

**ANSWERS FOR UNDER GRADUATE PROGRAMME IN DESIGN PAPER-I
GENERAL ABILITY TEST
SAMPLE PAPER-I**

1. [b] Let B = x, then C = 2x & A = 2/3 x. Therefore A: B: C = (2/3) x: x: 2x = (2/3): 1: 2 = 2: 3: 6
2. [b] Required number = $1 \times 2 \times 3 \times 4 = 24$
3. [d] Alcohol content = $(20/100) \times 20 = 4$ liters and therefore water is 16 liters. In the new mixture, alcohol content = 4 liters and water is $16 + 5 = 21$ liters. Hence percentage of alcohol in new mix = $(4/25) \times 100 = 16\%$.
4. [d] $(5a+3b)/(5a-3b) = [(5a/b) + 3]/[(5a/b) - 3] = [5 \times (2/5) + 3]/[5 \times (2/5) - 3] = 5/(-1) = -5$
5. [c] Money collected = 5929. Therefore, The number of members = $\sqrt{5929} = 77$
6. [d] Ram + Lakhan + Pavan = $67 \times 3 = 201$, Ram + Lakhan = $62 \times 2 = 124$,
Lakhan + Pavan = $68 \times 2 = 136$, Hence, Lakhan = $124 + 136 - 201 = 260 - 201 = 59$ kg.
7. [c] The sum of remaining two = $(8 \times 18 - 6 \times 15) = 54$. The average of these two numbers = $54 / 2 = 27$
8. [a] For 'x' length of fabric, $(30 / 100) x = 126$. Or $x = (126 \times 100) / 30 = 420$
9. [b] Let, son's age = x, then Mr. Chopra's age = 4x. 5 years ago, $9(x-5) = 4x-5$ or $x = 8$.
Therefore, Mr. Chopra's present age = $4x = 32$
10. [a] Required % = $[\{33 / (100 + 33)\} \times 100] = 24.8\%$
11. [b] New price = 110% of 80% of 9600 = $(110 \times 80 \times 9600) / (100 \times 100) = 8448$.
12. [b] Reduction in consumption = $[\{20 / (100 + 20)\} \times 100]\% = 16.67\%$
13. [b] 40% of x = 178 + 22 (since he failed by 22 marks to get 40%) or $(40/100) x = 200$ or $x = 500$.
14. [c] For a distance of x, difference in timings = 20 min = 1/3 hour.
Hence, $x/3 - x/4 = 1/3$ or $4x - 3x = 4$ or $x = 4$ km
15. [b] For original price of 100, new price = 80. So, increase on 80 is 20.
Hence, increase on 100 should be = $(20 / 80) \times 100 = 25\%$
- | | | | | | |
|---------|---------|---------|---------|---------|---------|
| 16. [d] | 17. [b] | 18. [a] | 19. [a] | 20. [b] | 21. [d] |
| 22. [c] | 23. [d] | 24. [b] | 25. [d] | 26. [d] | 27. [a] |
| 28. [a] | 29. [a] | 30. [b] | 31. [d] | 32. [c] | 33. [b] |
| 34. [d] | 35. [c] | 36. [a] | 37. [a] | 38. [b] | 39. [c] |
| 40. [b] | 41. [b] | 42. [d] | 43. [d] | 44. [c] | 45. [a] |
| 46. [c] | 47. [d] | 48. [c] | 49. [a] | 50. [c] | 51. [a] |
| 52. [c] | 53. [c] | 54. [b] | 55. [d] | 56. [a] | 57. [c] |
| 58. [b] | 59. [c] | 60. [d] | | | |
61. [d] 21 % of the families use Cinthol $\Rightarrow 1500 \times (21 / 100) = 315$ families use Cinthol.
62. [d] By decreasing Lux by 5 % use we get 27 % $\Rightarrow 1500 \times (27 / 100) = 405$ families use Lux.
After increasing Santoor by 5 % use get 19 % $\Rightarrow 1500 \times (19 / 100) = 285$ families use Santoor.
Difference is $405 - 285 = 120$.
63. [b] Total percentage of families using Pears is 17. $\therefore 1500 \times \frac{17}{100} = 255$
64. [d] 10 % of people use Rexona $\Rightarrow 1500 \times \frac{10}{100} = 150$. 14 % of people use Santoor
 $\Rightarrow 1500 \times \frac{14}{100} = 210$ \therefore Number of families use Rexona and Santoor is $150 + 210 = 360$
65. [c] Dove is used by 5 % of people, \therefore It is the soap used by minimum number of families
66. [b] In reverse order, ZYX ...NM _ K
67. [d] Here, mouth is the nose & one smells through nose.
68. [b] Since J is the grandson of K, K is grandson or grandmother of J and not father.
69. [c] Area = $a \times (3/2)$ $\therefore a = (3/2) a^2$
70. [d] $7 \times 7 = 49$, $6 \times 6 \times 6 = 216$, $5 \times 5 \times 5 \times 5 = 625$, $4 \times 4 \times 4 \times 4 \times 4 = 1024$, $3 \times 3 \times 3 \times 3 \times 3 \times 3 = 729$
71. [b] The plural of cloth is clothes the plural of lady is not women but ladies.
72. [b] 2 pens + 1 pencil = 15 (from B). Multiplying the above equation by 4 we get,
 8 pens + 4 pencils = 60. This is the required answer. \therefore Only statement B is sufficient.
73. [d] In statement B it is given that Ramesh's sister is 10 years old but how many years is Ramesh elder to his sister is not given. \therefore Both the statements are not sufficient.
74. [c] In statement A, it is given that y is grandfather of x. It means x is either grandson or granddaughter to y. In statement B it is given that z is the wife of x that means x is male. \therefore From both the statements A and B we can say that x is grandson to Y.
75. [d] The alphabets in the given word are replaced by the alphabets that come before them in the series. Ex. A is replaced by Z, B by A and so on.
76. [b] $26.1.91 = \text{Monday}$, $365 = 52 \text{ Weeks} + 1$. It is 1st day after 52 weeks. Hence it will be Monday only.
77. [a] $2 + 1^2 = 3$, $3 + 2^2 = 7$, $7 + 3^2 = 16$, $16 + 4^2 = 32$, $32 + 5^2 = 57$
78. [b] The numbers are multiplied by 3 to get the next number, i.e., $54 \times 3 = 162$

79. [c] The first letter forms the series N, O, P, Q, and R. The middle letters are vowels and the third series is multiple of 4. i.e., DEFGH & similarly, PQRST.
80. [b] The series is abba/abba/abba/
81. [a] In the remaining cases, there is a decrease in number of candidates in a particular year.
82. [c] The number of candidates in all two other years remained same but the total number of candidates selected was high hence reducing the percentage of commerce students.
83. [b] Except cauliflower all the other three are roots.
84. [c] 81 is 9^2 but 8 is 2^3 , 64 is 4^3 , 343 is 7^3 .
85. [d] Except 27, all the other three numbers are prime numbers.
86. [b] 87. [d] 88. [c] 89. [c] 90. [b] 91. [a]
92. [c] 93. [b] 94. [b] 95. [a] 96. [d] 97. [a] 98. [c]
99. [a] The product of individual digits at the bottom two portion of the circle is placed at the top i.e., $3 \times 2 \times 4 \times 5 = 24$ and $4 \times 3 \times 5 = 60$. Therefore, $2 \times 8 \times 6 = 96$
100. [b] The shape in the center of the first two gets enlarged in the second set.

**ANSWERS FOR UNDER GRADUATE PROGRAMME IN DESIGN PAPER-I
GENERAL ABILITY TEST
SAMPLE PAPER-II**

1. [c] Let, A's age = x, then B's age = x + 16. 6 years ago, $3(x-6) = x + 16 - 6$ or $x = 14$
2. [a] Alcohol content in 5 liters = $(30/100) \times 5 = 1.5$ liters = alcohol in 6 liters. Hence percentage of alcohol in new mix = $(1.5 / 6) \times 100 = 25\%$.
3. [d] Let the marked price be Rs. 100, then, Net selling price = 95% of 90% of 80% of 100 = 68.4. Total discount = $100 - 68.4 = 31.6\%$
4. [b] A: B = 4: 7 and B: C = 9: 5 = $9 \times (7/9): 5 \times (7/9) = 7: 35/9 \Rightarrow$ A: B: C = 4: 7: $(35/9) = 36: 63: 35$.
5. [b] Total distance covered = $400 + 1000 = 1400$ m in time = 72 seconds. Hence, speed = $1400 / 72$ m/s or $(1400 \times 60 \times 60) / 1000 \times 84 = 60$ km/hr
6. [c] For a principal of x = SI for 7 years. Rate per annum = $100 \times 7 = 14.28\%$.
7. [b] C. P. of 90 articles = $90 \times 8 =$ Rs. 720. S. P. of 80% of 90 articles = $72 \times 9.50 =$ Rs. 684 and S. P. of remaining articles = $18 \times 7.25 =$ Rs. 130.50 Therefore, total S. P. = $684 + 130.50 =$ Rs. 814.50
Hence, profit per article = $(814.50 - 720) / 90 =$ Rs. 1.05
8. [a] Here, Kedar = 2 (Ghosh) \Rightarrow Patnaik + Kedar = 2 (Ghosh) + Patnaik
 \Rightarrow But, Ghosh + Patnaik = 84320 and Kedar + Patnaik = 95480
 $\Rightarrow 95480 =$ Ghosh + 84320 \Rightarrow Ghosh = 11160 \Rightarrow Total sum = $95480 + 11160 = 106640$
9. [b] We have, $[a^3 + b^3] / [a^2 - ab + b^2] = ab$, where, a = 0.05 and b = 0.02.
Hence, ab = 0.001
10. [d] For a distance d, $(d/3) - (d/4) = (2+2)/60 \Rightarrow d/12 = 4/60$ or $d = 0.8$ km
11. [b] Sum of the edges of the cube = 12a, for an edge a. Volume of the cube is a^3
 $\Rightarrow 12a = a^3$ or $a^2 = 12$, which is the surface area of the cube.
12. [c] If n is the number, then, $[n / (8/17)] - [n \times (8/17)] = 225$,
 $\Rightarrow (17n/8) - (8n/17) = 225 \Rightarrow 289n - 64n = 225 \times 136 \Rightarrow n = (225 \times 136) / 225 = 136$
13. [d] Volume of cylinder = $\pi \times 5 \times 5 \times 12 = 300 \pi$ cc
Volume of each bullet = $(4/3) \pi \times 1.5 \times 1.5 \times 1.5 = (9/16) \pi$ cc
No. of bullets = Volume of cylinder / Volume of each bullet = 533
14. [c] $\left(\frac{5}{8} + \frac{y-x}{y+x}\right) = \left(\frac{5}{8} + \frac{1-\frac{x}{y}}{1+\frac{x}{y}}\right) = \left(\frac{5}{8} + \frac{1/y}{1/y}\right) = \frac{5}{8} + \frac{1}{5} \times \frac{5}{9} = \frac{5}{8} + \frac{1}{9} = \frac{53}{72}$
15. [d] If the distance is 'x' km then, $\frac{x}{80} - \frac{x}{100} = \frac{5+10}{60} \Rightarrow \frac{x}{400} = \frac{1}{4}$ Or $x = 100$ km
16. [c] 17. [d] 18. [b] 19. [d] 20. [a] 21. [b]
22. [c] 23. [c] 24. [a] 25. [b] 26. [b] 27. [b]
28. [a] 29. [d] 30. [d] 31. [d] 32. [b] 33. [c]
34. [d] 35. [a] 36. [b] 37. [c] 38. [b] 39. [c]
40. [b] 41. [b] 42. [d] 43. [a] 44. [c] 45. [c]
46. [c] 47. [d] 48. [b] 49. [d] 50. [a] 51. [a]
52. [b] 53. [c] 54. [c] 55. [b] 56. [c] 57. [d]
58. [a] 59. [c] 60. [b]
61. [c] From (A), the speed of the train given in 36 km/ hr to change it to m/ sec we have to multiply by 5/18. Hence, speed = $36 \times (5/18) = 10$ m/ sec. From (B), time = 30 sec. We know that, length = speed x time = $10 \times 30 = 300$ m. \therefore both the statements are sufficient.

62. [a] Given that x and y are equal (from A). $\therefore x - y = 0$. \therefore Statement A alone is sufficient.
63. [a] Given from (A), radius = 10 cm and height = 4 cm. We know that volume of the cylinder = $\pi r^2 h$, where, 'r' is the radius and 'h' is the height. \therefore Volume = $\pi \times (10)^2 \times 4 = 22/7 \times 100 \times 4 = 1256$.
64. [d] Here neither the number of boys is given nor the number of girls is given. So we cannot find out the no. of children in the family. \therefore Both the statements are not sufficient.
65. [b] In statement B it is given that the cost price is more than the selling price. So we can say that he sold the house for a loss. \therefore Statement B alone is sufficient.
66. [a] The sequence B + 2, D + 4, H + 2, J + 4, N + 2, P + 4. The Answer is T = P + 4.
67. [b] The first letter series follows a sequence + 2. The second letter follows a sequence + 4. The third letter follows a sequence - 3.
68. [b] The missing number is $\sqrt{6^2 + 8^2} = \sqrt{36 + 64} = \sqrt{100} = 10$.
69. [d] The sequence is abc : (a + b + c) / 2. The missing number is = (3 + 6 + 9) / 2 = 9
70. [d] Total number of students from 246. \therefore Number of girls = 25% of 248 = (25/100) x 248 = 62
71. [d] No. of boys playing in chess and hockey is 42 + 34 = 76.
In all the combinations given, we cannot get 19 students.
72. [a] Number of boys = 248. 25% of 248 = 62 = no. of girls. \therefore No. of students = 248 + 62 = 310
73. [c] P is mother of Q, Q is Father of R, R is daughter of S. S is wife of Q.
74. [b] K is daughter of L - means 'K + L'.
75. [b] My father's father is my grand father. My grand father's only daughter will be my paternal aunt. So, the man is woman's nephew.
76. [d] Remaining 3 are hill station and cool places. Jaipur is a hot place.
77. [c] Except 11 others are composite numbers.
78. [a] We eat food. FOOD, is coded as WATCH.
79. [a] $24 \div 8 \times 6 + 3 - 3 \times 6$ is after interchanging the sign = $3 \times 9 - 18 = 27 - 18 = 9$
80. [c] $8 + 112 \div 36 - 24 \times 10 = 120 \div 12 \times 10 = 120 / 120 = 1$
81. [b] $(5 - 2.5) / 2.5 \times 100 = (2.5 / 2.5) \times 100 = 100$
82. [d] This can be calculated for each country as $[(3 - 1) / 1] \times 100 = 200\%$ for Nepal, which is the highest.
83. [c] $4 - 1.5 = \$ 2.5$. $\Rightarrow 2.5 \times 42 = \text{Rs.} 105$ [$\$1 = \text{Rs.} 42$]
84. [d] Data is not sufficient for this problem.
85. [b] $[(4 - 3.5) / 3.5] \times 100 = 14.28\%$
86. [d] 87. [d] 88. [a] 89. [d] 90. [a] 91. [a]
92. [c] 93. [a] 94. [c] 95. [c] 96. [b] 97. [d] 98. [a]
99. [a] The cube of the difference between the two numbers in the outer circle is the answer in the inner circle pertaining to that particular quadrant.
100. [b] It is the only figure with six sides, rest being five sided figures.