusions I and II are true.

1. Statements: S * K, T & K, K * B

Conclusions: I. S $ B

II. S @ B

2. Statements: Y $ Z, H $ D, Z * D

Conclusions: I. D # H

II. H # Z

3. Statements: M @ N, P @ R, P & N

Conclusions: I. P # M

II. R & N

4. Statements: T & K, K * B, S * K

Conclusions: I. B * T

II. S # T

5. Statements: P @ R, M @ N, P & N

Conclusions: I. N @ R

II. P & M

Coded Blood Relationship

1.A is B's brother. C is D's father. E is B's mother. A and D are brothers. How is E related to C?

a) Sister b) Sister-in-law c) Niece d) Wife

2. B is the brother of A, whose only sister C is mother of D. E is maternal grandmother of D. How is B related to E?

a) Daughter-in-law b)Daughter c)Son d)Nephew

3. Raju is the brother of Alok. Sunita is the sister of Sunil. Alok is the son of Sunita. How is Raju related to Sunil?

a)Nephew b) Son c) Brother d) Father

4. A and B are sisters, R and S are brothers. A's daughter is R's sister. What is B's relation to S?

a) Mother b)Grandmother c) Sister d) Aunt

5. E is the sister of B, A is the father of C, B is the son of C. How is A related to E?

a) Grandfather b)Granddaughter

c) Father d)Great-grandfather

9. A is D's brother. D is B's father. B and C are sisters. How is A related to C?

a)Son b)Grandson c)Father d) Uncle

Read the following information carefully and answer the questions given

below

P/Q means P is father of Q

P+Q means P is the mother of Q

P-Q means P is the brother of Q

P*Q means P is the sister of Q

10. If A+B/C-D, then A is D's _____?

1) Sister 2) Grandfather 3) Grandmother

4) Father 5) None of these

11. If A*B/C-D+E, then A is E's

1) Grand-aunt 2) Brother 3) Maternal uncle

4) Mother 5) None of these

12. Which of the following shows that A is aunt of E?

1) A-B+C/D*E 2) A*B/C*D-E

3) A/B*C+D-E 4) A+B-C*D/E

13. P + Q means P is the brother of Q; P - Q means P is the mother of Q and P * Q means P is the sister of Q. Which of the following means M is the maternal uncle of R ?

A. M + K + R B. M - R + K

C. M + K – R D. M + K * R

14. If A + B means A is the brother of B; A / B means A is the father of B and A * B means A is the sister of B, which of the following means M is the uncle of P ?

A. N * P / M B. M + S / R / P

C. M / N * P D. M + K / T * P

Directions (15-16): These questions are based on the following information.
'P@Q' means 'Q is the mother of P
'P$Q' means 'Q is the husband of P'
'P#Q' means 'Q is the sister of P'
'P*Q' means 'Q is the son of P'.

Q15. If D#G@H*K#L, then how is D related to L?
(a) Sister (b) Brother (c) Son
(d) daughter (e) Either (a) or (b)

Q16. If D#G@H*K#L and it is given that D is sister of K, then how many daughters does H have ?
(a) Two (b) Three (c) One (d) Four (e) Cannot determined

Q17. A is B's sister. C is B's father. D is C's father. E is D's daughter. Then, how is E related to B?
(a) Grandmother (b) mother (c) Daughter
(d) Aunt (e) Sister

Q18. E is the son of A. D is the son of B. E is married to C. C is B's daughter. How is B related to E?
(a) Brother (b) Uncle (c) Father-in-law
(d) Brother-in-law (e) Cannot determined

Directions (19-20): Study the following information carefully and answer the questions that follow.
'A $ B' means 'A is father of B'.
'A # B' means 'A is mother of B'.
'A @ B' means 'A is wife of B'.
`A % B' means 'A is son of B'.

Q19. Which of the following expressions indicates 'N is brother of V'?
(a)N$C@R$V (b)N%C@R$V
(c)V%C@R$N
(d)V$C@R$N
(e) None of these

Q20. If the expression is P @ Q % R # S, then how is P related to S?
(a)Brother-in-law(b)Sister-in-law(c)Brother
(d)Can'tSay(e) None of these

Directions (21-22): Each of these questions is based on the following information:
A + B means A is the mother of B.
A - B means A is the sister of B.
A * B means A is the father of B.
A β B means A is the brother of B.

Q21. Which of the following means Q is the grandfather of P?
(a) P + N * M * Q
(b) Q * N * M + P
(c) Q β M β N * P
(d) R - P - M β Q
(e)None of these

Q22. Which of the following means that N is the maternal uncle of M?
(a) N β P - L + E - M
(b) N - Y + A β M
(c) M - Y * P - N
(d) N β C + F * M
(e) None of these

23. **Q7. If A $ B means A is the brother of B; A @ B means A is the wife of B; A # B means A is the daughter of B and A * B means A is the father of B, which of the following indicates that U is the father-in-law of P?**
(a) P @ Q $ T # U * W
(b) P @ W $ Q * T # U
(c) P @ Q $ W * T # U
(d) P @ Q $ T # W * U
(e) None of these

Ranking

1. In a row of trees, one tree is 18th from either end of the row. How many trees are there in the row ?

A. 35 B. 36 C. 37 D. 38

2. In a queue, Amrita is 10th from the front while Mukul is 25th from behind and Mamta is just in the middle of the two. If there be 50 persons in the queue. What position does Mamta occupy from the front ?

A. 20^{th} B. 19^{th} C. 18^{th} D. 17th

3. Raman ranks sixteenth from the top and forty ninth from the bottom in a class. How many students are there in the class ?

A. 64 B. 65 C. 66 D. Cannot be determined

4. In a row of girls, Nivedita is 15th from the left and Vimla is 23rd from the right. If they interchange their positions, then Nivedita becomes 18 th from the left. Then at what position will Vimla be from the right?

1. 24^{th} 2. 25^{th} 3. 26^{th} 4. 20^{th} 5. None of these

5. 1. In a group of 40 girls, when latha was shifted by 4 places towards her right, then she become 12th from the left end what was her earlier position from the right end of the row?

1) 34 2) 32 3) 33 4) 35 5) none

6. In a group of 40 boys, Raju is 12th from the left end and Raghu is 17th from the right end. If Dilip is placed exactly between them what is his right hand rank?

1) 22 2) 23 3) 24 4) 25 5) none

7. In a row of boys, A is thirteenth from the left and D is seventeenth from the right. If in this row A is eleventh from the right then what is the position of D from the left?

(a) 6^{th} (b) 7^{th} (c) 10^{th} (d) 12thm (e) None of the above

8. In a row of forty children, P is thirteenth from the left end and Q is ninth from the right end. How many children are three between P and R if is fourth to the left of Q?

(a) 12 (b) 13 (c) 14 (d) 15 (e) None of the above

9. In a class of 35 students, Kunal is placed seventh from the bottom whereas Sonali is placed ninth from the top. Pulkit is placed exactly in between the two. What is Kunal's position from Pulkit?

(a) 9 (b) 10 (c) 11 (d) 13 (e) None of the above

10. Forty boys are standing in a row facing the North. Amit is eleventh from the left and Deepak is thirty-first from the right end of the row. How far will Shreya, who is third to the right of Amit in the row, be from Deepak?

(a) 2^{nd} (b) 3^{rd} (c) 4^{th} (d) 5^{th} (e) None of the above

11. In a row of boys, if A who is tenth from the left and B who is ninth from the right interchange their positions, A becomes fifteenth from the left. How many boys are there in the row?

(a) 23 (b) 27 (c) 28 (d) 31 (e) None of the above

12. In a row of 40 boys, Satish was shifted 10 places to the right of Rohan and Kewal was shifted 10 places to the left of Vilas. If Vilas was twenty-sixth from the left and there were three boys between Kewal and Satish after shifting, what was the position of Rohan in the row?

(a) 10th from the right end (b) 10th from the left end

(c) 39th from the right end

(d) Data inadequate (e) None of the above

Direction Sense

Q1. Yashita walks 1km towards north to meet Shikha, then they both take a left turn and walk 3km for lunch. After the lunch they take a left turn and walks 2 km and they eat ice-cream and after some rest they again take a right turn and walks 3km. In which direction the ending point form the location where they had lunch?

(a) Southwest (b) Northeast (c) Southeast (d) Northwest

Q2. Dev walks 20 m towards North. He then turns left and walks 40 m. He again turns left and walks 20 m. Further, he moves 20 m after turning to the right. How far is he from his original position?

(a) 20 m (b) 30 m (c) 50 m (d) 60 m

Q3. Pooja starts at point T, walks straight to point U which is 4 ft away. She turns left at 90° and walks to W. which is 4 ft away, turns 90° right and goes 3 ft to P, turns 90° right and walks 1 ft to Q, turns left at 90° and goes to V, which is 1 ft away and once again turns 90° right and goes to R, 3 ft away. What is the distance between T and R?

(a) 4 ft (b) 5 ft (c) 7 ft (d) 8 ft

4. Dheepthi started from point A in south direction. After walking for 4 m she turned to her right and walked 5 m. Now she turned to her left and walked 3 m after which she turned to her right. Now she walked 4 m and turned to her right again and walked 15 m. Now finally she turned to her right and after walking for 7 m, she stopped at point B. What is the distance AB?
A.2√34 m B.34 m C.3√17 m D.2√17 m

5. Riya started from her home to office. She started in east direction. After walking for 4 m she turned to her left and walked 8 m, now she turned left and walked 2 m. After this she turned to right walked 4 m. Now after turning to her right she walked 13 m and reached office. Find the shortest distance between her office and home.

A.87 m B.9√41 m C.26 m D.3√41 m

6. Raghav starts walking in south direction and walks a distance of 7 meters. Now he tooks a left turn and walk 6m. Again he takes a left turn and walk 15m and reached a point P. Find the distance between starting point and P and in which direction is the person from the initial point.

A.10m, south east B.10m, north east

C.20m, north west D.20m, south west

7. Riya starts walking in the north direction and after walking some distance she took a left turn followed by a right turn. After that she took two consecutive left turn, now she is walking in which direction?

a) south b) north c) east d) west

8. **Rahul walks a distance of 10 km towards south, then he turn to his left and walks 5 km. From here he took a right turn and walks 6 km and stops at a point A. Find the approximate distance between the starting point and final point.**

a) 17km b) 18km c) 16km d) 15km

9. From his house, Ram went 15 kms to the north. Then he turns west and covered 20 km. Then he turned south and covered 5 km. Finally turning to east, he covered 25 km. In which direction is he from his house?

a) north west b) north east c) south east d) south west

10. A man walks 40 meters towards north. Then turning to his right, he walks 50 meter. Then turning to his left, he walks 30 meters. Again he turns to his left and walks 40 meters. How far is he from initial position?

a) 40√2 b) 50√2 c) 60√2 d) 50√3

11. A person starts walking from his home in west direction and after walking 20 meter he took a left turn and walk 30 meters. Now he took a right turn and walks 10 meter to reach the bus stand. Find the distance between home and stand

a) 20√2 b) 30√2 c) 40√2 d) 50√2

12. Two persons A and B are at a distance of 10 meters from each other in west-east direction respectively. A starts walking in north and B starts walking south and move 5 meter respectively. Then A and B takes right and left turn respectively and stopped after travelling 5 meter each. Find the distance between both of them

a) 10√3 b) 10√5 c) 10√2 d) 10√7

13. Neha starts walking in a direction then she took a left turn and after walking some distance he took right turn. After walking for some distance she took two consecutive right turn and finally a left turn. Now if she is walking in north direction, in which direction it starts?

a) north b) south c) west d) east

Syllogism

Give answer—

(1) if only conclusion I is true.

(2) if only conclusion II is true.

(3) if either conclusion I or conclusion II is true.

(4) if neither conclusion I nor conclusion II is true

(5) if both conclusions I and II are true.

1. Statements : All machines are bad. Some bad are globe.

All globe are round.

Conclusions :I. Some machines are round.

II. No machine is round.

2. Statements : All cotton are jute. All jute are brown.

No brown is red.

Conclusions :I. All brown are cotton.

II. Some jute are cotton

3. Statements :Some cute are tall. Some tall are rubbish.

All rubbish are man.

Conclusions :I. Some man are tall.

II. Some cute are man.

4. Statements : All lights are woods.

Some papers are woods. All papers are boring.

Conclusions :I. Some boring are woods.

II. Some woods are lights.

5. Statements: Some soccer are live.

Some cover are plastic. Some plastic are real.

Conclusions:

I. Some plastic are live

II. Some cover are real

6. Statements: Some red are blue. Some blue are grey.

All grey are white. No white is black.

Conclusions: I. No black is grey.

II. Some blue are white.

III. Some black are red.

IV. No black is red.

(1) Only I and II follow

(2) Only either III or IV follows

(3) Only I and either III or IV follow

(4) Only I, II and either III or IV follow

(5) None of these

7. Statements: All red are white. Some white are pink.

Some pink are yellow. No yellow is blue.

Conclusions: I. No blue is pink.

II. Some pink are red.

III. Some blue are red.

IV. Some blue are pink.

(1) None follows

(2) Only either I or IV follows

(3) Only I follows

(4) Only III & IV follow

(5) All follow

8. **Statements**: Some blue are black. Some black are grey.
All grey are red. All red are pink.
Conclusions: I. Some red are black.
II. Some pink are black.
III. Some pink are grey**.**
IV. Some red are blue.
(1) Only I & II follow
(2) Only II & III follow
(3) Only I, II and III follow
(4) All follow
(5) None of these

9. **Statements**: All green are pink. Some pink are black.
Some black are blue. All blue are white.
Conclusions: I. Some black are white.
II. Some blue are pink.
III. Some pink are green.
IV. No green is white.
(1) None follows
(2) Only I and III follows
(3) Only III follows
(4) Only either I or II follows
(5) None of these

10. **Statements**: Some blue are white. All white are red.
All red are pink. Some pink are yellow.
Conclusions: I. Some yellow are red.
II. Some yellow are white.
III. All red are white.
IV. Some yellow are blue.
(1) None follows
(2) Only I follows
(3) Only II follows
(4) Only II & III follow
(5) None of these

Q1. Statements: Some cow is deer. No deer is dog. Some dog is fox.
Conclusions:
I. Some cow is not fox.
II. Some fox is deer.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q2. Statements: All dark is night. No dark is day. Some day is time.
Conclusions:
I. Some night is not day.
II. Some time is not dark.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q3.Statements: All pen is copy. No copy is rough. All rough is note.
Conclusions:
I. All rough being note is a possibility.
II. No pen is rough.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q4. Statements: Some rail is metro. All metro is bus. No bus is bike.
Conclusions:
I. Some rail is not bike.
II. No metro is bike.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows

(e) Both I and II follow

Q5. Statements: Some point is not scale. No scale is circle. Some circle is triangle.
Conclusions:
I. No point is circle.
II. No triangle is point.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q6. Statements: Some mouse is laptop. All laptop is sony.
Conclusions:
I. Some sony is not mouse.
II. All laptop being sony is a possibility.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q7. Statements: All ticket is book. Some ticket is confirm.
Conclusions:
I. Some confirm is not book.
II. All ticket being confirm is a possibility.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q8. Statements: All chair is seat. Some chair is car.
Conclusions:
I. Some seat is car.
II. Some car is chair.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q9. Statements: No holi is festival. Some festival is colour.
Conclusions:
I. Some holi is not colour.
II. Some colour is not holi.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q10.Statements: All five is four. No five is two.
Conclusions:
I. No four is two.
II. Some two is four.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q11.Statements: Some john is tom. No tom is som. All som is angel.
Conclusions:
I. Some john is not angel.
II. All john being angel is a possibility.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q12.Statements: No mars is earth. All sun is earth. Some earth is saturn.
Conclusions:
I. No sun is mars.
II. Some mars is sun.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q13.Statements: All soil is dark. Some dark is green. No green is field.
Conclusions:
I. Some dark is soil.
II. Some dark is not field.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q14.Statements: Some result is pass. All pass is fail. No pass is exam.
Conclusions:
I. Some result is not fail.
II. All fail being exam is a possibility.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follow

Q15. Statements: Some leave is application. No application is e-mail. All letter is e-mail.
Conclusions:
I. No letter is application
II. All leave being letter is a possibility.
(a) None follows
(b) Only I follows
(c) Either I or II follows
(d) Only II follows
(e) Both I and II follows

Data Sufficiency

Directions :-
Marks A as answer if statement I alone is sufficient to answer the question
Marks B as answer if statement II alone is sufficient to answer the question
Marks C as answer if statement I and II together are sufficient to answer the question
Marks D If both statement together is not sufficient to answer the question
Marks E If each statement alone is sufficient to answer

Question 1. How many people are there in the plain ?
Statement I : 25% passengers are women and 35% are children.
Statement II : There are 24 men in the plain

Question 2. What is the difference between monthly income of Ram and Chaaru
Statement I : Ram earns Rs 6000 less than Shaam
Statement II : Chaaru earns Rs 6000 more than Shaam.

Question 3. Is x divisible by 28 ?
Statement I : x is divisible by 20
Statement II : x is divisible by 84

Question 4. Is Raja older than Ramu?
I. Sita is 4 years younger than Raja and 2 years younger than Ramu.
II. The average age Raja and Ramu is 21 years.

Question 5. What is the value of x?
I. $x^2 = 16$
II. $x > 0$

Question 6. What is probability of drawing a red ball, if a bag contains red, blue and green balls.
I. Total balls in the bag are 30
II. The balls are in the ratio 1:2:3

Question 7. How old is Subhash?
I. In 16 more years Subhash will be twice as old as he is today.
II. Four years ago Subhash was $^3/_4$ times of his present age.

Question 8. Is r even?
I. r + s is odd.
II. s is even.

Question 9. What does #mean, Addition or Subtraction?
I. 0#0=0
II. 0#1= 1

Question 10. What is the ratio of savings of Ram and Shyam?

Seating Arrangements

1. P, Q, R, S, T, U, V and W are sitting round the circle and are facing the centre:

P is second to the right of T who is the neighbour of R and V.

S is not the neighbour of P.

V is the neighbour of U.

Q is not between S and W. W is not between U and S.

1. Which two of the following are not neighbours ?

A. RV B. UV C. RP D. QW

2. Which one is immediate right to the V ?

A. P B. U C. R D. T

3. Which of the following is correct ?

A. P is to the immediate right of Q

B. R is between U and V

C. Q is to the immediate left of W

D. U is between W and S

4. What is the position of S ?

A. Between U and V

B. Second to the right of P

C. To the immediate right of W

D. Data inadequate.

5. In an Exhibition seven cars of different companies - Cadillac, Ambassador, Fiat, Maruti, Mercedes, Bedford and Fargo are standing facing to east in the following order :

Cadillac is next to right of Fargo.

Fargo is fourth to the right of Fiat.

Maruti car is between Ambassador and Bedford.

Fiat which is third to the left of Ambassador, is at one end.

1. Which of the cars are on both the sides of cadillac car ?

A. Ambassador and Maruti

B. Maruti and Fiat

C. Fargo and Mercedes

D. Ambassador and Fargo

2. Which of the following statement is correct ?

A. Maruti is next left of Ambassador.

B. Bedford is next left of Fiat.

C. Bedford is at one end.

D. Fiat is next second to the right of Maruti.

3. Which one of the following statements is correct ?

A. Fargo car is in between Ambassador and Fiat.

B. Cadillac is next left to Mercedes car.

C. Fargo is next right of Cadillac.

D. Maruti is fourth right of Mercedes.

4. Which of the following groups of cars is to the right of Ambassador ?

A. Cadillac, Fargo and Maruti

B. Mercedes, Cadillac and Fargo

C. Maruti, Bedford and Fiat

D. Bedford, Cadillac and Fargo

5. Which one of the following is the correct position of Mercedes ?

A. Next to the left of Cadillac

B. Next to the left of Bedford

C. Between Bedford and Fargo

D. Fourth to the right of Maruti.

6. Six friends P, Q, R, S, T and U are sitting around the hexagonal table each at one corner and are facing the centre of the hexagonal. P is second to the left of U. Q is neighbour of R and S. T is second to the left of S.

1. Which one is sitting opposite to P ?

A. R B. Q

C. T D. S

2. Who is the fourth person to the left of Q ?

A. P B. U

C. R D. Data inadequate

3. Which of the following are the neighbours of P ?

A. U and P

B. T and R

C. U and R

D. Data inadequate

4. Which one is sitting opposite to T ?

A. R

B. Q

C. Cannot be determined

D. S

7. A ,B, C, D and E are five men sitting in a line facing to south - while M, N, O, P and Q are five ladies sitting in a second line parallel to the first line and are facing to North.

B who is just next to the left of D, is opposite to Q.

C and N are diagonally opposite to each other.

E is opposite to O who is just next right of M.

P who is just to the left of Q, is opposite to D.

M is at one end of the line.

1. Who is sitting third to the right of O ?

A. Q

B. N

C. M

D. Data inadequate

2. If B shifts to the place of E, E shifts to the place of Q, and Q shifts to the place of B, then who will be the second to the left of the person opposite to O ?

A. Q

B. P

C. E

D. D

3. Which of the following pair is diagonally opposite to each other ?

A. EQ

B. BO

C. AN

D. AM

4. If O and P, A and E and B and Q interchange their positions, then who will be the second person to the right of the person who is opposite to the person second of the right of P ?

A. D

B. A

C. E

D. O

5. In the original arrangement who is sitting just opposite to N ?

A. B

B. A

C. C

D. D

8. A, B, C, D, E, F and G are sitting in a row facing North :

F is to the immediate right of E.

E is 4th to the right of G.

C is the neighbour of B and D.

Person who is third to the left of D is at one of ends.

1. Who are to the left of C ?

A. Only B

B. G, B and D

C. G and B

D. D, E, F and A

2. Which of the following statement is not true ?

A. E is to the immediate left of D

B. A is at one of the ends

C. G is to the immediate left of B

D. F is second to the right of D

3. Who are the neighbours of B ?

A. C and D

B. C and G

C. G and F

D. C and E

4. What is the position of A ?

A. Between E and D

B Extreme left

C. Centre

D. Extreme right

9. 8 persons E, F, G, H, I, J, K and L are seated around a square table - two on each side.

There are 3 ladies who are not seated next to each other.

J is between L and F.

G is between I and F.

H, a lady member is second to the left of J.

F, a male member is seated opposite to E, a lady member.

There is a lady member between F and I.

1. Who among the following is to the immediate left of F ?

A. G

B. I

C. J

D. H

2. What is true about J and K ?

A. J is male, K is female

B. J is female, K is male

C. Both are female

D. Both are male

3. How many persons are seated between K and F ?

A. 1

B. 2

C. 3

D. 4

4. Who among the following are three lady members ?

A. E, H and J

B. E, F and G

C. E, H and G

D. C, H and J

5. Who among the following is seated between E and H ?

A. F

B. I

C. K

D. Cannot be determined

10. Six girls are sitting in a circle facing to the centre of the circle. They are P, Q, R, S, T and V. T is not between Q and S but some other one. P is next to the left of V. R is 4th to the right of P.

1. Which of the following statement is not true ?

A. S is just next to the right to R

B. T is just next to the right of V

C. R is second to the left of T

D. P is second to the right of R

2. If P and R interchange their positions then which of the following pair will sit together ?

A. RT

B. PV

C. VT

D. QV

3. What is the position of T ?

A. Just next to the right of Q

B. Second to the left of P

C. Between Q and R

D. To the immediate right of V

4. Which one is sitting just right to the V?

A. P

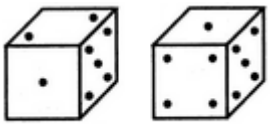
B. T

C. R

D. S/Q

Dice

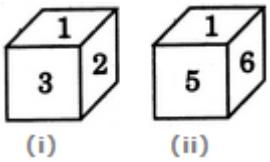
1.Observe the dots on a dice (one to six dots) in the following figures. How many dots are contained on the face opposite to that containing four dots?



(i) (ii)

a.2 b. 3 c. 6 d. 5

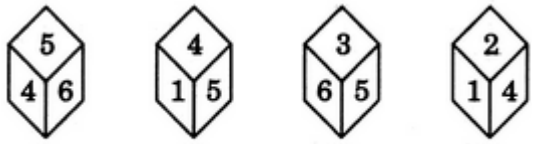
2. Two positions of a dice are shown. When 4 is at the bottom, what number will be on the top?



(i) (ii)

a.2 b. 1 c. 5 d. 6

3. Four positions of a dice are shown below. What number must be at the bottom face when the dice is in the position as shown in the figure(iii)



(i) (ii) (iii) (iv)

a.1 b. 2 c. 4 d. 6

4. Three different positions of a dice are shown below. How many dots lie opposite 2 dots?

(i) (ii) (iii)

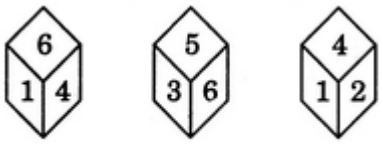
a.1 b.3 c.5 d.6

5. The six faces of a dice have been marked with alphabets A, B, C, D, E and F respectively. This dice is rolled down three times. The three positions are shown as:

(i) (ii) (iii)

a.C b. D c. E d.F

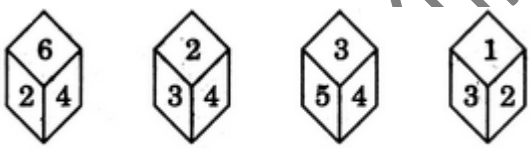
6. Three positions of a dice are given. Based on them find out which number is found opposite the number 2 in the given cube.



(i) (ii) (iii)

a.6 b. 5 c. 3 d.1

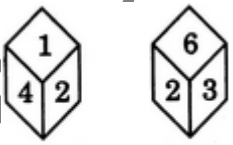
7. A dice is thrown four times and its four different positions are shown below. Find the number on the face opposite the face showing 2.



(i) (ii) (iii) (iv)

a.3 b. 4 c. 5 d. 6

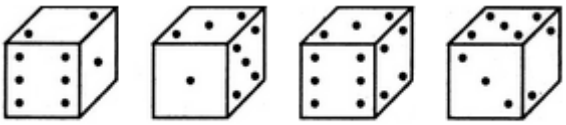
8. What will be the number at the bottom, if 5 is at the top; the two positions of the dice being as given below:



(i) (ii)

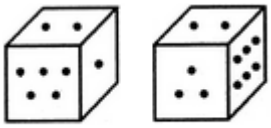
a.1 b. 2 c. 3 d. 6

9. If the total number of dots on opposite faces of a cubical block is always 7, find the figure which is correct.



(1) (2) (3) (4)

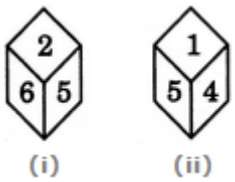
10. Two positions of a block are given below. When 1 is at the top, which number will be at the bottom?



(i) (ii)

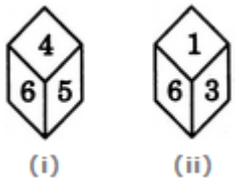
a.2 b. 3 c. 4 d.6

11. What number is opposite 3 in the figure shown below? The given two positions are of the same dice whose each surface bears a number among 1, 2, 3, 4, 5 and 6.



a.2 b. 4 c. 5 d.6

12. Two positions of a dice are shown below. Identify the number at the bottom when the top is '3'?

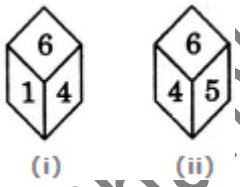


a.2 b. 4 c. 5 d.6

13. Three different positions X, Y and Z of a dice are shown in the figures given below. Which number lies at the bottom face in position X?

a.2 b. 3 c. 6 d.1

14. Two positions of a dice are shown below. When number 1 is on the top, what number will be at the bottom?



a.2 b. 3 c. 4 d.6