

SSC CGL

(Tier-2) Mains Exam

12 January, 2017

Solved Paper

PAPER I QUANTITATIVE ABILITIES

- Twenty one times of a positive number is less than its square by 100. The value of the positive number is
(a) 25 (b) 26 (c) 42 (d) 41
- Two pipes of length 1.5 m and 1.2 m are to be cut into equal pieces without leaving any extra length of pipes. The greatest length of the pipe pieces of same size, which can be cut from these two lengths, will be
(a) 0.13 m (b) 0.4 m (c) 0.3 m (d) 0.41 m
- A General of an Army wants to create a formation of square from 36562 army men. After arrangement he found some army men remained unused. Then the number of such army men remained unused was
(a) 36 (b) 65 (c) 81 (d) 97
- The smallest number, which should be added to 756896 so as to obtain a multiple of 11, is
(a) 1 (b) 2 (c) 3 (d) 5
- A boy found the answer for the question "Subtract the sum of $\frac{1}{4}$ and $\frac{1}{5}$ from unity and express the answer in decimals" as 0.45. The percentage of error in his answer was
(a) $(100/11)\%$ (b) 50% (c) 10% (d) $(200/11)\%$
- The product of two numbers is 48. If one number equals "the number of wings of a bird plus 2 times the number of fingers on your hand divided by the number of wheels of a tricycle", then the other number is
(a) 9 (b) 10 (c) 12 (d) 18
- Natu and Bachku each have certain number of oranges. Natu says to Bachku, "If you give me 10 of your oranges, I will have twice the number of oranges left with you". Bachku replies, "If you give me 10 of your oranges, I will have the same number of oranges as left with you". What is the number of oranges with Natu and Bachku, respectively?
(a) 50, 20 (b) 70, 50 (c) 20, 50 (d) 50, 70
- A square playground measures 1127.6164 sq m. If a man walks $2\frac{9}{20}$ m a minute, the time taken by him to walk one round around it is approximately.
(a) 50.82 min (b) 54.82 min (c) 54.62 min (d) 50.62 min
- Three electronic devices make a beep after every 48, 72 and 108 seconds respectively. They beeped together at 10 a.m. The time when they will next make a beep together at the earliest is
(a) 10 : 07 : 12 h (b) 10 : 07 : 24 h (c) 10 : 07 : 36 h (d) 10 : 07 : 48 h
- Two baskets together have 640 oranges. If $\frac{1}{5}$ th of the oranges in the first basket be taken to the second basket, the number of oranges in the first basket is
(a) 800 (b) 600 (c) 400 (d) 300
- P can do $\frac{1}{4}$ th of work in 10 days. Q can do 40% of work in 40 days and R can do $\frac{1}{3}$ rd of work in 13 days. Who will complete the work first?
(a) P (b) Q (c) R (d) Both P and R
- Working 7 hours in a day, 4 men can do a piece of work in 8 days. Working 8 hours in a day, the required number of men to perform the same work in 4 days will be
(a) 8 (b) 4 (c) 7 (d) 9
- 35 persons are engaged to complete a work in 60 days. After 32 days it is observed that only $\frac{2}{5}$ th part of the work has been done. The number of persons to be engaged to complete the remaining work in the said period is
(a) 20 (b) 35 (c) 30 (d) 25
- The time taken by 4 men to complete a job is double the time taken by 5 children to complete the same job. Each man is twice as fast as a woman. How long will 12 men, 10 children and 8 women take to complete a job, given that a child would finish the job in 20 days?
(a) 4 days (b) 3 days (c) 2 days (d) 1 day
- The labourers A, B, C were given a contract of ₹ 750 for doing a certain piece of work. All the three together can finish the work in 8 days. A and C together can do it in 12 days, while A and B together can do it in $13\frac{1}{3}$ days. The money will be divided in the ratio
(a) 4 : 5 : 6 (b) 4 : 7 : 5 (c) 5 : 7 : 4 (d) 5 : 6 : 8

16. A and B together can complete a piece of work in 12 days. They worked together for 5 days and then A alone finished the rest work in 14 days. A alone can complete the work in
- (a) 24 days (b) 22 days
(c) 20 days (d) 18 days
17. A shopkeeper offers 15% discount on all plastic toys. He offers a further discount of 4% on the reduced price to those customers who pay cash. What does a customer have to pay in case for a toy of ₹ 200?
- (a) ₹ 133.7 (b) ₹ 129.8
(c) ₹ 163.2 (d) ₹ 153.3
18. A photographer allows a discount of 10% on the advertised price of a camera. The price that must be marked on the camera, which cost him ₹ 600, to make a profit of 20%, would be
- (a) ₹ 650 (b) ₹ 800
(c) ₹ 700 (d) ₹ 850
19. A dinner set is quoted for ₹ 1500. A customer pays ₹ 1173 for it. If the customer got a series of two discounts and the rate of first discount is 15%, then the rate of second discount was,
- (a) 15% (b) 7% (c) 9% (d) 8%
20. A dishonest dealer defrauds to the extent of $x\%$ in buying as well as selling his goods by using faulty weight. What will be the gain percent on his outlay?
- (a) $2x\%$ (b) $\frac{x}{4}\%$ (c) $\frac{x}{2}\%$ (d) $x\%$
21. In a college union, there are 48 students. The ratio of the number of boys to the number of girls is 5 : 3. The number of girls to be added in the union, so that the number of boys to girls in 6 : 5, is
- (a) 6 (b) 7 (c) 12 (d) 17
22. There are three bottles of mixture of syrup and water of ratios 2 : 3, 3 : 4 and 7 : 5. 10 L of first and 21 L of second bottles are taken. How much quantity from third bottle is to be taken so that final mixture from three bottles will be of ratios 1 : 1.
- (a) 25 L (b) 20 L
(c) 35 L (d) 30 L
23. In a coloured picture of blue and yellow colour, blue and yellow colour is used in the ratio of 4 : 3 respectively. If in upper half, blue : yellow is 2 : 3, then in the lower half blue : yellow is
- (a) 1 : 1 (b) 2 : 1
(c) 26 : 9 (d) 9 : 26
24. A and B start an enterprise together, with A as active partner. A invests ₹ 4000 and ₹ 2000 more after 8 months. B invests ₹ 5000 and withdraws ₹ 2000 after 9 months. Being the active partner, A takes ₹ 100 per month as allowance, from the profit. What is the share of B if the profit for the year is ₹ 6700?
- (a) ₹ 3350 (b) ₹ 3250
(c) ₹ 2700 (d) ₹ 2800
25. A sum of ₹15525 is divided among Sunil, Anil and Jamil such that if ₹ 22, ₹ 35 and ₹ 48 be diminished from their shares respectively, their remaining sums shall be in the ratio 7 : 10 : 13. What would have been the ratio of their sums if ₹ 16, ₹ 77 and ₹ 37 respectively were added to their original shares?
- (a) 9 : 13 : 17 (b) 18 : 26 : 35
(c) 36 : 52 : 67 (d) None of these
26. A's income is ₹ 140 more than B's income and C's income is ₹ 80 more than D's. If the ratio of A's and C's income is 2:3 and the ratio of B's and D's income is 1:2, then the incomes of A, B, C and D are respectively
- (a) ₹ 260, ₹ 120, ₹ 320 and ₹ 240
(b) ₹ 300, ₹ 160, ₹ 600 and ₹ 520
(c) ₹ 400, ₹ 260, ₹ 600 and ₹ 520
(d) ₹ 320, ₹ 180, ₹ 480 and ₹ 360
27. A batsman has a certain average of runs for 12 innings. In the 13th inning he scores 96 runs thereby increasing his average by 5 runs. What will be his average after 13th inning?
- (a) 28 (b) 32
(c) 36 (d) 42
28. A team of 8 persons joins in a shooting competition. The best marksman scored 85 points. If he had scored 92 points, the average score for the team would have been 84. The number of points the team scored was
- (a) 672 (b) 665 (c) 645 (d) 588
29. A librarian purchased 60 story books for his library. But he found that he could get 4 extra books by spending ₹ 336 more and then the overall average price per book would be reduced by ₹ 1. The previous average price of each book was
- (a) ₹ 84 (b) ₹ 83 (c) ₹ 68 (d) ₹ 100
30. In an exam, the average marks obtained by John in English, Maths, Hindi and Drawing were 50. His average marks in Maths, Science, Social Studies and Craft were 70. If the average marks in all seven subjects is 58, his score in Maths was
- (a) 50 (b) 52 (c) 60 (d) 74
31. The average weight of 3 men A, B and C is 84 kg. Another man D joins the group and the average now becomes 80 kg. If another man E whose weight is 3 kg more than that of D, replaces A, then the average weight of B, C, D and E becomes 79 kg. What is the weight of A?
- (a) 70 kg (b) 72 kg (c) 75 kg (d) 80 kg
32. The average monthly salary of all the employees in a factory is ₹ 8840. Number of officers in the factory is 150. If the average salary of all the officers is ₹ 15000 and that of the remaining employees is ₹ 8000, then what is the percentage of the officers among the employees?
- (a) 12% (b) 15% (c) 18% (d) 20%
33. The ratio of cost price and selling price of an article is 20 : 21. Then gain percent on it, is
- (a) 4% (b) 5% (c) 6% (d) 7%

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34. The ratio of cost price and selling price of an article is 25 : 26. The percent of profit will be
 (a) 26% (b) 25%
 (c) 1% (d) 4%
35. A shopkeeper buys 20 kg of a product for ₹ 150 per kg. 15% of product was damaged. At what price (per kg) should he sell the remaining so as to earn a profit of 20%?
 (a) ₹ 211 (b) ₹ 205
 (c) ₹ 200 (d) ₹ 203
36. Mr. Kapur purchased two toy cycles for ₹ 750 each. He sold these cycles, gaining 6% on one and losing 4% on the other. The gain or loss percent in the whole transaction is
 (a) 1% loss (b) 1% gain
 (c) 1.5% loss (d) 1.5% gain
37. The profit earned by a shopkeeper by selling a bucket at a gain of 8% is ₹ 28 more than when he sells it at a loss of 8%. The cost price of the bucket is
 (a) ₹ 170 (b) ₹ 190
 (c) ₹ 175 (d) ₹ 165
38. A man bought 500 m of electronic wire at 50 paise per metre. He sold 50% of it at a profit of 5%. At what percent should he sell the remains so as to gain 10% on the whole transaction?
 (a) 13% (b) 12.5%
 (c) 15% (d) 20%
39. A line of length 1.5 m was measured as 1.55 m by mistake. What will be the value of error percent?
 (a) 0.05% (b) 3.33%
 (c) 3.67% (d) 0.5%
40. A businessman imported Laptops, worth ₹ 210000, Mobile phones worth ₹ 100000 and Television sets worth ₹ 150000. He had to pay 10% duty on laptops, 8% on Phones and 5% on Television sets as a special case. How much total duty he had to pay on all items as per above details?
 (a) ₹ 36500 (b) ₹ 37000
 (c) ₹ 37250 (d) ₹ 37500
41. A man spends $7\frac{1}{2}\%$ of his money and after spending 75% of the remaining, he had ₹ 370 left. How much money did he have
 (a) 1200 (b) 1600 (c) 1500 (d) 1400
42. On a certain date, Pakistan has a success rate of 60% against India in all the ODIs played between the two countries. They lost the next 30 ODIs in a row to India and their success rate comes down to 30%. The total number of ODIs played between the two countries is
 (a) 50 (b) 45 (c) 60 (d) 30
43. Two donkeys are standing 400 m apart. First donkey can run at a speed of 3 m/sec and the second can run at 2 m/sec. If two donkeys run towards each other after how much time will they bump into each other?
 (a) 60 sec (b) 80 sec
 (c) 400 sec (d) 40 sec
44. Rubi goes to a multiplex at the speed of 3 km/h to see a movie and reaches 5 minutes late. If she travels at the speed of 4 km/h, she reaches 5 minutes early. Then the distance of the multiplex from her starting point is
 (a) 2 km (b) 5 km (c) 2 m (d) 5 m
45. A man travels some distance at a speed of 12 km/h and returns at a speed of 9 km/h. If the total time taken by him is 2 h 20 minutes, the distance is
 (a) 35 km (b) 21 km (c) 9 km (d) 12 km
46. A and B are 15 km apart and when travelling towards each other meet after half an hour whereas they meet two and a half hours later if they travel in the same direction. The faster of the two travels at the speed of
 (a) 15 km/h (b) 18 km/h (c) 10 km/h (d) 8 km/h
47. The sum for 2 years gives a compound interest of ₹ 3225 at 15% rate. Then sum is
 (a) ₹ 10000 (b) ₹ 20000 (c) ₹ 15000 (d) ₹ 32250
48. In 3 years, ₹ 3000 amounts to ₹ 3993 at $x\%$ compound interest, compounded annually. The value of x is
 (a) 10 (b) 8 (c) 5 (d) 8
49. A man borrowed some money and agreed to pay-off by paying ₹ 3150 at the end of the 1st year and ₹ 4410 at the end of the 2nd year. If the rate of compound interest is 5% per annum, then the sum is
 (a) ₹ 5000 (b) ₹ 6500 (c) ₹ 7000 (d) ₹ 9200
50. ₹ 260200 is divided between Ram and Shyam so that the amount that Ram receives in 4 years is the same as that Shyam receives in 6 years. If the interest is compounded annually at the rate of 4% per annum then Ram's share is
 (a) ₹ 125000 (b) ₹ 135200 (c) ₹ 152000 (d) ₹ 108200
51. The radii of two cylinders are in the ratio 2 : 3 and their heights are in the ratio 5 : 3. The ratio of their volumes is
 (a) 27 : 20 (b) 20 : 27 (c) 4 : 9 (d) 9 : 4
52. Three cubes of iron whose edges are 6 cm, 8 cm and 10 cm respectively are melted and formed into a single cube. The edge of the new cube formed is
 (a) 12 cm (b) 14 cm (c) 16 cm (d) 18 cm
53. The radii of two concentric circles are 68 cm and 22 cm. The area of the closed figure bounded by the boundaries of the circles is
 (a) 4140π sq cm (b) 4110π sq cm
 (c) 4080π sq cm (d) 4050π sq cm
54. The radius of a sphere is 6 cm. It is melted and drawn into a wire of radius 0.2 cm. The length of the wire is
 (a) 81 m (b) 80 m (c) 75 m (d) 72 m
55. The radius of a wire is decreased to one-third. If volume remains the same, length will increase by
 (a) 1.5 times (b) 3 times (c) 6 times (d) 9 times
56. In a trapezium ABCD, AB and DC are parallel sides and $\angle ADC = 90^\circ$. If AB = 15 cm, CD = 40 cm and diagonal AC = 41 cm, then the area of the trapezium ABCD is
 (a) 245 cm^2 (b) 240 cm^2 (c) 247.5 cm^2 (d) 250 cm^2

57. The area of a rhombus having one side 10 cm and one diagonal 12 cm is
 (a) 48 cm² (b) 96 cm² (c) 144 cm² (d) 192 cm²
58. The cost of levelling a circular field at 50 paise per square metre is ₹ 7700. The cost of putting up a fence all round it at ₹ 1.20 per metre is
 (a) ₹ 132 (b) ₹ 264 (c) ₹ 528 (d) ₹ 1056
59. From the four corners of a rectangular sheet of dimensions 25 × 20 cm, square of side 2 cm is cut off from four corners and a box is made. The volume of the box is
 (a) 828 cm³ (b) 672 cm³ (c) 500 cm³ (d) 1000 cm³
60. The height and the total surface area of a right circular cylinder are 4 cm and 8π sq cm respectively. The radius of the base of cylinder is
 (a) (2√2 - 2) cm (b) (2 - √2) cm (c) 2 cm (d) √2 cm
61. The radius of a cylindrical milk container is half its height and surface area of the inner part is 616 sq cm. The amount of milk that the container can hold, approximately, is [Use : √5 = 2.23 and π = 22/7]
 (a) 1.42 L (b) 1.53 L (c) 1.71 L (d) 1.82 L
62. A solid brass sphere of radius 2.1 dm is converted into a right circular cylindrical rod of length 7 cm. The ratio of total surface areas of the rod to the sphere is
 (a) 3 : 1 (b) 1 : 3 (c) 7 : 3 (d) 3 : 7
63. The sum of the length and breadth of a rectangle is 6 cm. A square is constructed such that one of its sides is equal to a diagonal of the rectangle. If the ratio of areas of the square and rectangle is 5 : 2, the area of the square in cm² is
 (a) 20 cm² (b) 10 cm² (c) √5 cm² (d) 10√2 cm²
64. The length of a side of an equilateral triangle is 8 cm. The area of the region lying between the circum circle and the incircle of the triangle is
 (a) 50 $\frac{1}{7}$ cm² (b) 50 $\frac{2}{7}$ cm² (c) 75 $\frac{1}{7}$ cm² (d) 75 $\frac{2}{7}$ cm²
65. A solid sphere of radius 3 cm is melted to form a hollow right circular cylindrical tube of length 4 cm and external radius 5 cm. The thickness of the tube is
 (a) 1 cm (b) 9 cm (c) 0.6 cm (d) 1.5 cm
66. If $x^2 + \frac{1}{x^2} = 98$ ($x > 0$), then the value of $x^3 + \frac{1}{x^3}$ is
 (a) 970 (b) 1030 (c) -970 (d) -1030
67. If $a + \frac{1}{b} = 1$ and $b + \frac{1}{c} = 1$, then the value of $c + \frac{1}{a}$ is
 (a) 0 (b) 2 (c) 1 (d) 3
68. If $x = y + 2$, then $x^3 - y^3 - z^3$ is
 (a) 0 (b) 3xyz (c) -3xyz (d) 1
69. If $a + b + c + d = 4$, then the value of $\frac{1}{(1-a)(1-b)(1-c)} + \frac{1}{(1-b)(1-c)(1-d)} + \frac{1}{(1-c)(1-d)(1-a)} + \frac{1}{(1-d)(1-a)(1-b)}$ is
 (a) 0 (b) 1 (c) 4 (d) 1 + abcd

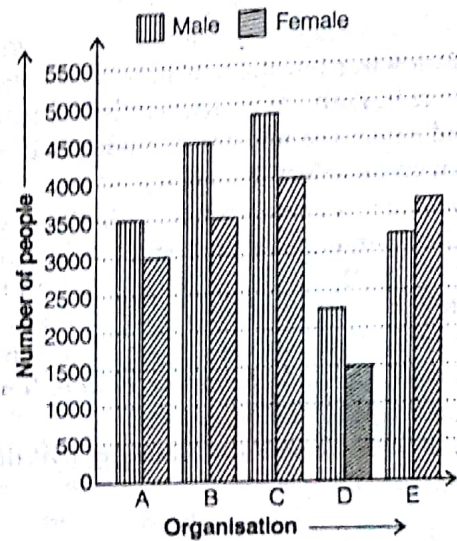
70. The simplified value of $\frac{\sqrt{3} - \sqrt{2}}{\sqrt{12} - \sqrt{18}} - \frac{1}{3} \times \sqrt{27} - \frac{1}{2} \times \sqrt[3]{27}$ is closest to
 (a) (√3 - 1) (b) (1 - √3)
 (c) -(√3 - 1) (d) -(√3 + 1)
71. If $x = 11$, the value of $x^5 - 12x^4 + 12x^3 - 12x^2 + 12x - 1$ is
 (a) 11 (b) 10
 (c) 12 (d) -10
72. If $a = \frac{1}{a-5}$ ($a > 0$), then the value of $a + \frac{1}{a}$ is
 (a) √29 (b) -√27
 (c) -√29 (d) √27
73. If $a + \frac{1}{b} = b + \frac{1}{c} = c + \frac{1}{a}$ (where $a \neq b \neq c$), then abc is equal to
 (a) +1 (b) -1
 (c) +1 and -1 (d) None of the options
74. If $ax + by = 1$ and $bx + ay = \frac{2ab}{a^2 + b^2}$ then $(x^2 + y^2)(a^2 + b^2)$ is equal to
 (a) 1 (b) 2 (c) 0.5 (d) 0
75. If x, y, z are the three factors of $a^3 - 7a - 6$, then value of $x + y + z$ will be
 (a) 3a (b) 3 (c) 6 (d) a
76. ABCD is a cyclic quadrilateral of which AB is the diameter. Diagonals AC and BD intersect at E. If $\angle DBC = 35^\circ$, then $\angle AED$ measures
 (a) 35° (b) 45°
 (c) 55° (d) 90°
77. In a triangle ABC, $\angle A = 70^\circ$, $\angle B = 80^\circ$ and D is the incentre of $\triangle ABC$. If $\angle ACB = 2x^\circ$ and $\angle BDC = y^\circ$. Then values of x and y , respectively are
 (a) 15, 130 (b) 15, 125
 (c) 35, 40 (d) 30, 150
78. In a right angled triangle $\triangle DEF$, if the length of the hypotenuse EF is 12 cm, then the length of the median DX is
 (a) 3 cm (b) 4 cm (c) 6 cm (d) 12 cm
79. Two equal circles intersect so that their centres and the points at which they intersect form a square of side 1 cm. The area of the portion that is common to the circles is
 (a) $\frac{\pi}{4}$ sq cm (b) $\frac{\pi}{2} - 1$ sq cm
 (c) $\frac{\pi}{5}$ sq cm (d) $(\sqrt{2} - 1)$ sq cm
80. PQRA is a rectangle, AP = 22 cm, PQ = 8 cm. $\triangle ABC$ is a triangle, whose vertices lie on the sides of PQRA such that BQ = 2 cm and QC = 16 cm. Then the length of the line joining the mid points of the sides AB and BC is
 (a) $4\sqrt{2}$ cm (b) 5 cm (c) 6 cm (d) 10 cm
81. $\triangle ABC$ is an isosceles right angled triangle having $\angle C = 90^\circ$. If D is any point on AB, then $AD^2 + BD^2$ is equal to
 (a) CD^2 (b) $2CD^2$ (c) $3CD^2$ (d) $4CD^2$

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82. D and E are points on the sides AB and AC respectively of $\triangle ABC$ such that DE is parallel to BC and $AD : DB = 4 : 5$, CD and BE intersect each other at F . Then the ratio of the areas of $\triangle DEF$ and $\triangle CBF$
- (a) 16 : 25 (b) 16 : 81 (c) 81 : 16 (d) 4 : 9
83. Diagonals of a Trapezium $ABCD$ intersect each other at the point O . If $AB = 2CD$, then the ratio of the areas of $\triangle AOB$ and $\triangle COD$ is
- (a) 4 : 1 (b) 1 : 16 (c) 1 : 4 (d) 16 : 1
84. If O is the orthocentre of a triangle ABC and $\angle BOC = 100^\circ$, the measure of $\angle BAC$ is
- (a) 100° (b) 180°
(c) 80° (d) 200°
85. PQ and RS are common tangents to two circles intersecting at A and B . AB , when produced both sides, meet the tangents PQ and RS at X and Y , respectively. If $AB = 3$ cm, $XY = 5$ cm, then PQ will be
- (a) 3 cm (b) 4 cm
(c) 5 cm (d) 2 cm
86. If $\sec A + \tan A = a$, then the value of $\cos A$ is
- (a) $\frac{a^2 + 1}{2a}$ (b) $\frac{2a}{a^2 + 1}$ (c) $\frac{a^2 - 1}{2a}$ (d) $\frac{2a}{a^2 - 1}$
87. If $\sin P + \operatorname{cosec} P = 2$, then the value of $\sin^7 P + \operatorname{cosec}^7 P$ is
- (a) 1 (b) 2 (c) 3 (d) 0
88. If $\cos x \cdot \cos y + \sin x \cdot \sin y = -1$, then $\cos x + \cos y$ is
- (a) -2 (b) 1
(c) 0 (d) 2
89. The value of the expression $2(\sin^6 \theta + \cos^6 \theta) - 3(\sin^4 \theta + \cos^4 \theta) + 1$ is
- (a) -1 (b) 0 (c) 1 (d) 2
90. If $\cos \theta = \frac{x^2 - y^2}{x^2 + y^2}$, then the value of $\cot \theta$ is equal to [If $0 \leq \theta \leq 90^\circ$]
- (a) $\frac{2xy}{x^2 - y^2}$ (b) $\frac{2xy}{x^2 + y^2}$ (c) $\frac{x^2 + y^2}{2xy}$ (d) $\frac{x^2 - y^2}{2xy}$
91. The distance between two pillars is 120 m. The height of one pillar is thrice the other. The angles of elevation of their tops from the midpoint of the line connecting their feet are complementary to each other. The height of the taller pillar is (Use : $\sqrt{3} = 1.732$)
- (a) 34.64 m (b) 51.96 m (c) 69.28 m (d) 103.92 m
92. If $x = \operatorname{cosec} \theta - \sin \theta$ and $y = \sec \theta - \cos \theta$, then the relation between x and y is
- (a) $x^2 + y^2 + 3 = 1$ (b) $x^2 y^2 (x^2 + y^2 + 3) = 1$
(c) $x^2 (x^2 + y^2 - 5) = 1$ (d) $y^2 (x^2 + y^2 - 5) = 1$
93. A hydrogen filled balloon ascending at the rate of 18 km/h was drifted by wind. Its angle of elevation at 10th and 15th minutes were found to be 60° and 45° respectively. The wind speed (in whole numbers) during the last five minutes, approximately, is equal to
- (a) 7 km/h (b) 11 km/h
(c) 26 km/h (d) 33 km/h

94. The angle of elevation of an aeroplane as observed from a point 30 m above the transparent water-surface of a lake is 30° and the angle of depression of the image of the aeroplane in the water of the lake is 60° . The height of the aeroplane from the water-surface of the lake is
- (a) 60 m (b) 45 m
(c) 50 m (d) 75 m
95. The angles of depression of two ships from the top of a light house are 60° and 45° towards East. If the ships are 300 m apart, the height of the light house is
- (a) $200(3 + \sqrt{3})$ m (b) $250(3 + \sqrt{3})$ m
(c) $150(3 + \sqrt{3})$ m (d) $160(3 + \sqrt{3})$ m

Directions (Q.Nos. 96-100) The following Bar-diagram shows total number of males and females in five different organisations. Study it carefully to answer the question.



96. What is the difference between the total number of females and the total number of males from all the organisations together?
- (a) 2005 (b) 2050
(c) 2500 (d) 2055
97. By how much percentage is the average number of females from all the organisations together is more than the number of males in organisation 'D'?
- (a) 30% (b) 38% (c) 40% (d) 45%
98. What is the ratio of the number of females from the organisations B and C to the number of males from the organisations D and E?
- (a) 12 : 11 (b) 12 : 15
(c) 11 : 15 (d) 15 : 11
99. Males from organisations A and B together form what percent of total number of males from organisations C, D and E together?
- (a) 78.04% (b) 87.44% (c) 47.08% (d) 74.08%
100. What is the ratio of average number of females from the organisations A, B and C to the average number of males from the organisations C, D and E?
- (a) 42 : 41 (b) 41 : 42
(c) 40 : 41 (d) 41 : 40