# CONTENT

## APTITUDE



## DATA INTERPRETATION

# BANKER'S DISCOUNT

1. The present worth of a sum due sometime hence is Rupees. 3400 and the true discount is Rupees. 340. The banker's gain is:
   A) Rs. 17
   B) Rs. 21
   C) Rs. 25
   **D) Rs. 34**

2. The banker's gain on a certain sum due 3 years hence at 12% per annum is Rupees.360. The banker's discount is:
   **A) Rs. 1360**
   B) Rs. 2000
   C) Rs. 490
   D) Rs. 1350

3. The present worth of a bill due sometime hence is Rupees. 800 and the true discount is Rupees. 36. The banker's discount is
   A) Rs. 34.68
   **B) Rs. 37.62**
   C) Rs. 34
   D) Rs. 37.98

4. The banker's discount on a sum due 2 years hence is 11/10 of the true discount the rate of percentage is;
   A) 21 %
   B) 15%
   **C) 5%**
   D) 7.5%

5. If the true discount on a certain sum due 6 months hence the rate of percentage at 15% is Rupees. 120, then banker's discount on the same for the same time and rate will be
   A) Rs. 121
   B) Rs. 125
   **C) Rs. 129**
   D) Rs. 139

6. The banker's gain on a certain bill due 1 year hence the rate of percentage at 12% per annum is Rupees. 6. The true discount is:
   A) Rs. 25
   B) Rs. 54
   C) Rs. 58
   **D) Rs. 50**

7. The banker's discount on a certain bill due 4 months hence the rate of percentage at 15% is Rupees. 420. The true discount is
   **A) Rs.400**

**B)** Rs.380
**C)** Rs.860
**D)** Rs.480

8. The banker's discount on Rupees. 1600 at 15% rate per annum is the same as true discount on Rs. 1680 for the same time and rate. The time is

A) 8 months
**B) 4 months**
C) 5 months
D) 3 months

9. The banker's gain of a certain sum due 2 years hence at the rate of 10% per annum is Rupees. 24. The present value is
A) Rs. 500
B) Rs. 900
C) **Rs. 600**
D) Rs. 800

10. The banker's gain on a certain sum due 3 years hence at the rate of 12% per annum is Rupees. 270. The banker's discount is :
A) Rs. 690
B) Rs. 480
C) **Rs. 1020**
D) Rs. 860

11. A bill for Rupees. 6000 is drawn on the month of July 14 at 5 months. It is discounted on 5th October at the rate of 10%. Banker's discount will be
**A) Rs. 120**
B) Rs. 119.64
C) Rs. 180
D) Rs. 115.75

12. The present value of a sum due sometime hence is Rupees. 1600 and true discount is Rupees. 160, The banker's gain is:
A) Rs. 28
B) Rs. 20
**C) Rs. 16**
D) Rs. 14
13. The present value of a certain sum due sometime hence is Rupees. 576 and the banker's gain is Rupees. 16. The true discount is
A) Rs. 86
B) Rs. 62
C) Rs. 84
**D) Rs. 96**

14. The banker's discount and the true discount on a certain sum of amount due 8 months hence rate is Rupees. 120 and 110 respectively. The sum is
    A) Rs. 1800
    B) Rs. 1500
    C) Rs. 1380
    **D) Rs. 1320**

15. The true discount on a bill of Rupees. 540 is Rupees. 90. The banker's discount is:
    A) Rs. 80
    **B) Rs.108**
    C) Rs.118
    D) Rs.114

16. The banker's discount of a certain sum of money is Rupees. 72 and the true discount on the same sum and time are Rupees. 60. The sum due is
    **A) Rs. 360**
    B) Rs. 540
    C) Rs. 840
    D) Rs. 400

17. The B.D. and T.D. on a sum is Rupees.200 and 100 respectively. Find out the value of sum
    A) Rs. 500
    B) Rs. 400
    C) Rs. 300
    **D) Rs. 200**

18. The banker's discount on a certain bill due 6 months hence at the rate of 6% is Rupees. 18.54. What is the true discount?
    A) Rs.14
    B) Rs.16
    C) Rs.32
    **D) Rs.18**

19. The present value of a bill due sometime hence is Rupees. 400 and the true discount is Rupees. 20. What is the banker's discount?
    A) Rs.22
    B) Rs.19
    C) Rs.23
    D) **Rs.21**

20. The present value of a bill due sometime hence is Rupees. 1296 and the true discount is Rupees. 72. What is the banker's discount?
    **A) Rs.76**
    B) Rs.74
    C) Rs.72

D) Rs.40

21. The banker's discount of a sum of money is Rupees. 36 and the true discount on the same sum and time is Rupees. 30. What is the sum due?
    A) Rs.360
    B) Rs.280
    C) Rs.220
    **D) Rs.180**

22. The banker's discount on Rupees. 1650 due a time hence is Rupees. 165. Find the true discount and the banker's gain.
    A) Rs. 20
    B) Rs. 18
    **C) Rs. 15**
    D) Rs. 13

23. If the discount on Rupees. 498 at the rate of 5% simple interest is Rupees.18, when is the due sum?
    **A) 9 Months**
    B) 8 Months
    C) 11 Months
    D) 10 Months

24. What is the unlike between the banker's and the true discount on Rupees.8100 for 3 months time at the rate of 5%
    A) Rs.2.25
    B) **Rs.1.25**
    C) Rs.0.5
    D) Rs. 2

# PROBABILITY

1. A bag contains 6 white and 4 black balls. 2 balls are drawn at random. Find the probability that they are of same colour.
   A) 1/9
   B) 8/15
   **C) 7/15**
   D) 1/2
2. 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) 47/100
   B) 3/120
   C) 29/34
   **D) 13/102**

3. Two dice are tossed. The probability that the total score is a prime number is:
   A) 7/9
   **B) 5/12**
   C) 1/6
   D) 1/2

4. 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) 3/25
   **B) 21/46**
   C) 1/50
   D) 1/5

5. One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)?
   A) 9/52
   B) 3/52
   **C) 3/13**
   D) 1/13

6. Four dice are thrown simultaneously. Find the probability that all of them show the same face.
   A) 4/216
   B) 3/126
   C) 1/36
   **D) 1/126**

7. What is the probability that a number selected from numbers 1, 2,3,...,30, is prime Number, when each of the given numbers is equally likely to be selected?
   A) 9/30
   B) 8/30

C) 11/3
**D) 10/30**

8. A bag contains 21 toys numbered 1 to 21. A toy is drawn and then another toy is drawn without replacement. Find the probability that both toys will show even numbers
   **A) 9/42**
   B) 5/21
   C) 4/21
   D) 11/42

9. You toss a coin AND roll a die. What is the probability of getting a tail and a 4 on the die?
   A) 1/8
   B) 1/6
   C) 1/2
   **D) 1/12**

10. A speaks truth in 75% of cases and BB in 80% of cases. In what percent of cases are they likely to contradict each other in narrating the same event?
    A) 5%
    B) 45%
    **C) 35%**
    D) 22.5%

11. There are 2 yellow, 6 black, 4 grey and 8 red pebbles in a glass bowl. I pick one pebble randomly. What is the probability of me picking up a black or red pebble?
    A) **7/10**
    B) 4/3
    C) 3/4
    D) 1/10

12. A mother has 24 pairs of white socks and 18 pairs of grey socks for her twin children kept in a bag. In a hurry to send the children to school on time, she picks 3 socks randomly. What is the possibility of her picking up the matching pair?
    A) 7/36
    B) 1/36
    C) 1/108
    **D) 1**

**13.** Three unbiased coins are tossed. What is the probability of getting at most two heads?
    A) **7/8**
    B) 3/8
    C) 3/4
    D) 1/4

**14.** 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) 5/7
B) **2/7**
C) 2/5
D) 1/10

15. In a single throw of two dice , find the probability that neither a doublet nor a total of 8 will appear

A) 7/15
**B) 5/18**
C) 3/16
D) 13/18

16. Find the probability that in a random arrangement of the letters of the word 'UNIVERSITY' the two I's come together.

A) 5/11
B) 3/5
C) 1/7
**D) 1/5**

17. Two dice are thrown simultaneously. Find the probability of getting a multiple of 2 on one dice and multiple of 3 on the other dice.

A) 5/36
B) 5/12
C) 13/36
**D) 11/36**

18. From a pack of 52 cards, 3 cards are drawn. What is the probability that one is ace, one is queen and one is jack?

A) 21/5525
B) 19/5525
C) 17/5525
**D) 16/5525**

19. A bag contains 3 white balls and 2 black balls. Another bag contains 2 white and 4 black balls. A bag and a ball are picked random. The probability that the ball will be white is:

A) 7/30
**B) 7/15**
C) 7/11
D) 5/11

**20.** I forgot the last digit of a 7-digit telephone number. If 1 randomly dial the final 3 digits after correctly dialing the first four, then what is the chance of dialling the correct number?

A) 1/999
B) 1/990
C) 1/1001
D) **1/1000**

21. A five-digit number is formed by using digits 1, 2, 3, 4 and 5 without repetition. What is the probability that the number is divisible by 4?

A) None of these
B) 5/6
C) 4/5
**D) 1/5**

22. A special lottery is to be held to select a student who will live in the only deluxe room in a hostel. There are 100 Year-III, 150 Year-II and 200 Year-I students who applied. Each Year-III's name is placed in the lottery 3 times; each Year-II's name, 2 times and Year-I's name, 1 time. What is the probability that a Year-III's name will be chosen?

**A) 3/8**
B) 2/9
C) 2/7
D) 1/8

23. In a charity show tickets numbered consecutively from 101 through 350 are placed in a box.
What is the probability that a ticket selected at random (blindly) will have a number with a hundredth digit of 2?

A) 99/250
B) 100/249
**C) 0.40**
D) 0.285

24. Derek throws three dice in a special game. If he knows that he needs 15 or higher in this throw to win, and then find the chance of his winning the game.

**A) 5/54**
B) 17/216
C) 15/216
D) 13/216

25. An urn contains 6 red, 5 blue and 2 green marbles. If three marbles are picked at random, what is the probability that at least one is blue?

A) 28/197
B) 28/143
C) 115/197
**D) 115/143**

# ODD MAN OUT & SERIES

1. 331, 482, 551, 263, 383, 362, 284
   A) 551
   **B) 383**
   C) 331
   D) 263

2. 8, 27, 64, 100, 125, 216, 343
   A) 27
   **B) 100**
   C) 125
   D) 343

3. 396, 462, 572, 427, 671, 264
   A) 396
   **B) 427**
   C) 671
   D) 264

4. 2, 5, 10, 17, 26, 37, 50, 64
   A) 50
   B) 26
   C) 37
   **D) 64**

5. 835, 734, 642, 751, 853, 981, 532
   **A) 751**
   B) 853
   C) 981
   D) 532

6. 41, 43, 47, 53, 61, 71, 73, 81
   A) 61
   B) 71
   C) 73
   **D) 81**

7. 582, 605, 588, 611, 634, 617, 600
   **A) 634**
   B) 611
   C) 605
   D) 600

8. 22, 33, 66, 99, 121, 279, 594
   A) 33

B) 121
**C) 279**
D) 594

9. 8, 13, 21, 32, 47, 63, 83
**A) 47**
B) 63
C) 32
D) 83

10. 1, 2, 6, 15, 31, 56, 91
A) 31
**B) 91**
C) 56
D) 15

11. 52, 51, 48, 43, 34, 27, 16
A) 27
**B) 34**
C) 43
D) 48

12. 4, 6, 8, 9, 10, 11, 12
A) 10
**B) 11**
C) 12
D) 9

13. 105, 85, 60, 30, 0, -45, -90
**A) 0**
B) 85
C) 45
D) 60

14. 125, 127, 130, 135, 142, 153, 165
A) 130
B) 142
C) 153
**D) 165**

15. 46080, 3840, 384, 48, 24, 2, 1
A) 1
B) 2
**C) 24**
D) 384

16. 36, 54, 18, 27, 9, 18.5, 4.5
A) 4.5
**B) 18.5**
C) 54
D) 18

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17. 56, 72, 90, 110, 132, 150
A) 72
B) 110
C) 132
**D) 150**

18. 16, 33, 65, 131, 261, (....)
**A) 523**
B) 521
C) 613
D) 721

19. 10, 5, 13, 10, 16, 20, 19, (....)
A) 22
**B) 40**
C) 38
D) 23

20. 2, 4, 12, 48, 240, (....)
A) 960
**B) 1440**
C) 1080
D) 1920

21. 8, 7, 11, 12, 14, 17, 17, 22, (....)
A) 27
**B) 20**
C) 22
D) 24

22. 11, 13, 17, 19, 23, 29, 31, 37, 41, (....)
**A) 43**
B) 47
C) 53
D) 51

23. 8, 24, 12, 36, 18, 54, (....)
**A) 27**
B) 108

C) 68
D) 72

24. 2, 6, 12, 20, 30, 42, 56, (....)
A) 61
B) 64
**C) 72**
D) 70

25. 4, -8, 16, -32, 64, (....)
A) 128
**B) -128**
C) 192
D) -192

26. 7, 26, 63, 124, 215, 342, (....)
A) 481
**B) 511**
C) 391
D) 421

27. 5, 10, 13, 26, 29, 58, 61, (....)
**A) 122**
B) 64
C) 125
D) 128

28. 3, 7, 6, 5, 9, 3, 12, 1, 15, (....)
A) 18
B) 13
**C) -1**
D) 3

**FIND THE WRONG NUMBER IN THE SERIES**

29. 7, 8, 18, 57, 228, 1165, 6996
A) 8
B) 18
C) 57
D) 228
**E) 1165**

30. 196, 169, 144, 121, 100, 80, 64
A) 169
B) 144
C) 121

D) 100
**E) 80**

31. 190, 166, 145, 128, 112, 100, 91
A) 100
B) 166
C) 145
**D) 128**
E) 112

32. 19, 26, 33, 46, 59, 74, 91
A) 26
**B) 33**
C) 46
D) 59
E) 74

33. 1, 3, 10, 21, 64, 129, 356, 777
A) 10
B) 21
C) 64
D) 129
**E) 356**

34. 40960, 10240, 2560, 640, 200, 40, 10
A) 640
B) 40
**C) 200**
D) 2560
E) 10240

35. 64, 71, 80, 91, 104, 119, 135, 155
A) 71
B) 80
C) 104
D) 119
**E) 135**

36. 2880, 480, 92, 24, 8, 4, 4
A) 480
**B) 92**
C) 24
D) 8
E) 4

37. What is the next number in the following number series

3, 5, 8, 15, 28, 51,?

**A) 98**

B) 102

C) 87

D) 79

38. 194, 194, 191, 183, 168, ?

Find the next number in the above series?

A) 156

B) 154

**C) 144**

D) 143

39. What is the next number in the given Number Series?

5, 24, 94, 279, ?

A) 587

**B) 554**

C) 499

D) 489

40. 7, 11, 19, 35, ?

Find the next number in the given number series?

A) 131

B) 94

C) 83

**D) 67**

# HIEGHTS AND DISTANCES

**1.** Two ships are sailing in the sea on the two sides of a lighthouse. The angle of elevation of the top of the lighthouse is observed from the ships are 30º and 45º respectively. If the lighthouse is 100 m high, the distance between the two ships is:

A) 300 m
B) **273 m**
C) 200 m
D) 173 m

2. From a point P on a level ground, the angle of elevation of the top tower is 30º. If the tower is 200 m high, the distance of point P from the foot of the tower is:

A) 400 m
**B) 346 m**
C) 312 m
D) 298 m

3. The angle of elevation of the sun, when the length of the shadow of a tree is equal to the height of the tree, is:

A) None of these
B) 60°
C) **45°**
D) 30°

4. An observer 2 m tall is $10\sqrt{3}$ m away from a tower. The angle of elevation from his eye to the top of the tower is 30º. The height of the tower is:

A) None of these
B) 14 m
**C) 12 m**
D) 10 m

5. The angle of elevation of a ladder leaning against a wall is 60º and the foot of the ladder is 12.4 m away from the wall. The length of the ladder is:

A) 6.2 m
**B) 24.8 m**
C) 14.8 m
D) 12.4 m

**6.** A ladder 10 m long just reaches the top of a wall and makes an angle of 60° with the wall. Find the distance of the foot of the ladder from the wall ($\sqrt{3}=1.73$)

A) **8.65 m**
B) 5 m
C) 4.32 m
D) 17.3 m

**7.** From a tower of 80 m high, the angle of depression of a bus is 30°. How far is the bus from the tower?

A) 46.24 m
B) 40 m
C) 160 m
D) **138.4 m**

8. Find the angle of elevation of the sun when the shadow of a pole of 18 m height is $6\sqrt{3}$ m long?

A) None of these
B) **60°**
C) 45°
D) 30°

9. An observer 1.6 m tall is $20\sqrt{3}$ away from a tower. The angle of elevation from his eye to the top of the tower is $30^{o}$. The heights of the tower is;

A) None of these
B) 24.72 m
C) 23.2 m
**D) 21.6 m**

10. If an object travels at five feet per second, how many feet does it travel in one hour?

A) 3000
**B) 1800**
C) 30
D) 18

# DATA INTERPRETATION -TABULATION

(1-5 QUESTIONS) Study the following table and answer the questions based on it.
Expenditures of a Company (in Lakhs Rupees) per Annum Over the given Years.

| Year | Item of Expenditure | | | | |
|---|---|---|---|---|---|
| | Salary | Fuel and Transport | Bonus | Interest on Loans | Taxes |
| 1998 | 288 | 98 | 3.00 | 23.4 | 83 |
| 1999 | 342 | 112 | 2.52 | 32.5 | 108 |
| 2000 | 324 | 101 | 3.84 | 41.6 | 74 |
| 2001 | 336 | 133 | 3.68 | 36.4 | 88 |
| 2002 | 420 | 142 | 3.96 | 49.4 | 98 |

1. What is the average amount of interest per year which the company had to pay during this period?
   **A) Rs. 36.66 lakhs**
   B) Rs. 34.18 lakhs
   C) Rs. 33.72 lakhs
   D) Rs. 32.43 lakhs

2. The total amount of bonus paid by the company during the given period is approximately what percent of the total amount of salary paid during this period?
   A) 1.25%
   **B) 1%**
   C) 0.5%
   D) 0.1%

3. Total expenditure on all these items in 1998 was approximately what percent of the total expenditure in 2002?
   A) 71%
   **B) 69%**
   C) 66%
   D) 62%

4. The total expenditure of the company over these items during the year 2000 is?
   **A) Rs. 544.44 lakhs**
   B) Rs. 501.11 lakhs
   C) Rs. 478.87 lakhs
   D) Rs. 446.46 lakhs

5. The ratio between the total expenditure on Taxes for all the years and the total expenditure on Fuel and Transport for all the years respectively is approximately?
   A) 15:18
   **B) 10:13**
   C) 5:8
   D) 4:7

   (6-10 QUESTIONS) Study the following table and answer the questions.
   **Number of Candidates Appeared and Qualified in a Competitive Examination from Different States Over the Years.**

| State | Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1997 | | 1998 | | 1999 | | 2000 | | 2001 | |
| | App. | Qual. | App. | Qual. | App. | Qual. | App. | Qual. | App. | Qual. |
| M | 5200 | 720 | 8500 | 980 | 7400 | 850 | 6800 | 775 | 9500 | 1125 |
| N | 7500 | 840 | 9200 | 1050 | 8450 | 920 | 9200 | 980 | 8800 | 1020 |
| P | 6400 | 780 | 8800 | 1020 | 7800 | 890 | 8750 | 1010 | 9750 | 1250 |
| Q | 8100 | 950 | 9500 | 1240 | 8700 | 980 | 9700 | 1200 | 8950 | 995 |
| R | 7800 | 870 | 7600 | 940 | 9800 | 1350 | 7600 | 945 | 7990 | 885 |

6. Total number of candidates qualified from all the states together in 1997 is approximately what percentage of the total number of candidates qualified from all the states together in 1998?
   A) 83%
   **B) 80%**
   C) 77%
   D) 72%

7. What is the average candidates who appeared from State Q during the given years?
   **A) 8990**
   B) 8920
   C) 8760
   D) 8700

8. In which of the given years the number of candidates appeared from State P has maximum percentage of qualified candidates?
   **A) 2001**
   B) 1999
   C) 1998
   D) 1997

9. What is the percentage of candidates qualified from State N for all the years together, over the candidates appeared from State N during all the years together?
   A) 12.36%
   B) 12.16%
   C) 11.47%
   D) **11.15%**

10. The percentage of total number of qualified candidates to the total number of appeared candidates among all the five states in 1999 is?
   A) 12.57%
   B) 12.21%
   C) **11.84%**
   D) 11.49%

(11-15 QUESTIONS) The following table gives the percentage of marks obtained by seven students in six different subjects in an examination.
The Numbers in the Brackets give the Maximum Marks in Each Subject.

| **Student** | **Subject (Max. Marks)** | | | | | |
|---|---|---|---|---|---|---|
| | **Maths** | **Chemistry** | **Physics** | **Geography** | **History** | **Computer Science** |
| | **(150)** | **(130)** | **(120)** | **(100)** | **(60)** | **(40)** |
| Ayush | 90 | 50 | 90 | 60 | 70 | 80 |
| Aman | 100 | 80 | 80 | 40 | 80 | 70 |
| Sajal | 90 | 60 | 70 | 70 | 90 | 70 |
| Rohit | 80 | 65 | 80 | 80 | 60 | 60 |
| Muskan | 80 | 65 | 85 | 95 | 50 | 90 |
| Tanvi | 70 | 75 | 65 | 85 | 40 | 60 |
| Tarun | 65 | 35 | 50 | 77 | 80 | 80 |

11. What are the average marks obtained by all the seven students in Physics? (rounded off to two digit after decimal)
   A) 96.11
   B) 91.37
   **C) 89.14**
   D) 77.26

12. The number of students who obtained 60% and above marks in all subjects is?
    A) 3
    **B) 2**
    C) 1
    D) None

13. What was the aggregate of marks obtained by Sajal in all the six subjects?
    **A) 449**
    B) 429
    C) 419
    D) 409

14. In which subject is the overall percentage the best?
    A) Physics
    **B) Maths**
    C) History
    D) Chemistry

15. What is the overall percentage of Tarun?
    A) 63%
    **B) 60%**
    C) 55%
    D) 52.5%

(16-20 QUESTIONS) Study the following table and answer the questions based on it.
**Number of Candidates Appeared, Qualified and Selected in a Competitive Examination from Five States Delhi, H.P, U.P, Punjab and Haryana Over the Years 1994 to 1998**

| Year | Delhi | | | H.P | | | U.P | | | Punjab | | | Haryana | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | App | Qual | Sel | App | Qual | Sel | App | Qual | Sel | App | Qual | Sel | App | Qual | Sel |
| 1997 | 8000 | 850 | 94 | 7800 | 810 | 82 | 7500 | 720 | 78 | 8200 | 680 | 85 | 6400 | 700 | 75 |
| 1998 | 4800 | 500 | 48 | 7500 | 800 | 65 | 5600 | 620 | 85 | 6800 | 600 | 70 | 7100 | 650 | 75 |
| 1999 | 7500 | 640 | 82 | 7400 | 560 | 70 | 4800 | 400 | 48 | 6500 | 525 | 65 | 5200 | 350 | 55 |
| 2000 | 9500 | 850 | 90 | 8800 | 920 | 86 | 7000 | 650 | 70 | 7800 | 720 | 84 | 6400 | 540 | 60 |
| 2001 | 9000 | 800 | 70 | 7200 | 850 | 75 | 8500 | 950 | 80 | 5700 | 485 | 60 | 4500 | 600 | 75 |

16. For which state the average number of candidates selected over the years is the maximum?
    A) U.P
    B) Punjab
    C) H.P
    **D) Delhi**

17. The percentage of candidates qualified from Punjab over those appeared from Punjab is highest in the year?
    **A) 2000**
    B) 1999
    C) 1998
    D) 1997

18. In the year 1997, which state had the lowest percentage of candidates selected over the candidates appeared?
    A) U.P
    B) **Punjab**
    C) H.P
    D) Delhi

19. The number of candidates selected from Haryana during the period under review is approximately what percent of the number selected from Delhi during this period?
    A) **88.5%**
    B) 84.5%
    C) 81%
    D) 79.5%

20. The percentage of candidates selected from U.P over those qualified from U.P is highest in the year?
    A) 2001
    B) 1999
    **C) 1998**
    D) 1997

(16-20 QUESTIONS) The following table gives the sales of batteries manufactured by a company over the years.

**Number of Different Types of Batteries Sold by a Company Over the Years (Numbers in Thousands)**

| Year | Types of Batteries | | | | | |
|---|---|---|---|---|---|---|
| | 4AH | 7AH | 32AH | 35AH | 55AH | Total |
| 1992 | 75 | 144 | 114 | 102 | 108 | 543 |
| 1993 | 90 | 126 | 102 | 84 | 126 | 528 |
| 1994 | 96 | 114 | 75 | 105 | 135 | 525 |
| 1995 | 105 | 90 | 150 | 90 | 75 | 510 |
| 1996 | 90 | 75 | 135 | 75 | 90 | 465 |
| 1997 | 105 | 60 | 165 | 45 | 120 | 495 |
| 1998 | 115 | 85 | 160 | 100 | 145 | 605 |

21. What was the approximate percentage increase in the sales of 55AH batteries in 1998 compared to that in 1992?
    **A) 34%**
    B) 33%
    C) 31%
    D) 28%

22. The total sale of all the seven years is the maximum for which battery?
    A) 7AH
    B) 4AH
    C) 35AH
    **D) 32AH**

23. What is the difference in the number of 35AH batteries sold in 1993 and 1997?
    A) **39000**
    B) 35000
    C) 28000
    D) 24000

24. The percentage of 4AH batteries sold to the total number of batteries sold was maximum in the year?
    A) **1997**
    B) 1996

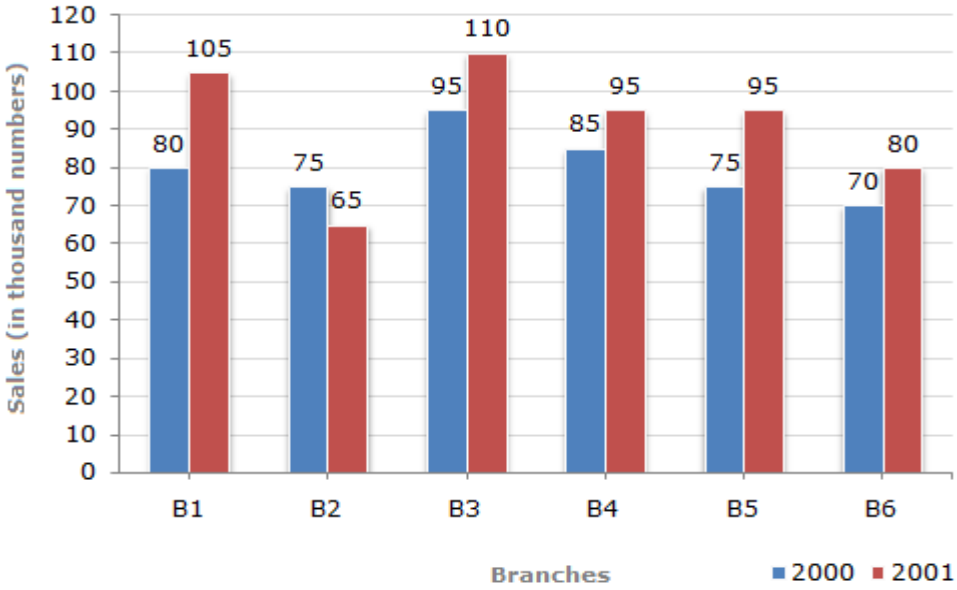
C) 1995
D) 1994

25. In case of which battery there was a continuous decrease in sales from 1992 to 1997?
**A) 7AH**
B) 4AH
C) 35AH
D) 32AH

# DATA INTERPRETATION – BAR CHART

(26-30 QUESTIONS) The bar graph given below shows the sales of books (in thousand numbers) from six branches of a publishing company during two consecutive years 2000 and 2001.

**Sales of Books (in thousand numbers) from Six Branches - B1, B2, B3, B4, B5 and B6 of a publishing Company in 2000 and 2001.**




26. What is the ratio of the total sales of branch B2 for both years to the total sales of branch B4 for both years?
    **A) 7:9**
    B) 4:5
    C) 3:5
    D) 2:3

27. A total sale of branch B6 for both the years is what percent of the total sales of branches B3 for both the years?
    **A) 73.17%**
    **B)** 71.11%
    C) 68.54%
    D) 1.25%

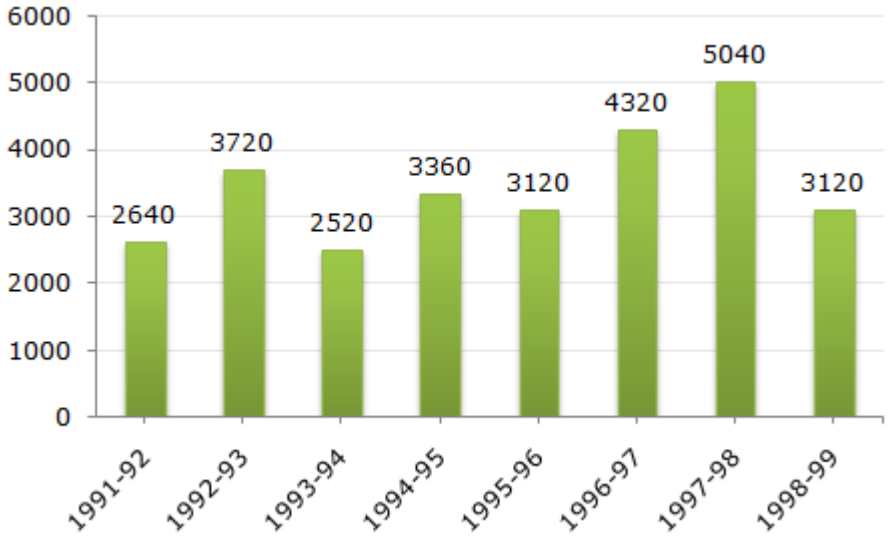
28. What percent of the average sales of branches B1, B2 and B3 in 2001 is the average sales of branches B1, B3 and B6 in 2000?
    **A) 87.5%**
    B) 82.5%
    C) 77.5%
    D) 75%

29. What are the average sales of all the branches (in thousand numbers) for the year 2000?
A) 88
B) 83
**C) 80**
D) 73

30. A total sale of branches B1, B3 and B5 together for both the years (in thousand numbers) is?
**A) 560**
B) 435
C) 310
D) 250

(31-35 QUESTIONS) The bar graph given below shows the foreign exchange reserves of a country (in million US $) from 1991 - 1992 to 1998 - 1999.

**Foreign Exchange Reserves Of a Country. (in million US $)**




31. The ratio of the number of years, in which the foreign exchange reserves are above the average reserves, to those in which the reserves are below the average reserves is?
A) 4:4
**B) 3:5**
C) 3:4
D) 2:6

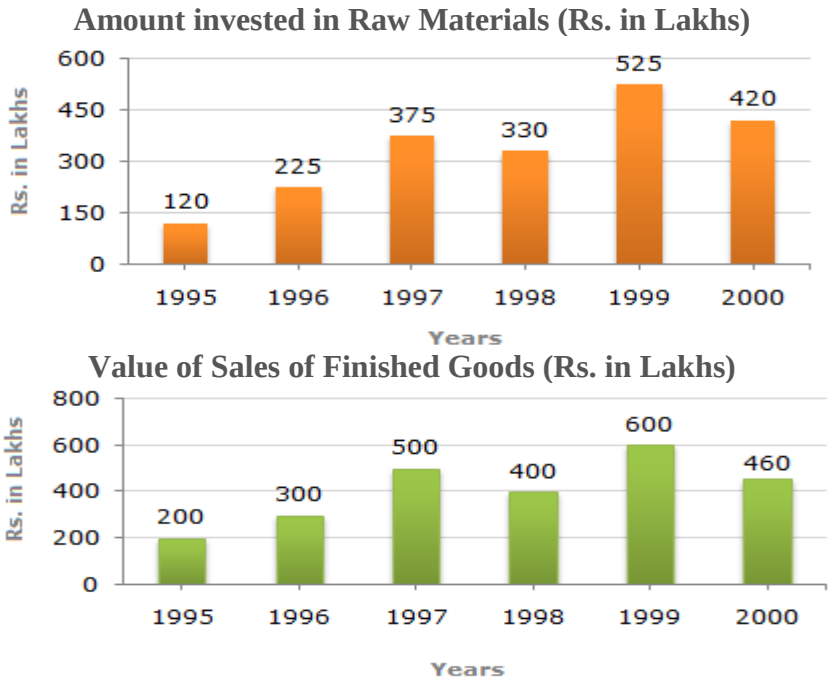
32. The foreign exchange reserve in 1997-98 was how many times that in 1994-95?
**A) 1.5**
B) 1.4
C) 1.2
D) 0.7

33. For which year, the percent increase of foreign exchange reserves over the previous year, is the highest?
    **A) 1992-93**
    B) 1996-97
    C) 1994-95
    D) 1993-94

34. The foreign exchange reserves in 1996-97 were approximately what percent of the average foreign exchange reserves over the period under review?
    A) 95%
    B) **125%**
    C) 115%
    D) 110%

35. What was the percentage increase in the foreign exchange reserves in 1997-98 over 1993-94?
    A) 620
    B) 200
    C) 150
    D) **100**

(36-40 QUESTIONS) Out of the two bar graphs provided below, one shows the amounts (in Lakh Rs.) invested by a Company in purchasing raw materials over the years and the other shows the values (in Lakh Rs.) of finished goods sold by the Company over the years.



36. The maximum difference between the amount invested in Raw materials and value of sales of finished goods was during the year?
    A) 1998
    **B) 1997**
    C) 1996
    D) 1995

37. The value of sales of finished goods in 1999 was approximately what percent of the sum of amount invested in Raw materials in the years 1997, 1998 and 1999?
    **A) 49%**
    B) 45%
    C) 37%
    D) 33%

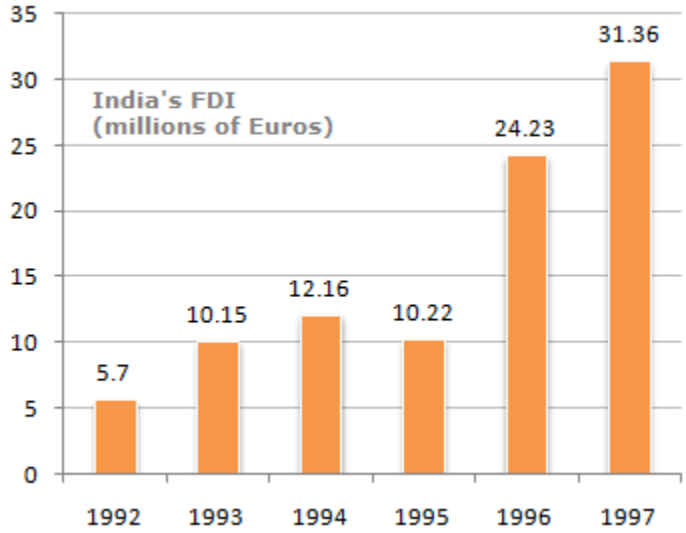
38. What was the difference between the average amount invested in Raw materials during the given period and the average value of sales of finished goods during this period?
    **A) Rs. 77.5 lakhs**
    **B)** Rs. 71.5 lakhs
    **C)** Rs. 68.5 lakhs
    **D)** Rs. 62.5 lakhs

39. In which year, the percentage change (compared to the previous year) in the investment on Raw materials is same as that in the value of sales of finished goods?
    A) 1999
    B) 1998
    **C) 1997**
    D) 1996

40. In which year, there has been a maximum percentage increase in the amount invested in Raw materials as compared to the previous year?
    A) 1999
    B) 1998
    C) 1997
    **D) 1996**

(41-45 QUESTIONS) The following bar chart shows the trends of foreign direct investments (FDI) into India from all over the world.

**Trends of FDI in India**




41. What was the ratio of investment in 1997 over the investment in 1992?
    A) 5.75
    B) 5.64
    **C) 5.50**
    D) 5.36

42. What was absolute difference in the FDI to India in between 1996 and 1997?
    **A)** 8.13
    **B)** 7.29
    **C) 7.13**
    **D)** None of these

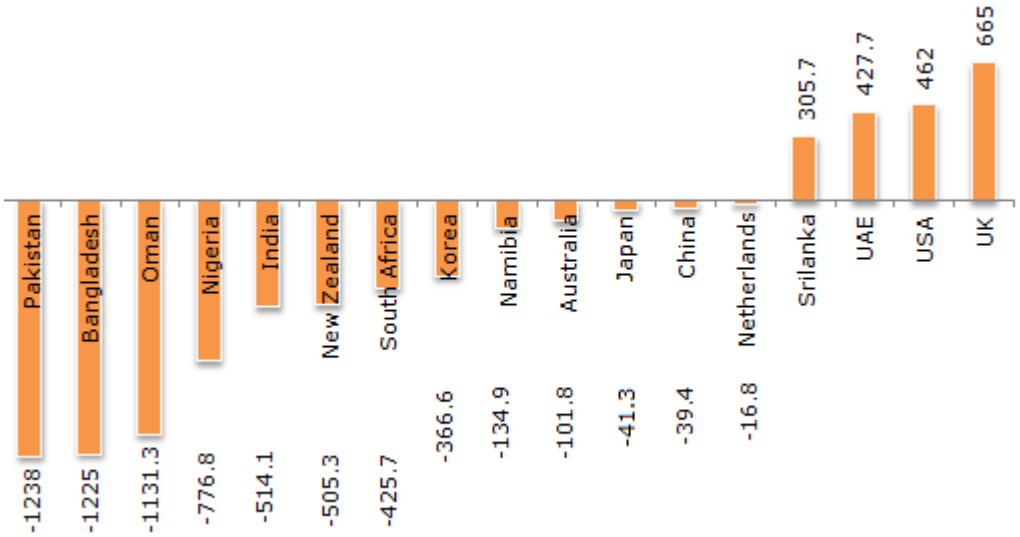
43. If India FDI from OPEC countries was proportionately the same in 1992 and 1997 as the total FDI from all over the world and if the FDI in 1992 from the OPEC countries was Euro 2 million. What was the amount of FDI from the OPEC countries in 1997?
    A) 11.5
    B) 11.28
    C) **11**
    D) 10.72

44. Which year exhibited the highest growth in FDI in India over the period shown?
    A) **1996**
    B) 1995
    C) 1994
    D) 1993

45. What was India's total FDI for the period shown in the figure?
    A) None of these
    **B) 93.82**
    C) 93.22
    D) 93.19

(46-50 QUESTIONS) The total of the first three deficit countries (in Rs. crores) = 3594.3. The total of next five deficit countries (in Rs. crores) = 2588.5. The total of the last five deficit countries (in Rs. crores) = 334.2.

**Cumulative Trade Deficit/Surplus of Countries for the Year 2006 - 2007 (All figures in Rs. Crores).**




46. The ratio between the difference between the highest and the lowest of the surplus countries to the difference between Bangladesh and Oman is?
    **A)** 4.5
    **B) 3.83**
    **C)** 3.44
    **D)** 2.96

47. The average of the total deficit of the middle five deficits is closest to the deficit of which country?
    **A)** UAE
    **B)** South Africa
    **C)** None of these
    **D) Korea**

48. The state whose surplus is nearly equal to the average of the four surplus countries is
    A) **USA**
    B) UK
    C) UAE
    D) Sri Lanka

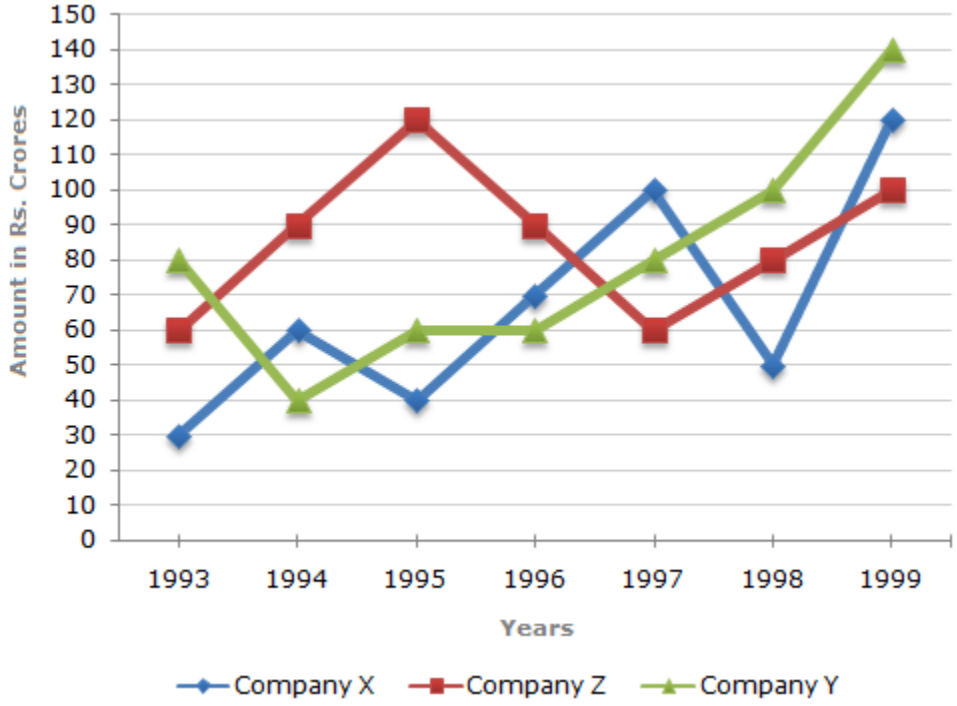
49. The ratio of the deficit of the first five deficit countries to the overall deficit of all the deficit countries is nearly equal to?
    A) 0.85
    B) 0.80
    C) **0.75**
    E) 0.72

50. The net total deficit/surplus is equal to?
    A) None of these
    B) 4656.6 surplus
    **C) 4656.6 deficit**
    D) 3836.5 deficit

# DATA INTERPRETATION – LINE CHART

(51-55 QUESTIONS) Study the following line graph and answer the questions.

**Exports from Three Companies over the Years (in Rs. crore)**




51. For which of the following pairs of years the total exports from the three Companies together are equal?
    A) 1997 and 1998
    B) 1996 and 1998
    C) 1995 and 1998
    **D) 1995 and 1996**

52. Average annual exports during the given period for Company Y is approximately what percent of the average annual exports for Company Z?
    **A) 93.33%**
    B) 91.21%
    C) 89.64%
    E) 87.12%

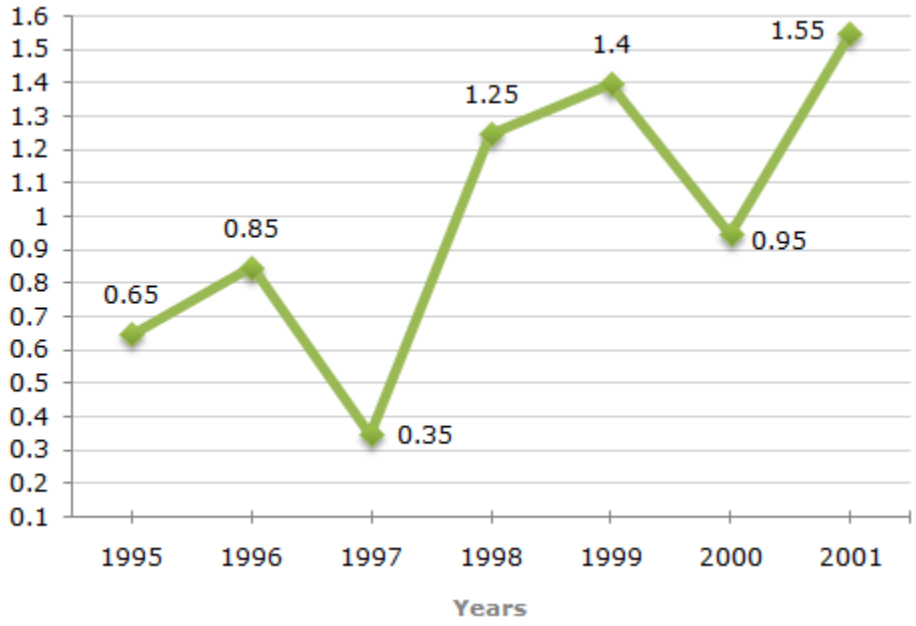
53. In which year was the difference between the exports from Companies X and Y the minimum?
    A) 1997
    **B) 1996**
    C) 1995
    D) 1994

54. What was the difference between the average exports of the three Companies in 1993 and the average exports in 1998?
    A) Rs. 22.17 crores
    **B) Rs. 20 crores**
    C) Rs. 18.67 crores
    D) Rs. 15.33 crores

55. In how many of the given years, were the exports from Company Z more than the average annual exports over the given years?
    A) 5
    **B) 4**
    C) 3
    D) 2

(56-60 QUESTIONS) The following line graph gives the ratio of the amounts of imports by a company to the amount of exports from that company over the period from 1995 to 2001.

**Ratio of Value of Imports to Exports by a Company Over the Years.**




56. If the import in 1998 was Rs. 250 crores and the total exports in the years 1998 and 1999 together was Rs. 500 crores, then the imports in 1999 was?
    **A) Rs. 420 crores**
    B) Rs. 357 crores
    C) Rs. 300 crores
    D) Rs. 250 crores

57. The imports were minimum proportionate to the exports of the company in the year?
A) 2000
**B) 1997**
C) 1996
D) 1995

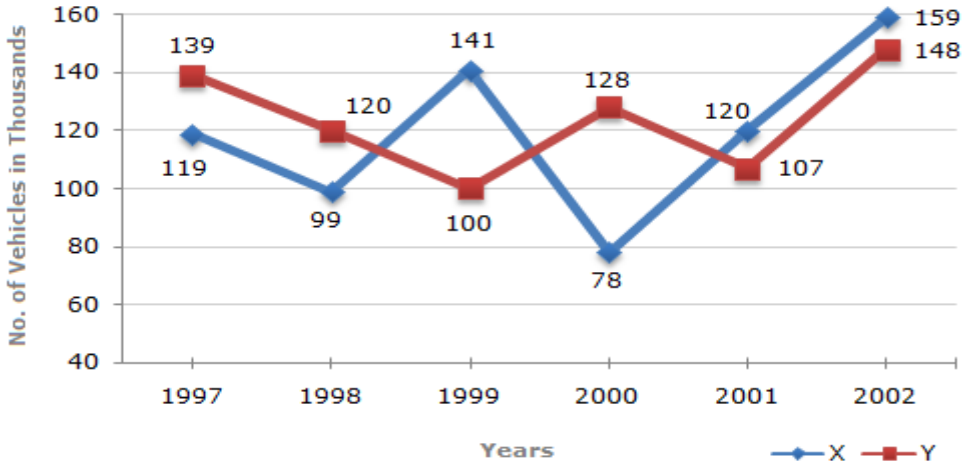
58. What was the percentage increase in imports from 1997 to 1998?
A) 72
B) 56
C) 28
**D) Data inadequate**

59. If the imports of the company in 1996 was Rs. 272 crores, the exports from the company in 1996 was?
A) Rs. 370 crores
B) **Rs. 320 crores**
C) Rs. 280 crores
D) Rs. 275 crores

60. In how many of the given years were the exports more than the imports?
A) **4**
B) 3
C) 2
D) 1

(61-65 QUESTIONS) Study the following line graph and answer the questions based on it.

**Number of Vehicles Manufactured by Two companies over the Years (Number in Thousands)**



61. What is the difference between the number of vehicles manufactured by Company Y in 2000 and 2001?
    A) 50000
    B) 42000
    C) 33000
    **D) 21000**

62. What is the difference between the total productions of the two Companies in the given years?
    A) 28000
    **B) 26000**
    C) 22000
    D) 19000

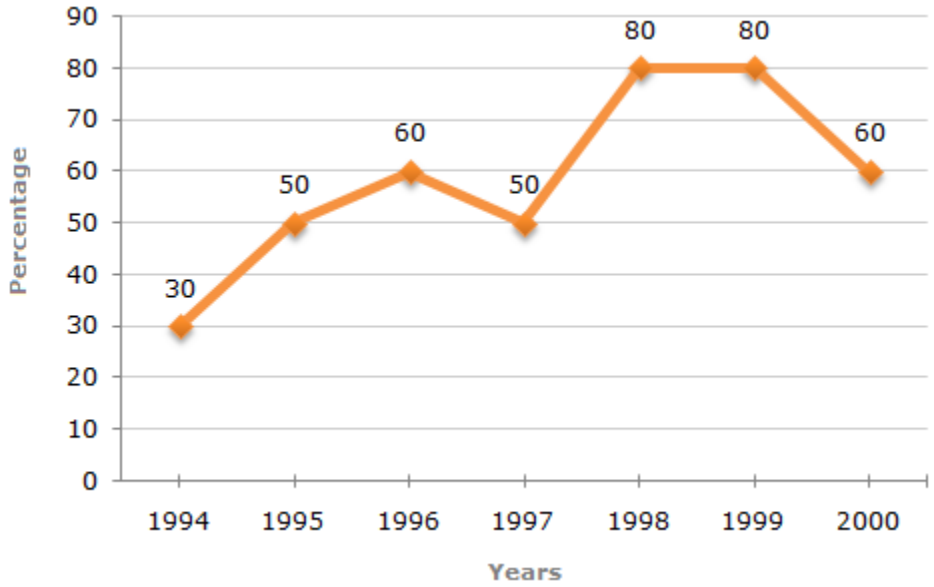
63. What is the average numbers of vehicles manufactured by Company X over the given period? (rounded off to nearest integer)
    **E) 119333**
    A) 113666
    B) 112778
    C) 111223

64. In which of the following years, the difference between the productions of Companies X and Y was the maximum among the given years?
    **A) 2000**
    B) 1999
    C) 1998
    E) 1997

65. The production of Company Y in 2000 was approximately what percent of the production of Company X in the same year?
    A) 97
    E) 173
    **B) 164**
    C) 132

(66-70 QUESTIONS) The following line graph gives the percentage of the number of candidates who qualified an examination out of the total number of candidates who appeared for the examination over a period of seven years from 1994 to 2000.

**Percentage of Candidates Qualified to Appeared in an Examination over the Years**




66. The difference between the percentages of candidates qualified to appeared was maximum in which of the following pairs of years?
    A) 1999 and 2000
    B) 1998 and 1999
    **C) 1997 and 1998**
    D) 1994 and 1995

67. In which pair of years was the number of candidates qualified the same?
    **E) Data inadequate**
    A) 1998 and 1999
    B) 1995 and 2000
    C) 1995 and 1997

68. If the number of candidates qualified in 1998 was 21200, what was the number of candidates appeared in 1998?
    A) 32000
    B) 28500
    C) **26500**
    D) 25000

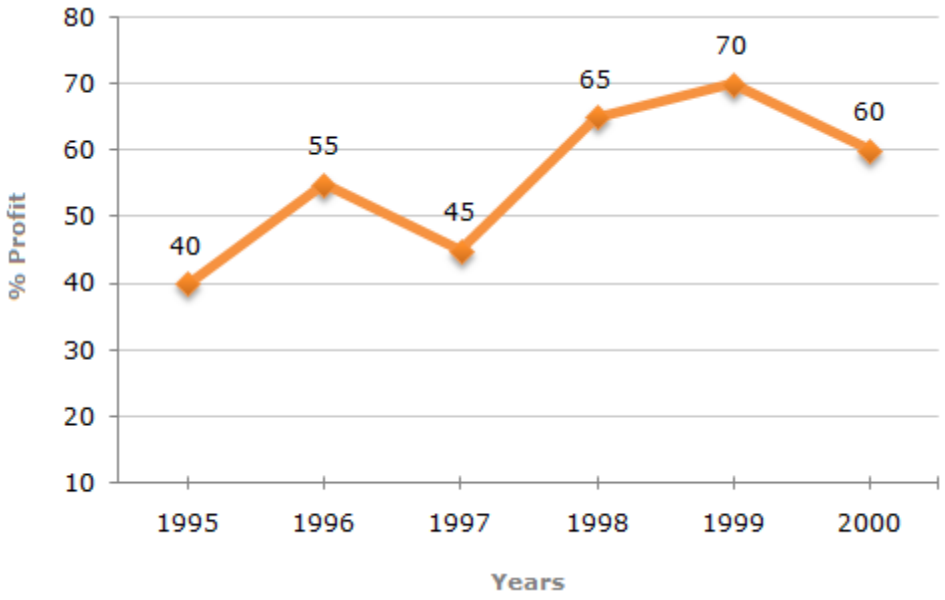
69. If the total number of candidates appeared in 1996 and 1997 together was 47400, then the total number of candidates qualified in these two years together was?
    A) **Data inadequate**
    B) 34700
    C) 32100
    D) 31500

70. The total number of candidates qualified in 1999 and 2000 together was 33500 and the number of candidates appeared in 1999 was 26500. What was the number of candidates in 2000?
    A) 24500
    B) 22000
    **C) 20500**
    D) 19000

(71-75 QUESTIONS) The following line graph gives the annual percent profit earned by a Company during the period 1995 - 2000.

**Percent Profit Earned by a Company over the Years.**

$$\%\text{Profit} = \frac{\text{Income - Expenditure}}{\text{Expenditure}} \times 100$$




71. If the expenditures in 1996 and 1999 are equal, then the approximate ratio of the income in 1996 and 1999 respectively is?
    **A) 9:10**
    B) 2:3
    C) 13:14
    D) 1:1

72. If the income in 1998 was Rs. 264 crores, what was the expenditure in 1998?
    E) Rs. 185 crores
    **A) Rs. 160 crores**
    B) Rs. 145 crores
    C) Rs. 104 crores

73. In which year is the expenditure minimum?
    E) **Cannot be determined**
    A) 2000
    B) 1997
    C) 1996

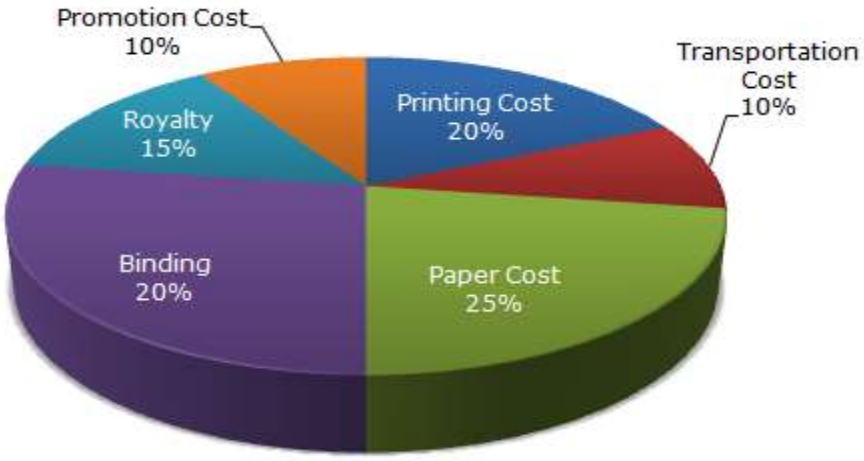
74. If the profit in 1999 was Rs. 4 crores, what was the profit in 2000?
    D) Rs. 6.8 crores
    A) Rs. 6.6 crores
    B) Rs. 4.2 crores
    C) **Cannot be determined**

75. What is the average profit earned for the given years?
    A) 60(1/6)
    **B) 55(5/6)**
    C) 50(2/3)
    D) 335

# DATA INTERPRETATION – PIE CHART

(76-80 QUESTIONS) The following pie-chart shows the percentage distribution of the expenditure incurred in publishing a book. Study the pie-chart and the answer the questions based on it.

**Various Expenditures (in percentage) Incurred in Publishing a Book**




76. If for a certain quantity of books, the publisher has to pay Rs. 30,600 as printing cost and then what will be amount of royalty to be paid for these books?
    A) Rs. 26,150
    B) Rs. **22,950**
    C) Rs. 21,200
    D) Rs. 19,450

77. What is the central angle of the sector corresponding to the expenditure incurred on Royalty?
    **A) 54°**
    B) 48°
    C) 24°
    D) 15°

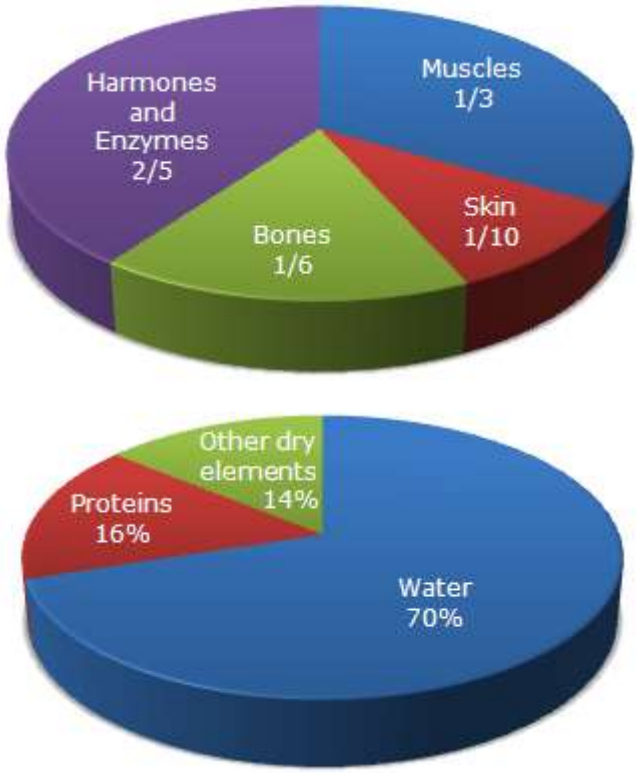
78. The price of the book is marked 20% above the C.P. If the marked price of the book is Rs. 180, then what is the cost of the paper used in a single copy of the book?
    A) Rs. 44.25
    B) Rs. 42
    **C) Rs. 37.50**
    D) Rs. 36

79. If 5500 copies are published and the transportation cost on them amounts to Rs. 82500, then what should be the selling price of the book so that the publisher can earn a profit of 25%?
    E) Rs. 191.50
    **F) Rs. 187.50**
    G) Rs. 180
    H) Rs. 175

80. Royalty on the book is less than the printing cost by:
    A) 5%
    B) 33 1/5%
    **C) 25%**
    D) 20%

(81-85 QUESTIONS) Study the following pie-diagrams carefully and answer the questions given below it:

**Percentage Composition of Human Body**




81. What percent of the total weight of human body is equivalent to the weight of the proteins in skin in human body?
    A) Data inadequate
    **B) 1.6**
    C) 0.16
    D) 0.016

82. What will be the quantity of water in the body of a person weighing 50 kg?
    A) 42.5 kg
    B) 41 kg
    **C) 35 kg**
    D) 20 kg

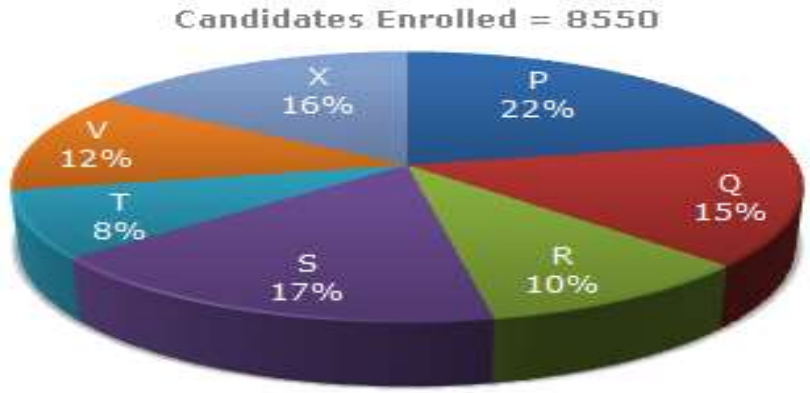
83. What is the ratio of the distribution of proteins in the muscles to that of the distribution of proteins in the bones?

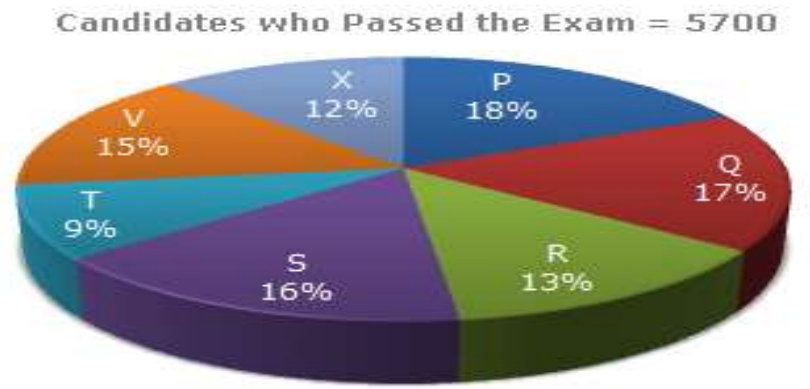
**A) 2 : 1**
B) 18 : 1
**C)** 1 : 2
D) 1 : 18

84. To show the distribution of proteins and other dry elements in the human body, the arc of the circle should subtend at the centre an angle of:
A) 54°
B) 252°
C) 126°
D) **108°**

85. In the human body, what part is made of neither bones nor skin?
A) **None of these**
B) 3/80
C) 2/5
D) 1/40

(91-95 QUESTIONS) Study the following graph carefully and answer the questions given below:
**Distribution of candidates who were enrolled for MBA entrance exam and the candidates (out of those enrolled) who passed the exam in different institutes:**



86. What percentage of candidates passed the Exam from institute T out of the total number of candidates enrolled from the same institute?
    A) 80%
    **B) 75%**
    C) 62.5%
    D) 50%

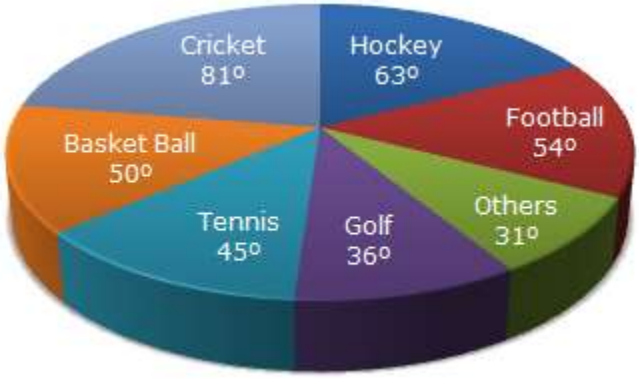
87. Which institute has the highest percentage of candidates passed to the candidates enrolled?
    A) V
    B) T
    **C) R**
    D) Q

88. The number of candidates passed from institutes S and P together exceeds the number of candidates enrolled from institutes T and R together by:
    A) 407
    **B) 399**
    C) 279
    D) 228

89. What is the percentage of candidates passed to the candidates enrolled for institutes Q and R together?
    **A) 80%**
    B) 74%
    C) 68%
    D) 65%

90. What is the ratio of candidates passed to the candidates enrolled from institute P?
    A) 9 : 17
    B) 9 : 11
    **C) 6 : 11**
    D) 14 : 17

(91-95 QUESTIONS) The circle-graph given here shows the spendings of a country on various sports during a particular year. Study the graph carefully and answer the questions given below it.




91. What percent of total spending is spent on Tennis?
    A) 45%
    B) 25%
    C) 22 ½%
    **D) 12 ½%**

92. How much percent more is spent on Hockey than that on Golf?
    **A) 75%**
    B) 37.5%
    C) 35%
    D) 27%

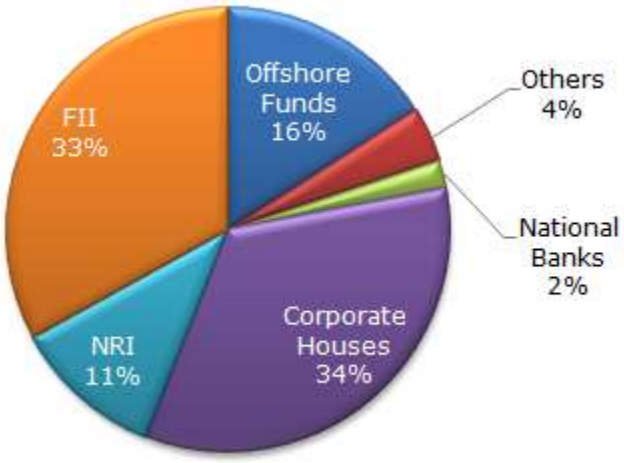
93. If the total amount spent on sports during the year be Rs. 1,80,00,000 , the amount spent on Basketball exceeds on Tennis by:
    A) **Rs. 2,50,000**
    B) Rs. 4,10,000
    C) Rs. 3,75,000
    D) Rs. 3,60,000

94. How much percent less is spent on Football than that on Cricket?
    E) 22 2/9%
    A) 27%
    B) **33 1/3%**
    C) 37 1/75%

95. If the total amount spent on sports during the year was Rs. 2 crores, the amount spent on Cricket and Hockey together was:
    A) **Rs. 80,00,000**
    B) Rs. 8,00,000
    C) Rs. 1,20,00,000
    D) Rs. 1,60,00,000

(96-100 QUESTIONS) The following pie chart shows the amount of subscriptions generated for India Bonds from different categories of investors.

**Subscriptions Generated for India Bonds**




96. In the corporate sector, approximately how many degrees should be there in the central angle?
    A) 123
    **B) 122**
    C) 121
    D) 120

97. If the investment by NRI's are Rs 4,000 crore, then the investments by corporate houses and FII's together is:
    A) 25,423 crore
    B) 25,643 crore
    C) 24,000 crore
    **D) 24,363 crore**

98. What percentage of the total investment is coming from FII's and NRI's?
    A) **44 %**
    B) 33 %
    C) 22 %
    D) 11 %

99. If the total investment other than by FII and corporate houses is Rs 335,000 crore, then the investment by NRI's and Offshore funds will be (approximately)?
    A) Cannot be determined
    B) 293,000
    C) 285,600
    D) **274,100**

100. If the total investment flows from FII's were to be doubled in the next year and the investment flows from all other sources had remained constant at their existing levels for this year, then what would be the proportion of FII investment in the total investment into India Bonds next year (in US $ millions)?

A) 70 %
B) 60 %
**C) 50 %**
D) 40 %

# CONTENT

## APTITUDE

# PROBLEMS ON TRAIN

1. The speed of a train is recorded at 60km per hour. Which crosses a pole in 9 seconds? What is the length of the train?

   A) 205 meters B)285 meters C)382 meters **D)150 meters**

2. The length of a train is 125 m long. It passes a man, running at 5 km/hr in the same direction in which the train is going. It takes the train 10 seconds to cross the man completely. Then the speed of the train is:

   A)55 km/h B) 35 km/h **C)50 km/h** D) 80 km/h

3. Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is:

   A)2:1 **B) 3:2** C)3:1 D) 2:2

4. The length of a bridge is 140m, a train 360m long is running at a speed of 45km/hr. In what time will it pass the bridge?

   A) 30 s B) 45 s **C)40 s** D)55 s

5. A train which is 130 meters long travels at a speed of 45 km /hr through a bridge. The length of the bridge is

   A) 302 B) 256 **C) 245** D) 253

6. Find the length of the train if it is running at a speed of 60km/hr and crosses the pole in 9 seconds.

   A) 230 meters B) 150 meters C) 135 metros **D) 150 meters**

7. A train 130km long moving at a speed of 45km/hr can cross in 30 seconds, then the length of the bridge is:

   A) 310 m B) 135 m C) 359 m **D) 250**

8. The speed of two trains moving in the opposite directions is 27 seconds and 17 seconds respectively. The two trains cross each other in 23 seconds. Find the ratio of their speed.

A) 2:2 **B )3:2** C) 2:5 D) Data insufficient

9. A train the length of which is 130 meters is moving at a speed of 45km/hr, find the total length of the bridge from where it is passing.

A) 200 m B) 155 m **C) 245 m** D) 654 m

10. Find the length of the train, if it crosses a pole in 9 seconds at 60km/hr.

A) 150 meters B) 340 meters **C)** 342 meters **D) 150 meters**

11. 130 meter long train travels at a speed of 45km/hr through a bridge in 30 seconds. Find the length of the bridge?

A) 320 m B) 415 m **C) 245 m** D) 279 m

12. Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is:

A) 2: 2 **B) 3: 2** C) 4: 2 D) Can't be determined

13. Find the length of the platform if a train passes through the station in 36 seconds, while a man standing on the platform in 20 seconds with a speed of 54 km/hr.

A) 235 m **B) 240 m** C) 258 m D) 198 m

14. A train whose length is 300 meter passes through a platform in 39 seconds. Find the length of the platform if the train crosses a single pole in 18 seconds.

A) 155 m B) 210 m **C) 350 m** D) 410 m

15. 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 54 km/hr, what is the length of the platform?

A) 180 m B) 280 m **C) 240 m** D) 180 m

16. Speed of the train is 90km/hr, if it crosses the platform in one minute. Find the length of the train.

A) 768 B) 545 C) 526 **D) 750**

17. A man is running at 6km/hr in the opposite direction to that of a train whose length is 110 m with a speed of 60km/hr. find the time of the train and that of the man in opposite direction.

A) 4 **B) 6** C) 9 D) 11

18. Find the length of the train which crosses the platform 100m long in 25 seconds and a pole in 15 seconds

A) 140 m B) 122 m C) 115 m **D) 150 m**

19. Find the length of the train if it crosses a platform which is 120m long in 15 seconds and another platform of length 180 m in 18 seconds.

A) 153 m **B) 180 m** C) 166 m D) 184 m

20. A train crosses two different platforms in different time, firstly it crosses 150 m long platform in 15 seconds and secondly 250m long platform in 20 seconds respectively. You have to find the length of the train.

**A) 150 m** B) 245 m C) 156m D) 187 m

21. Find the speed of the train if it's length is 400m and it crosses an electric pole in 20 seconds.

A) 86 Kmph B) 44 Kmph **C) 72 Kmph** D) 76 Kmph

22. Find the speed of the train if, two trains of lengths 400 m, 600 m respectively are running at same directions. The faster train can cross the slower train in 180 sec; the speed of the slower train is 48 km.

A) 60 Kmph **B) 68 Kmph** C) 69 Kmph D) 64 Kmph

23. Calculate the time taken by the train to cross a bridge 140m long if its length is 360m and speed is 45km/hr

A) 50 sec B) 25 sec **C) 40 sec** D) 65 sec

24. Find the length of a train if it crosses a pole in 9 seconds with a speed of 60 km/hr

**A) 150 m** B) 148 m C) 122 m D)150 m

25. Find the length of the platform if a train passes a station in 36 seconds that to a man standing on the platform in 20 seconds, at a speed of 54 km/hr.

A) 230 m **B) 240 m** C) 270 m D) 250 m

# PROBLEMS ON AREA

1. The area of a triangle with base 4m and height 5m?

   A) 21 sq m **B)10 sq m** C)4 sq m D) 2 sq m

2. The area of a triangle will be when a = 1m, b = 2m, c = 3m, a, b, c being lengths of respective sides.

   **A) 0 sq m** B) 2 sq m C) 1 sq m D)5 sq m

3. The length of each side of an equilateral triangle having an area of $4\sqrt{3}$ cm2 is?

   A)3/3 cm B) 2/4 cm C) 2 cm **D) 4 cm**

4. The altitude of an equilateral triangle of side $2\sqrt{3}$ cm is?

   A) 1/2 cm B) 6/2 cm C) 2/4 cm **D) 3 cm**

5. The base of a right triangle is 8 and hypotenuse is 10. Its area is?

   A) 32 B) 60 C) 49 **D)24**

6. The sides of a triangle are in the ratio 5: 12: 13 and its perimeter is 300 m, its area is?

   **A)3000 sq m** B)3227 sq m C)3325 sq m D)3650 sq m

7. What is the area of square field whose side of length 15 m?

   **A)225 sq m** B)210 sq m C)120 sq m D)36 sq m

8. . What is the area of a square field who's diagonal of length 20 m?

   A) 50 sq m B) 53 sq m **C) 200 sq m** D) 410 sq m

9. What is the perimeter of a square field whose diagonal is $8\sqrt{2}$?

   A) 63 m **B) 32 m** C)33 m D) 17 m

10. What is the perimeter of a square field whose diagonal is $8\sqrt{2}$?

    A) 63 m B)32 m C) 31 m **D) 16 m**

11. The perimeter of one square is 48 cm and that of another is 20 cm. Find the perimeter and the diagonal of a square which is equal in area to these two combined?

    A)$15\sqrt{3}$ cm **B)$13\sqrt{2}$ cm** C) $16\sqrt{3}$ cm D) $17\sqrt{1}$ cm

12. If the perimeter of a rectangular garden is 600 m, its length when its breadth is 100 m is?

    A)550 m B) 400 m **C)200 m** D) 200 m

13. A rectangular field has area equal to 150 sq m and perimeter 50 m. Its length and breadth must be?

    A)13 m, 10 m B) 13 m, 14 m C)14 m, 10 m **D) 15 m, 10 m**

14. A man walked 20 m to cross a rectangular field diagonally. If the length of the field is 16 cm. Find the breadth of the field is?

    A) 21 m **B) 12 m** C)11 m D) 13 m

15. Sides of a rectangular park are in the ratio 3: 2 and its area is 3750 sq m, the cost of fencing it at 50 ps per meter is?

    A) Rs.155 B) Rs.105 **C) Rs.125** D) Rs.174

16. How many paying stones, each measuring 2 1/2 m * 2 m are required to pave a rectangular court yard 30 m long and 16 1/2 m board?

    **A) 99** B) 98 C) 85 D) 200

17. Find the number of square tiles to cover the floor of a room measuring 4 m * 9 m leaving 0.25 m space around the room. A side of square tile is given to be 25 cms?

    A) 415 **B) 476** C) 440 D) 380

18. A rectangular farm has to be fenced one long side, one short side and the diagonal. If the cost of fencing is Rs.10 per meter. The area of farm is 1200 m2 and the short side is 30 m long. How much would the job cost?

    A) Rs.720 **B) Rs.1200** C) Rs.1100 D) Rs.1300

19. The length of the rectangular field is double its width. Inside the field there is square shaped pond 8m long. If the area of the pond is 1/8 of the area of the field. What is the length of the field?

    A) 21 m **B)32 m** C) 26 m D)21 m

20. The area of a square field 3136 sq m, if the length of cost of drawing barbed wire 3 m around the field at the rate of Rs.1.50 per meter. Two gates of 1 m width each are to be left for entrance. What is the total cost?

    A) Rs.1114 B) Rs.1040 **C) Rs.999** D) Rs.1285

21. The length of rectangle is thrice its breadth and its perimeter is 96 m, find the area of the rectangle?

    **A) 432 sq m** B)355 sq m C) 453 sq m D) 427 sq m

22. A rectangular grass field is 75 m * 55 m, it has a path of 2.5 m wide all round it on the outside. Find the area of the path and the cost of constructing it at Rs.2 per sq m?

    **A) 675, Rs.1350** B) 565, Rs.1350 C)1250, Rs.675 D) None

23. A rectangular lawn of dimensions 80 m * 60 m has two roads each 10 m wide running in the middle of the lawn, one parallel to the length and the other parallel to the breadth. What is the cost of traveling the two roads at Rs.3 per sq m?

A) Rs.2600 B)Rs.2700 C)Rs.1800 **D) Rs.3900**

24. The length of a rectangle is increased by 25% and its breadth is decreased by 20%. What is the effect on its area?

**A) Remains same** B) 6% decrease C)4% increase D) 20% increase

# PROBLEMS ON COMPOUND INTEREST

1. Find the compound interest and the amount on Rs.8000 at 5% per annum for 3 years when C.I is reckoned yearly?
   A. **Rs.1261**
   B. Rs.3440
   C. Rs.2185
   D. Rs.1342

2. If Rs.7500 is borrowed at C.I at the rate of 4% per annum, then after 2 years the amount to be paid is?
   A. Rs.8182
   B. Rs.7802
   C. Rs.8109
   D. **Rs.8112**

3. Find out the C.I on Rs.5000 at 4% p.a. compound half-yearly for 1 1/2 years.
   A. Rs.420.10
   B. Rs.319.00
   **C. Rs.306.04**
   D. Rs.1294.75

4. Rs.8000 become Rs.9261 in a certain interval of time at the rate of 5% per annum of C.I. Find the time?
   A. 3 years
   B. 5 years
   C. 1 years
   D. **3 years**

5. At the end of three years what will be the compound interest at the rate of 10% p.a. on an amount of Rs.20000?
   A. **Rs.6620**
   B. Rs.5500
   C. Rs.4800
   D. Rs.3400

6. Find the C.I. on a sum of Rs.1600 for 9 months at 20% per annum, interest being compounded quarterly?
   A. Rs.16684
   B. Rs.2684
   C. **Rs.2522**
   D. Rs.3418

7. Simple interest on a sum at 4% per annum for 2 years is Rs.80. The C.I. on the same sum for the same period is?
   A. **Rs.81.60**
   B. Rs.165
   C. Rs.1082.60
   D. Rs.100

8. The C.I. on a certain sum for 2 years Rs.41 and the simple interest is Rs.40. What is the rate percent?
   A. 3%
   B. **5%**
   C. 5%
   D. 7%

9. The sum of money at compound interest amounts to thrice itself in 3 years. In how many years will it be 9 times itself?
   A. 11
   B. 10
   C. 8
   **D. 6**

10. A sum of money place at compound interest doubles itself in 4 years. In how many years will it amount to eight times itself?
   A. 11
   B. 18
   **C. 12**
   D. 21

11. A sum of money deposited at C.I. amounts to Rs.2420 in 2 years and to Rs.2662 in 3 years. Find the rate percent?
   A. 15%
   B. **10%**
   C. 2 1/2 %
   D. 6%

12. Find the sum lend at C.I. at 5 p.c per annum will amount to Rs.441 in 2 years?
   A. Rs.430
   **B. Rs.400**
   C. Rs.365
   D. Rs.320

13. A property decreases in value every year at the rate of 6 1/4% of its value at the beginning of the year its value at the end of 3 years was Rs.21093. Find its value at the beginning of the first year?
   A. **Rs.25600.24**
   B. Rs.12000.50

C. Rs.28060.36
D. Rs.68600

14. Find the least number of complete years in which a sum of money put out at 25% compound interest will be more than double of itself?
    A. 5 years
    B. 2 years
    C. 1 year
    D. **4 years**

15. The difference between simple interest and C.I. at the same rate for Rs.5000 for 2 years in Rs.72. The rate of interest is?
    A. 20%
    B. **12%**
    C. 3%
    D. 4%

16. The difference between compound and simple interest on a certain sum of money for 3 years at 6 2/3% p. a is Rs.184. Find the sum?
    A. Rs.13000
    B. Rs.13200
    C. Rs.17530
    D. **Rs.13500**

17. A sum of money is put out at compound interest for 2 years at 20%. It would fetch Rs.482 more if the interest were payable half-yearly, then it were pay able yearly. Find the sum.
    A. Rs.4020
    B. Rs.10010
    C. Rs.1253
    **D. Rs.2000**

18. Find the sum the difference between the compound and S.I. on a certain sum of money for 2 years at 10% per annum is Rs.15of money?
    A. **1500**
    B. 1860
    C. 2140
    D. 1910

19. The difference between the compound interest compounded annually and simple interest for 2 years at 20% per annum is Rs.144. Find the principal?
    A. Rs.3100
    B. Rs.3200
    C. **Rs.3600**

D. Rs.3700

20. What sum of money put at C.I amounts in 2 years to Rs.8820 and in 3 years to Rs.9261?
    A. **Rs.8000**
    B. Rs.6400
    C. Rs.5500
    D. None

21. Find the amount on Rs.8000 in 9 months at 20% per annum, if the interest being compounded quarterly?
    A. Rs.2261
    B. **Rs.9261**
    C. Rs.9221
    D. Rs.9862

22. Every year an amount increases by 1/8th of itself. How much will it be after two years if it's present value is Rs.64000?
    A. **Rs.81000**
    B. Rs.81100
    C. Rs.75200
    D. Rs.64300

23. Rajan borrowed Rs.4000 at 5% p.a compound interest. After 2 years, he repaid Rs.2210 and after 2 more year, the balance with interest. What was the total amount that he paid as interest?
    A. **Rs.635.50**
    B. Rs.113.5
    C. Rs.375.0
    D. Rs.253.50

24. Indu gave Bindu Rs.1250 on compound interest for 2 years at 4% per annum. How much loss would Indu has suffered had she given it to Bindu for 2 years at 4% per annum simple interest?
    A. Rs.16
    B. **Rs.2**
    C. Rs.4
    D. Rs.20

25. In one year, the population, of a village increased by 10% and in the next year, it decreased by 10%. If at the end of 2nd year, the population was 7920, what was it in the beginning?
    A. 8501
    B. **8000**
    C. 81001
    D. 1400

# ALLEGATION OR MIXTURE

1. A bowl is filled with liquid, 3 parts of which are water and 5 parts syrup. How much of the mixture must be drawn off and replaced with water so that the mixture may be half water and half syrup?
   a) 1/2
   b) 1/6
   **c) 1/5**
   d) 1/9

2. 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) 15
   B) 28
   **C) 21**
   D) 35
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) 27:36:6
   D) 11:45:7

4. In what ratio must a grocer mix two varieties of pulses costing Rs. 15 and Rs. 20 per kg respectively so as to get a mixture worth Rs. 16.50 kg?
   A) 4:5
   B) 5:6
   **C) 7:3**
   D) 7:9

5. We have a 630 ml mixture of milk and water in the ratio 7:2. How much water must be added to make the ratio 7:3
   **A) 70ml**
   B) 65ml
   C) 85ml
   D) 55ml
6. Teas worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety of tea in the ratio 1: 1: 2. If the mixture is worth Rs. 153 per kg, what is the price of the third variety per kg?
   A) Rs.162.50

B) Rs.270.5
**C) Rs.175.50**
D) Rs.185

7. A liter is 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 the water is 16: 65. How much wine the cask hold originally?
   A) 6 liters
   **B) 24 litters**
   C) 52 liters
   D) 92liters

8. A can contains a mixture of two liquids A and B in the ratio 7 : 5. When 9 liters of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7: 9. How many liters of liquid A were contained by the can initially
   A) 15
   B) 35
   **C) 25**
   D) 40

9. A merchant has 1000 kg of sugar part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The Quantity sold at 18% profit is
   A) 420 kg
   B) 500 kg
   **C) 600 kg**
   D) 630 kg

10. In what proportion water must be added to spirit to gain 20% by selling it at the cost price?
    **A) 1:5**
    B) 2:4
    C) 1:4
    D) 1:7

11. Milk and water are mixed in a vessel A as 4:1 and in vessel B as 3:2. For vessel C, if one takes equal quantities from A and B, find the ratio of milk to water in C.
    A) 1:8
    B) 9:2
    C) 3:6
    **D) 7:3**

12. How much Pepsi at Rs.6 a liter is added to 15 liter of 'dew' at Rs. 10 a liter so that the price of the mixture be Rs.9 a liter
    **A) 5**
    B) 7
    C) 20
    D) None of these

13. The amount of water (in ml) that should be added to reduce 9 ml lotion, containing 50% alcohol, to a lotion containing 30% alcohol is.
    **A) 6 ml**
    B) 10 ml
    C) 19 ml
    D) 8 ml

14. 4 kg of a metal contains 1/5 copper and rest in Zinc. Another 5 kg of metal contains 1/6 copper and rest in Zinc. The ratio of Copper and Zinc into the mixture of these two metals:
    A) 29:321
    B) 49:221
    C) 84:561
    **D) None of these**

15. Teas worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety of tea in the ratio 1: 1: 2. If the mixture is worth Rs. 153 per kg, what is the price of the third variety per kg?
    A) Rs.162.50
    B) Rs.150.5
    C) **Rs.175.50**
    D) Rs.190

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

17. Two vessels A and B contain spirit and water in the ratio 5 : 2 and 7 : 6 respectively. Find the ratio in which these mixtures be mixed to obtain a new mixture in vessel C containing spirit and water in the ratio 8 : 5?
    A) 6litres, 8 litres
    B) 5litres, 3 litres

C) 5litres, 2 litres
D) **4litres, 8 litres**

18. The cost of Type 1 material is Rs. 15 per kg and Type 2 material is Rs.20 per kg. If both Type 1 and Type 2 are mixed in the ratio of 2: 3, then what is the price per kg of the mixed variety of material?
    A) Rs.15
    B) Rs.11
    C) **Rs.18**
    D) Rs.19

19. Find the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 a kg to produce a mixture worth Rs. 6.30 a kg.
    A) 5:2
    B) 5:4
    C) **2:3**
    D) 3:6

20. In what ratio should 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) 8:8
    B) **8:7**
    C) 5:7
    D) 7:5

21. In what ratio must tea worth Rs. 60 per kg be mixed with tea worth Rs. 65 a kg such that by selling the mixture at Rs. 68.20 a kg, there can be a gain 10%?
    A) **3:2**
    B) 2:2
    C) 4:4
    D) 3:1

22. In what ratio must water be mixed with milk costing Rs.12 per litre in order to get a mixture worth of Rs.8 per litre?
    A) 1:2
    B) 2:4
    C) **1:2**
    D) 3:5

23. John bought 20 kg of wheat at the rate of Rs.8.50 per kg and 35 kg at the rate of Rs.8.75 per kg. He mixed the two. Approximately at what price per kg should he sell the mixture to make 40% profit at the cost price?
    A) **1:3**
    B) 3:2

C) 2:2
D) 3:5

24. Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1 : 1 : 2. If the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be:
A) Rs.160.25
B) Rs.185
**C) Rs. 175.50**
D) Rs. 150

25. A trader has 1600 kg of sugar. He sells a part at 8% profit and the rest at 12% profit. If he gains 11% on the whole, find the quantity sold at 12%.
**A) 1200**
B) 1500
C) 1680
D) 500

# PROBLEMS ON PERMUTATIONS AND COMBINATIONS

**1.** Find the value of $^{50}P_2$
a. 4500
b. 3260
**c. 2450**
d. 1470

2**.** How many words can be formed by using letters of the word 'DELHI'?
a. 50
b. 72
c. 85
**d. 120**

3. Find the number of ways the letters of the word 'RUBBER can be arranged?
a. 450
b. 362
c. 250
**d. 180**

4**.** Find in how many different ways, the letters of the word 'LEADING' can be arranged in such way that the vowels always come together?
a. 548
b. 426
**c. 720**
d. 790

5**.** Find the value of $^{20}C_{17}$
a. 1260
**b. 1140**
c. 2580
d. 3200

6**.** Out of 5 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?
a. 60
b. 1200
c. 5230
**d. 7200**

**7.** A bag contains 2 white marbles, 3 black marbles and 4 red marbles. Find in how many ways, 3 marbles can be drawn, so that at least one black marble is included in each draw?
**a. 64**
b. 52
c. 58

d. 36

8. Arrange the letters of the word "DARKER" so that the three vowels do not appear together. In how many ways can this be done?
a.240
b.360
**c. 500**
d.720

9. In a box there are coins marked 0, 2, 3, 4, 5, 6, 8. Without repeating any digit, how many numbers can you form in the range 500 - 1000 (excluding 500 and 1000).
**a. 60**
b. 70
c. 90
d. 147

10. There are 8 friends sitting in a café. In how many ways can you form a group of 4 people so that
i. Two particular friends are definitely there
ii. Two particular members are definitely not there
a. 15 and 15
**b. 15 and 360**
c. 30 and 360
d. 360 and 360

11. Priyanka wants to attend Grammy awards at London and National awards at Delhi before heading to the UNICEF Summit in Berlin. 8 flights come from London to Delhi through different routes and 6 flights fly from Delhi to Berlin through 6 different routes. Find the number of ways in which Priyanka can reach from London to Berlin through Delhi.
a. 14
**b. 24**
c. 48
d. 100

12. Out of the 35 players attending the opening ceremony of an event there are 12 cricketers, 10 wrestlers, 5 badminton players and 8 hockey players. The management wants a cricketer or a wrestler to lead the group in the parade. In how many ways can this be done?
a. 1/2
**b. 13**
c. 22
d. 35

13. A television show was attended by 12 well known celebrities. Each one of them shook hands with each other once at the beginning of the show. Find the number of handshakes that took place on the show.
**a. 24**

b. 66
c. 120
d. 132

14. Electricity department needs to generate bills for a locality. They decide the bill no. to be a 6 digit number with 4 and 7 fixed as first and last digits. No digits should be repeated anywhere in the bill number. 4 denote station number and 7 denote the area. How many such bill numbers can the electricity department generate?
a. 890
b. 1680
**c. 5040**
d. 10080

15. A cricket group of 6 members is to be formed from Academy A. The members of the group are to be from 3 bowlers, 4 batsman and 5 coaches. How many ways are possible to form the group so that it has either 3 coaches and 3 batsman or 2 bowlers and 4 coaches.
a. 27
b. 55
**c. 90**
d. 144

16. There are 20 stops for the local trains running between Church gate and Virar. A passenger travelling between any two stops needs to buy a ticket. How many types of tickets are required to be made to meet all the possibilities?
a. 72
b. 190
c. 380
**d. 760**

17. 19 ladies are there in a group. Find the number of ways, in which they can be made to stand in 2 circles of 9 and 10 ladies?
a. 9! X 8!
b. **$^{19}C_{10}$ x 9! X 8!**
c. $^{19}C_9$ x 9! X 10!
d. None of the above

18. Ravi's teacher asked him to make 5 digit numbers using 1, 2, 3, 4, 5 such that each number begins with 13 and none of the digits are repeated. How many such numbers can he form?
a. 3
b. 5
**c. 6**
d. 7

19. From a group of 6 boys and 4 girls, a committee is to be formed in such a way that at most 2 girls are a part of the committee. In how many ways can this be done?
a. 124

b. 132
**c. 174**
d. 186

20. In how many ways can you arrange the letters of the word 'ALPHABET' so that the alphabet 'A' is always at the beginning and alphabet 'T' is at the end?
a. 500
b. 550
c. 664
**d. 720**

21. I have a circle with 12 points on it. Using these points, how many cyclic quadrilaterals can you draw?
a. 295
b. 394
c. 495
**d. 595**

22. The teacher asked Kiran to rearrange the letters of the word 'WOMEN' in a fashion such that when consonants occupy the odd places, the vowels occupy the even places
**a. 10**
b. 12
c. 13
d. 14

23. The cultural committee of a club comprising 4 members is to be formed. There are total 8 volunteers - 5 men and 3 women. What is the probability of having equal number of male and female members in the committee?
a. 2/21
b. 5/21
**c. 1/7**
d. 1/3

24. A question needs the student to arrange the letters of the word "RUMOUR" in different ways. How many ways are possible?
a. 30
**b. 90**
c. 180
d. 720

25. You have to use the digits 2, 3, 5, 6, 7 and 9 and without repeating the digits, form three digit numbers that are divisible by 5. How many such numbers can you form?
a. 5
**b. 10**
c. 15
d. 20

26. A security group is to be formed from 7 male and 6 female commandos. At least 3 males should be there in the group. In how many ways can you form this group?
a. 564
**b. 645**
c. 735
d. 756

27. Condition: The vowels should always appear together.
Word given: "AUCTION"
How many arrangements can you form from the letters of the given word to satisfy the given condition?
a. 30
b. 48
**c. 144**
d. 576

# PROBLEMS ON VOLUME

1. A magician has a box of dimensions 10cm X 12cm X 8 cm. What can be the maximum length of the magic wand that he can keep in this box?
   **A. 277 cm**
   B. 10 cm
   C. 12 cm
   D. 1411 cm

2. I have a big box of volume 8160 cu.cm. How many small pizza boxes of dimension 4cm X 3cm X 2 cm can I store in this big box?
   A. 310
   B. 320
   **C. 340**
   D. 375

3. The dimensions of a wooden plank are in the ration 6:5:3. Its surface area is 504 sq. m. Find the breadth of the plank.
   A. 23 sq.m
   B. 53 sq.m
   **C. 102 sq.m.**
   D. 22 sq.m.

4. What is the fall in the surface area of a cube if each of its sides is reduced by 21%?
   A. -33.33%
   B. 21%
   **C. 37.59%**
   D. 38.47%

5. The ratio of the dimensions of two cylindrical drums is as follows.
   Radii - 4:7
   Heights - 21:8
   Find the ratio of their volumes**.**
   A. 2:3
   B. 3:2
   **C. 6:7**
   D. 7:6

6. A company wants its sticker to be pasted on the outer surface of open drums it produces, leaving the top and the bottom bare. Dimensions of the drum are, diameter 40 cm and height 7 m. The cost of putting up these stickers is Rs 20/sq.m. Find the total cost of putting up the sticker on the drum.
   **A. Rs. 176**
   B. Rs. 352

C. Rs. 384
D. Rs. 480

7. Rajat makes 8 open cones of height 24 cm and slant height 25 cm from a sheet of thick paper. Find the area of the sheet.
A. 550 sq. m.
**B. 4400 sq. m.**
C. 6000 sq. m.
D. 6236 sq.m.

8. For the festive season, Rajesh wants to change the look of the conical caps he produces. While keeping the volume same, he want to increase their height to 9 times. What will be its effect in the radius?
A. Reduce to 1/9th
**B. Reduce to 1/3rd**
C. Increase to 3 times
D. Increase by 18 times

9. A spherical ball has a surface area of 792 sq. m. Find its volume
A. 7 sq.cm.
**B. 792/7 cu.cm.**
C. 792π/7 cu.cm.
D. 792 cu.cm.

10. 14 wooden boards of 2 cm thickness each are piled one above the other. On top of the $14^{th}$ plate is kept a hemisphere that just covers it. Its diameter is 6 cm. Find the volume of the object we have just created.
A. 81 cu.cm
B. 144π cu.cm.
**C. 270π cu.cm.**
D. 360π cu.cm.

11. What is the mass of the man, if a boat of length 4m, width 1.5m floating on a river sinks by 0.015 m when the man gets on the boat?
A) 100kg
**B) 90kg**
C) 80kg
D) 70kg

12. For a rectangular box, what is the product of the areas of the 3 adjacent faces that meet at a point?
A) Volume Of The Box
B) Twice The Volume Of The Box
C) Half Of The Volume Of The Box
**D) Square Of The Volume Of The Box**

13. Find the number of cubes of 2cm edge will be required to fill a cubical box of 2m edge**.**

A) $10^5$
B) $10^3$
C) $10^4$
**D) $10^6$**

**14.** What is the ratio of the volumes of a right cylinder to that of a right cone having equal diameters?

A) 1:3
**B) 3:1**
C) 2:3
D) 3:2

**15.** A copper wire having 0.20 cm as the radius of its circular section is one-meter long. It is melted and spherical balls of radius 0.20 cm are made. The number of balls that can be made is……

(A) 300
**(B) 375**
(C) 275
(D) 350

**16**. The altitude of a circular cylinder is increased six times and the base area is decreased to one-ninth of its value. The factor by which the lateral surface of the cylinder increases is….

(A) ½ m
(B) 2/3 m
(C) 3/2 m
**(D) 2 m**

**17.** A circular pipe is to be so designed that water flowing through it at a velocity of 4 meters per minutes is collected at its open end of 11 cubic meters per minute. What should be the inner radius of the pipe?

(A) ½ m
(B) 1/Ö2 m
**(C) 02m**
(D) 2 m

**18.** The radii of the bases of a cylinder and a cone are in the ratio 3: 4. If height of the cylinder and cone are in the ratio 2: 3, then their volumes are in the ratio….

**(A) 9: 8**
(B) 8: 9
(C) 3: 4
(D) 4: 3

**19.** If area of the diagonal section of a cube is equal to 4Ö2 cm², then edge of the cube is….
(A) 4 cm
(B) 3 cm
(C) 2Ö2 cm
**(D) 2 cm**

**20.** If length, breadth and height of a rectangular solid are 10 cm, 5 cm, and 2 cm respectively, then its whole surface area in sq. cms. is….
(A) 7
(B) 70
**(C) 160**
(D) 280

21. In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of ground is:
A)75 $m^3$
**B) 750 $m^3$**
C) 7500 $m^3$
D) 75000 $m^3$

22.A boat having a length 3 m and breadth 2 m is floating on a lake. The boat sinks by 1 cm when a man gets on it. The mass of the man is:
A) 12 kg
**B) 60 kg**
C) 72 kg
D) 96 kg

23. The perimeter of one face of a cube is 20 cm. Its volume will be:
**A) 125$cm^3$**
B) 400$cm^3$
C) 250$cm^3$
D) 625$cm^3$

24. How many cubes of 10 cm edge can be put in a cubical box of 1 m edge.
A)10000 cubes
**B)1000 cubes**
C)100 cubes
D)50 cubes

25. How many spherical bullets can be made out of a lead cylinder 28 cm, high and with base radius 6 cm, each bullet being 1.5 cm. in diameter.
a) 1492
a) 1592
b) 1692
**c) 1792**

## PROBLEMS ON SIMPLE INTERST

1. Find the principle on a certain sum of money at 5% per annum for 2 2/5 years if the amount being Rs.1120?
   **A) Rs.1000 B**) Rs.3200 C) Rs.1650 D) Rs.1300

2. What sum of money will produce Rs.70 as simple interest in 4 years at 3 1/2 percent?

   A) Rs.525 **B) Rs.500** C) Rs.550 D) Rs.555

3. At what rate percent on simple interest will Rs.750 amount to Rs.900 in 5 years?

   A) 2% B) 1/2% **C) 4% D**) 4 1/2 %

4. What is the rate percent when the simple interest on Rs.800 amount to Rs.160 in 4 Years?

   **A) 5%** B) 1% C) 5 1/2% D) 2 1/2 %

5. Find the simple interest on Rs.500 for 9 months at 6 paisa per month?

   A) Rs.326 **B) Rs.270** C) Rs.275 D) Rs.325

6. A certain sum amounts to Rs.1725 in 3 years and Rs.1875 in 5 years. Find the rate % per annum?

   A) 3% **B) 5%** C) 5% D) 5%

7. At what rate percent on simple interest will a sum of money double itself in 30 years?

   **A) 3 1/3 %** B) 1 1/2% C) 3 % D) 3 1/2 %

8. A certain sum of money at simple interest amounted Rs.840 in 10 years at 3% per annum, find the sum?

   A) Rs.620 B) Rs.625 C) Rs.615 **D) None**

9. What time a sum of money double itself at 3% per annum simple interest?

   A)38 years **B) 33 1/3 years** C)4 2/3 years D) 12 3/3 years

10. The simple interest on a sum of money will be Rs.600 after 10 years. If the principal is trebled after 5 years what will be the total interest at the end of the tenth year?

    A) Rs.851 B) Rs.951 **C) Rs.1200** D) Rs.1420

11. Sonika deposited Rs.8000 which amounted to Rs.9200 after 3 years at simple interest. Had the interest been 2% more. She would get how much?

    **A)Rs.9680** B) Rs.9660 C) Rs.9180 D)Rs.9400

12. If x is the interest on y and y is the interest on z, the rate and time is the same on both the cases. What is the relation between x, y and z?

A) xyz = 1 B) $X^2$ = xx **C)$Y^2$ = xz** D)$Z^2$ = xy

13. Rs.2500 is divided into two parts such that if one part be put out at 5% simple interest and the other at 6%, the yearly annual income may be Rs.140. How much was lent at 5%?

A) Rs.1502 B)Rs.1303 C) Rs.1100 **D) Rs.1000**

14. If Re.1 amounts to Rs.9 over a period of 20 years. What is the rate of simple interest?

A) 23 2/3 % B) 33 % C) 26 1/2% **D) 40 %**

15. 4000 was divided into two parts such a way that when first part was invested at 3% and the second at 5%, the whole annual interest from both the investments is Rs.144, how much was put at 3%?

A) Rs.3500 B) Rs.9720 **C) Rs.2800** D) Rs.4000

16. If rupee one produces rupees nine over a period of 40 years, find the rate of simple interest?

A) 10 % B) 20 % C) 30 % D**) 22 1/2%**

17. A certain sum of money doubles itself in 10 years in how much many years will it trible itself at the same rate?

A) **20 years** B) 14 years C) 29 years D) 16 1/2 years

18. Rs.1500 is divided into two parts such that if one part is invested at 6% and the other at 5% the whole annual interest from both the sum is Rs.85. How much was lent at 5%?

A)Rs.1111 B) Rs.758 C) Rs.605 **D) Rs.500**

19. The simple interest on a sum of money is 4/9 of the principal and the number of years is equal to the rate percent. Find the rate and the time?

A)**6 2/3 years; 6 2/3 %** B)41/3 years; 5 1/3 C) 4 3/3 years; 4 2/3 % D) None

20. In what time will Rs.4000 lent at 3% per annum on simple interest earn as much interest as Rs.5000 will earn in 5 years at 4% per annum on simple interest?

**A) 8 1/3 years** B) 8 year C) 6 1/2 year D)5 1/3 years

21. In how many years will a sum of money doubles itself at 5% per annum on simple interest?

A) 26 years **B) 20 years** C) 22 years D) 28 years

22. A sum of money becomes triple itself in 5 years at simple interest. How many years will it become six times at the same rate?

**A) 12 1/2 years** B) 14 years C) 10 1/2 years D) 10 years

23. A part of certain sum of money is invested at 9% per annum and the rest at 12% per annum, if the interest earned in each case for the same period is equal, then ratio of the sums invested is?

A) 8:3 B) 5:4 C**) 4:3** D) None

24. The equal amounts of money are deposited in two banks each at 15% per annum for 3.5 years and 5 years respectively. If the difference between their interests is Rs.144, find the each sum?

A) Rs.6467 **B) Rs.640** C) Rs.600 D) None

25. A sum of money becomes double itself in 8 years at simple interest. How many times will it become 10 years at the same rate?

**A) 2 ¼** B) 3 ¼ C) 4 ¼ D) None

# PROBLEMS ON CLOCK

1. What is the angle between the two hands of a clock when the time shown by the clock is 6.30 p.m.?
   a) 00
   b) 50
   c) 30
   **d) 150**

2. At what time between 3 and 4 o'clock will the minute hand and the hour hand are on the same straight line but facing opposite directions.
a) 3:49
b)3:15
c)3:39 $^{1}/_{11}$
**d)3:49 $^{1}/_{11}$**

3. By how many degrees does the minute hand move in the same time, in which the hour hand moves by 280?
a) 168
**b) 336**
c) 196
d) 376

4. At what time, between 3 o'clock and 4 o'clock, both the hour hand and minute hand coincide each other?
a) 3:30
**b) 3:16 $^{4}/_{11}$**
c) 3:16$^{11}/_{4}$
d) 3:16 $^{7}/_{11}$

5. How many degrees will the minute hand move, in the same time in which the second hand moves 4800?
a) 60
b) 90
c) 40
**d) 80**

6. How many years have 29 days in February from 2001 to 2100?
a) 26
b)25
c)23
**d)24**

7. 2012 January 1st is Sunday, and then which day is the Indian Independence day of the same year.

a) Saturday
**b) Wednesday**
c) Thursday
d) Friday

8. Which year has the same calendar as 1700?
a) 1705
**b) 1706**
c) 1707
d) 1708

9. If Arun's birthday is on May 25 which is Monday and his sister's birthday is on July 13. Which day of the week is his sister's birthday?
**a) Monday**
b) Wednesday
c) Thursday
d) Friday

10. March 1st is Wednesday. Which month of the same year starts with the same day?
a) October
**b) November**
c) December
d) None of these

11. What is the angle between the two hands of a clock when the time shown by the Clock is 5.30 p.m.?
a) $0^0$
b) $5^0$
c) **$15^0$**
d) None

12. By how many degrees does the minute hand move in the same time, in which the Hour hand move by 18 degree?
a) 168 degree
**b) 216 degree**
c) 196 degree
d) 276 degree

13. A watch, which loses time uniformly, was observed to be 5 minutes fast at 8.00 p.m. on Thursday. It was noticed to be 7 minutes slow at 8.00 a.m. on the subsequent Monday. When did the watch show the correct time ?
**a) 7 a.m. Saturday**
b) 7 a.m. on Friday
c) 10a.m11 a.m. on Friday
d) None

14. In the time in which the second hand covers 3960 degrees, how many degrees does

the hour hand move?
a) 11
**b) 5.5**
c) 3/4
d) 55

15. By how many degrees does the hour hand lag behind the minute hand in a span of minutes, if initially they are at the same position?
a) $233^0$
b) 211 degree
**c) 231 degree**
d) None of these

16. If today is Thursday, after 730 days which will be the day of the week ?
a) Thursday
b) Friday
**c) Saturday**
d) Monday

17. 8. A year starting with Monday and ending with Tuesday. How many days are there from $16^{th}$ January to $15^{th}$ March of that year?
a) 58
**b) 60**
c) 59
d) 61

18. The last day of a century cannot be:
a) Monday
b) Wednesday
c) Friday
**d) Sunday**

19. What will be the day of the week on $1^{st}$ January, 2010 ?
a) Friday
b) Saturday
**c) Sunday**
d) Monday

20. What is the angle between the two hands of a clock when the time shown by the Clock is 5.30 p.m.?
a) $0^0$
b) $5^0$
c) $3^0$
**d) $15^0$**
21. In the time in which the second hand covers 3960 degrees, how many degrees does the hour hand move?

a) 11
**b) 5.5**
c) 3/4
d) 55

22. If today is Thursday, after 730 days which will be the day of the week?
a) Thursday
b) Friday
**c) Saturday**
d) Monday

23. What will be the day of the week on 1st January, 2010?
a) Friday
b) Saturday
**c) Sunday**
d) Monday

24. A watch, which loses time uniformly, was observed to be 5 minutes fast at 8.00 p.m. on Thursday. It was noticed to be 7 minutes slow at 8.00 a.m. on the subsequent Monday. When did the watch show the correct time?
**a) 7 a.m. Saturday**
b) 7 a.m. on Friday
c) 10a.m. on Sunday
d) 11 a.m. on Friday

25. If today is Thursday, after 730 days which will be the day of the week
a) Thursday
b) Friday
**c) Saturday**
d) Monday