# EXPLANATION/BPO/QUANTITATIVE APTITUDE/05

**Q.1.(5)** ? = 768 - 27
? = 741

**Q.2.(2)** ? = 160.042 - 76.611
? = 83.431

**Q.3.(1)** $\frac{90}{100} \times \frac{5}{6} \times \frac{7}{3} \times 420 = ?$
? = 735

**Q.4.(5)** ? - 84 = 135.20 - 216
? = 84 + 135.20 - 216
? = 219.2 - 216
? = 3.2

**Q.5.(3)** $(2)^? = (2)^3 \times 2^{10} \div 2^6$
? = 7

**Q.6.(1)** ? = 8370 (approximate)

**Q.7.(3)** ? = 779.03 = 780 (approximate)

**Q.8.(5)** ? = 534.99 + 1031.05 - 262.76
? = 1303.28 = 1300 (approximate)

**Q.9.(2)** ? = 62.84 × 34.92 ÷ 16.73
? = 131.16
? =130 (approximate)

**Q.10.(2)** 455.65 + 227.37 - 231.17
? = 451.85
= 450 (approximate)

**Q.11.(2)** +16, +32, +48, +64, +80

**Q.12.(4)** ×2+3, ×2-3, ×2+3, ×2-3,×2+3

**Q.13.(5)** $+(2)^2, +(3)^2, +(5)^2, (7)^2, +(11)^2$

**Q.14.(3)** +18, ×2, +18, ×2, +18, ×2

**Q.15.(3)** $\div\frac{1}{2}+16,\ \div\frac{1}{2}+16,\ \div\frac{1}{2}+16,\ \div\frac{1}{2}+16$

**Q.16.(3)** I. $x^2 - 8x - 6x + 48 = 0$
x (x - 8) -6 (x -8) = 0
(x - 8) (x - 6) =0
x = 8, 6
II. $y^2 - 12y - 11y + 132 = 0$
⇒ y (y - 12) -11 (y-12)
(y - 12) (y - 11) = 0
y = 12, 11
⇒ y > x

**Q.17.(5)** I. x = 22
II. $y^{5+\frac{1}{2}} = (22)^{\frac{11}{2}}$
y = 22
⇒ x = y

**Q.18.(1)** I. 22x = 4444
⇒ x = 202
II. 32y = 3264
y = 102
⇒ x > y

**Q.19.(3)** I. $x = \frac{-13}{5}$
⇒ x = – 2.6
II. –6y = 13
y = –2.16
y > x

**Q.20.(5)** I. x= ± 25
II. y= ± 40
So, relationship can't be setup.

**Q.21.(3)** Sales of Toshiba in 1998 = $\frac{7890 \times 12}{100}$
= 946.8 cr.
Total sales of 1999= $\frac{7890 \times 116.5}{100}$
= 9191.85 cr.
Sale of Toshiba in 1999 = $\frac{9191.85 \times 8}{100}$
= 735.348 cr.
Percentage change
= $\frac{946.8 - 735.348}{946.8} \times 100 = 22\ \%$

**Q.22.(2)** By observation of pie chart give the answer.

**Q.23.(2)** Sales of Compaq in 1998 = 1656.90
Sales of IBM in 1999 = 1562.61
Ratio = $\frac{1656.90}{1562.61} = 1.06$

**Q.24.(5)** Sale of Toshiba in 1998 = 946.8
Sale of Toshiba in 1999 = 735.348
Difference = 641.06

**Q.25.(4)** Sale of IBM in 1998 = 1341.30
Sale of Samsung in 1999.= 2206.04
Percentage = $\frac{1341.30}{2206.04} \times 100 = 60.8\%$

**Q.26.(5)** Difference in the production of Crude Oil from 1995-96 to 1999-2000 = 33
difference in the production of Cement from 1995-96 to 1996-97 = 33

**Q.27.(2)**

**Q.28.(1)** Average difference = $\frac{4830 - 1984}{6}$
= 474

**Q.29.(4)** Cannot be detemined

**Q.30.(2)** Required % Increase
= $\frac{1007 - 623}{623} \times 100 = 60\%$(Approx)

**Q.31.(5)** The difference between the white-coloured cars sold is the minimum in B type model.

**Q.32.(1)** Blue (E+D) = 37 + 43 = 80 = White B

**Q.33.(5)** Required difference = (50 - 34) × 1000
= 16,000





**Q.34.(5)** Silver - A

**Q.35.(3)** Required percentage = $\frac{173}{192} \times 100$
≈ 90%

**Q.36.(5)** I. M = 1,250 and F = 1,050
II. M : F = 2 : 1
From I and II
Average = $\frac{2k \times 1250 + k \times 1050}{3k}$
= $\frac{2500 + 1050}{3} = 1183.33$

**Q.37.(2)**

**Q.38.(5)**

**Q.39.(5)** Quantity of Water mixed in 1 litre Milk
= $\frac{\%\ \text{Value of Profit}}{100} = \frac{10}{100} = \frac{1}{10}$ litre

**Q.40.(4)**

**Q.41.(2)** Circumference of first circle = $2\pi r_1$
$44 = 2 \times \frac{22}{7} \times r_1$
$r_1$ = 7 mt.
Circumference of second circle = $2\pi r_2$
⇒ 440 = $2\pi r$
⇒ $440 = 2 \times \frac{22}{7} \times r_2$
$r_2$ = 70 mt.
Difference of area
= $\pi r_2^2 - \pi r_1^2 = \pi$ (4900-49)
= $4851 \times \frac{22}{7} = 15246$ sq. mt.

**Q.42.(4)** $(25)^2$ - 258 = 367 = 25% of a number
⇒ $x = \frac{367}{25} \times 100$
Number x = 1468
43% of a no.of $\frac{3}{4} \Rightarrow \frac{3}{4} \times \frac{43 \times 1468}{100}$
= 473.43

**Q.43.(3)** Speed of Car = $\frac{360}{9}$ = 40 kmph
Speed of Cycle = $\frac{40 \times 3}{4}$ = 30 kmph
Speed of Rickshaw = $\frac{30}{15} \times 30$ = 60 kmph
Distance covered by Rickshaw in
= 6 × 60= 360 km

**Q.44.(1)** Loss in first item of Ravi
$x = \frac{8 \times 23000}{100} = 1840$
⇒ 23000 - 1840
⇒ 21160
Gain in that amount = $\frac{108 \times 21160}{100}$
= 22852.8
His overall loss = Rs. 147.2

**Q.45.(1)** Let their ages be 6x and x
⇒ $\frac{6x+5}{x+5} = \frac{7}{2}$ ⇒ 12x + 10 = 7x + 35
5x = 25
x = 5 years

**Q.46.(2)** Failed in English = 52
Failed in Mathematics = 42
Failed in English only = (52 - 17) = 35
Failed in Mathematics only
= (42 - 17) = 25
Failed in one or both
= (35 + 25 + 17) = 77
Passed in both = (100 - 77)% = 23%

**Q.47.(2)** Probability = P(E)= $\frac{n(E)}{n(S)} = \frac{1}{7}$

**Q.48.(3)** The mixture contains 3 litres of alcohol and 12 litres of water. Afterwards, the mixture contains 3 litres of alcohol and 15 litres of water.
Percentage of alcohol = $\left(\frac{3}{18} \times 100\right)\%$
= $16\frac{2}{3}\%$

**Q.49.(2)** Ratio of the time = 1 : 3
Taken by A and B
If difference of time is 2 days, B takes 3 days
If diff. of time is 10 days, B takes
= 15 days.

**Q.50.(3)** Let ABCD be a parallelogram and ABEF be a rectangle, equal in area. Then they are between the same paralles, Clearly.
AF < A D, BE < BC and AB = CD = EF
AB+EF +BE +AF < 2AB + AD + BC
AB + EF + BE + AE < AB + CD + AD + BC
So, Perimeter of rectangle< Perimeter of parallelogram
So, = $\frac{\text{Perimeter of Ractangle}}{\text{Perimeter of Parallelogram}} < 1$

# EXPLANATION/BPO/QUANTITATIVE APTITUDE/06

**Q.1.(2)** $(762-475)^2 = ? \times 2$
$(287)^2 = ?\times 2$
$? = 41184.5$

**Q.2.(3)** $? = (1-1+4-1)+\left(\frac{3}{7}-\frac{1}{5}+\frac{1}{8}-\frac{1}{8}\right)$
$= 3+\left(\frac{15-7}{35}\right)$
$= 3\frac{8}{35}$

**Q.3.(5)** $(9)^4 \times (9)^8 \times (9)^6 = (9)^?$
$(9)^? = (9)^{18}$
$? = 18$

**Q.4.(4)** $\frac{8890 \times 37}{100}+\frac{7284 \times 64}{100} = ?-325$
$3289.30+4661.76+325=?$
$? = 8276.06$

**Q.5.(2)** $355\times2.4\times1.7 = ?+540$
$1448.4 - 540 = ?$
$? = 908.4$

**Q.6.(3)** $877\times40=?\times8.762$
$? = 4000$ (approx)

**Q.7.(3)** $\frac{985}{32}\times\frac{982}{68}\times 5 = ?$
$31\times14.4\times5=?$
$? = 2200$ (Approx)

**Q.8.(5)** $2209+784-361-51=?$
$? = 2580$ (Approx)

**Q.9.(2)** $\frac{900 \times 35}{100} - 542 = ? - \frac{24 \times 8790}{100}$
$315-542+2109.6 = ?$
$? = 1880$ (approx)

**Q.10.(3)** $83\times4.13=?$
$? = 342.79 \approx 345$ (approx)

**Q.11.(2)** $\times7+49, \times6+36, \times5+25, \times4+16$ .....

**Q.12.(4)** $\div2, \times3, \div2, \times3,$.....

**Q.13.(3)** $\times4+8, \times4+16, \times4+24, \times4+32,$ .....

**Q.14.(4)** $-57, -171, -285, -399,$.....

**Q.15.(1)** $\div2, \div3, \div4, \div5,$.....

**Q.16.(1)** I. $x^3 = 4913$
$x = 17$
II. $y^2 = 169$
$y = \pm13$
$x>y$

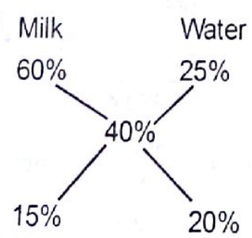
**Q.17.(3)** I. $31x = 252$
$x = \frac{252}{31}$
II. $32y = 2197$
$y = \frac{2197}{32}$
$y > x$

**Q.18.(1)** I. $x^2-3x-3x+9=0$
$x(x-3)-3(x-3)=0$
$(x-3)^2 = 0$
$x = 3,3$
II. $y^2+3y-y-3=0$
$y(y+3)-1(y+3)=0$
$(y+3)(y-1)=0$
$y = 1, -3$
$x>y$

**Q.19.(2)** I. $10x^2 - 5x - 2x+1 = 0$
$5x(2x-1)-(2x-1)=0$
$(2x-1)(5x-1)=0$
$x = \frac{1}{2}, \frac{1}{5}$
II. $35y^2 - 7y - 5y + 1=0$
$7y(5y-1)-1(5y-1)=0$
$y=\frac{1}{5}, \frac{1}{7}$
$\therefore x\geq y$

**Q.20.(1)** $6x+4y=28$
$x+4y=13$
on subtriction, we will get
$x=3$
$y=2.5$
$x>y$

**Q.21.(3)**




Ratio of milk and water = 3:4

Reqd. difference $= \frac{1}{7}\times 140$
$= 20$





**Q.22.(4)** Speed $=108\times\frac{5}{18} = 30$ m./sec.
Distance covered = 30×13=390
Length of train = 390–250 = 140 m.

**Q.23.(4)** P : Q : R
$8x\times\frac{115}{100} : 6x\times\frac{120}{100} : 7x\times\frac{125}{100}$
184 : 144 : 175

**Q.24.(3)** Total number of ways $= 7_{C_3}\times5_{C_3} = 350$

**Q.25.(4)** Total ways
$= 7_{C_2}\times5_{C_1}+7_{C_1}\times5_{C_2}+7_{C_0}\times5_{C_3}$
$= 105+70+10$
$= 185$

**Q.26.(4)** Can't be determined

**Q.27.(4)** Can't be determined

**Q.28.(5)** Income of company B in 2010-11 = ₹ 144 crore.
150% = 144
$100 = \frac{144}{150}\times100$
= 96 crore.

**Q.29.(4)** Income and expenditure of both companies are not known.

**Q.30.(3)** 100% = 40 crore.
Income = 120% of Rs. 40 cr. $= \frac{40\times120}{100}$
= 48 crore

**Q.31.(4)** Reqd. no. = 200 – (24+22)
= 154

**Q.32.(3)** 146

**Q.33.(2)** 130

**Q.34.(2)** No. of students = 68

**Q.35.(4)** 180, because 20 students fail in Arts.

**Q.36.(1)**

| P | Q | R | S | U |
|---|---|---|---|---|
| 10% | 22.22% | 33.33% | 40% | 28.57% |

**Q.37.(2)** Reqd% $= \frac{(40+35)}{60}\times100$
= 125%

**Q.38.(3)** It is clear that the highest average production is in T and lowest average production is in R. So, the maximum difference would be in T and R.

**Q.39.(3)** Reqd, difference $= \frac{335-280}{6} = 916666$ tonnes

**Q.40.(3)** % decline $= \frac{40-35}{40}\times100 = 12.5\%$

**Q.41.(2)** Production of $A_1$ type cars in 2007
= production of $A_1$ type cars in 2006.
(100–85) = 15% of 450000
= 67500
Reqd % $= \frac{67500}{520000}\times100 = 13$

**Q.42.(4)** Clearly by visual inspection $A_4$ is the desired option.

**Q.43.(2)** Percentage production of $A_2$ type cars in 2007.
$= 520000\times\frac{25}{100}$
= 130000

**Q.44.(5)** Production of $A_3$ type cars in 2006
= (70–40)% of 450000
= 30% of 450000 = 135000
Production of $A_3$ type cars in 2007
=20% of 520000 = 130000
Reqd difference =31000

**Q.45.(3)** Production of E type cars in 2006
(100–80)% of 450000
= 20% of 450000 = 90000
In 2007 = 10% of 520000 = 52000
Total production = 90000+52000 = 142000
Reqd no. of cars = 15% of 142000 = 21300

**Q.46.(4)** Reqd% $= \frac{84.5\times100}{478}$
= 17.6% (approx)

**Q.47.(4)** Oilseeds

**Q.48.(2)** Reqd % $= \frac{151.8\times100}{182.5}$
= 83 (approx)

**Q.49.(3)** Reqd Average $= \frac{556.3}{6}$
= 92.7 million tonnes (approx)

**Q.50.(4)** Reqd difference $= \frac{992.3}{6}-\frac{177}{6}$
$= \frac{815.3}{6}$
= 135.8 million tonnes (approx)

# EXPLANATION/BPO/QUANTITATIVE APTITUDE/07

**Q.1.(2)** ? = 3025 + 324 - 1764
? = 1585

**Q.2.(4)** $? = \frac{5}{3}$

**Q.3.(1)** ? = 208080 - 26895
= 181185

**Q.4.(5)** ? = 4949- 2323
? = 2626

**Q.5.(3)** ? = 157625 ÷ 65 = 2425

**Q.6.(1)** ? = 36+21
? = 57

**Q.7.(5)** $? = 6000 \times \frac{66}{100} \times \frac{3}{4} \times \frac{16}{100}$
? = 475.2

**Q.8.(1)** ? = 40618

**Q.9.(3)** ? = 26 × 16 + 8250
? = 8666

**Q.10.(4)** ? = 1025 × 9
? = 9225

**Q.11.(4)** ? = 14 × 31
? = 434

**Q.12.(2)** $? = 23\frac{1}{7}$

**Q.13.(3)** ? = 0.2646

**Q.14.(1)** $(?)^2 = 4826$
$? = \sqrt{4826}$

**Q.15.(5)** ? = 195

**Q.16.(1)**

38 343 5489 137226 [4940137]
×(3)²+1 ×(4)²+1 ×(5)²+1 ×(6)²+1

**Q.17.(4)**

16 21 46 141 566 [2831]
×1+5 ×2+4 ×3+3 ×4+2 ×5+1

**Q.18.(2)**

18 34 66 114 178 [258]
+16 +32 +48 +64 +80

**Q.19.(5)**

26 51 103 [205] 411 821
×2-1 ×2+1 ×2-1 ×2+1 ×2-1

**Q.20.(2)** $16_{\times 2}, 32_{\times 3}, 96_{\times 5}, 480_{\times 7}, \underline{3360}$

**Q.21.(1)** ? = 180 (approx)

**Q.22.(5)** ? = 525.525 + 493.68
? =1019.205
= 1020 (approx)

**Q.23.(3)** ? = 250 (approx)

**Q.24.(4)** ? = 133767.4
= 133770 (approx)

**Q.25.(2)** ? = 255.76×12×3
= 9200 (approx)

**Q.26.(4)** Length = 20 feet

Breadth = $20 \times \frac{5}{4} = 25$ feet

Area of rectangle = length × breadth
= 20 × 25
= 500
Total cost = 162000

Cost per square feet = $\frac{162000}{500}$
= Rs. 324

**Q.27.(2)** Percentage Increase = $\frac{120}{540} \times 100$
= 22.2
= 23% (approx)

**Q.28.(3)** Speed of car = $\frac{504}{9}$
= 56 km/hrs.
Speed of motorcycle = 56×2.5
= 140 km/hrs.
The distance cover by motorcycle in 14 hours.
= 140 × 14
= 1960 km

**Q.29.(1)** $\frac{x \times 350}{y \times 400} = \frac{15}{28}$

$\frac{x}{y} = \frac{30}{49}$

According to the question new fraction is-

$\frac{x_1}{y_1} = \frac{30 \times 500}{49 \times 550}$

$\frac{x}{y} = \frac{300}{539}$





**Q.30-34.**

| School | Total | Boys | Girls |
|---|---|---|---|
| A | 220 | 176 | 44 |
| B | 200 | 140 | 60 |
| C | 80 | 58 | 22 |
| D | 110 | 80 | 30 |
| E | 190 | 146 | 44 |

**Q.30.(2)** Reqd.number of girls = 60 + 30 + 44
= 134

**Q.31.(4)** $\frac{30}{220} \times 100 = 13.6$
= 14% (approx)

**Q.32.(1)** B and c

**Q.33.(2)** $\frac{80}{190} = 8:19$

**Q.34.(5)** Total number of girls in school A and B are-
44+60 = 104
Total number of students in school C
= 80

$\% = \frac{104}{80} \times 100 = 130\%$

**Q.35.(3)** Percentage in 2010 = $\frac{5554.58}{8099.01} \times 100$
= 68.58% = 69% (approx)

**Q.36.(4)** Data inadequate

**Q.37.(2)** In 2006, UK's share = $\frac{45.40}{1358.31} \times 100$
= 3.34%

In 2010, UK's share = $\frac{430.55}{8099.01} \times 100$
= 5.31%
Hence, the growth of 2% approximately.

**Q.38.(4)**

**Q.39.(3)** $\frac{2246.82}{8099.01} \times 100$
= 27.7%
= 28% (approx)

**Q.40.(2)** From statement (II) : The product of two numbers is 16. Hence the possible numbers are 82, 28 and 44. The quotient of digits is 4. Hence the number is 82.

**Q.41.(1)** From statement (I) : We get the required profit is Rs. 40.
Profit = Selling Price - Cost price.
From statement (II) : When profit earned is 20% then obviously selling price will be 120 of the cost price.
Hence, only statement (I) alone is sufficient.

**Q.42.(5)** Let Marks in History = x
Marks in Maths = y
Marks in English = z

From statement (I) = $\frac{x+y+z}{3} = \frac{y+z}{2}$
From statement (II), y + z = 120
from statement (I) and (II) ⇒ x = 60

**Q.43.(5)** From statement (I) - Cost price
= Rs. 2500
After 20% discount
Cost price = Rs. 2000
After gaining 28% profit, marked price
= Rs. 1440

**Q.44.(4)** The leangth of both trains are not given.

**Q.45.(5)** Average

$= \frac{30\% \text{ of } (35+27+28+26+32+34)}{6}$

$= \frac{5460}{600} = 9.1$ billion

**Q.46.(1)** Import of September
= 37.4
Import of Garments Industry in August
= 9.52 billion
Import of Garments Industry in September
= 10.47 billion
Increase = 0.95 billion

**Q.47.(2)** Import of Jewellery in August
= 6.12 billion
Import of Other Industry in March
= 4.20 billion

Percentage = $\frac{1.92}{4.20} \times 100 = 45.7\%$

**Q.48.(5)** $? = \frac{27 \times 12}{34 \times 30} = 0.30$

**Q.49.(3)** $? = \frac{32 \times 40}{35 \times 30} \times 100$
= 121.9
= 120% (approx)

**Q.50.(1)** $\Rightarrow \frac{6!}{2!} = 360$

# EXPLANATION/BPO/QUANTITATIVE APTITUDE/08

**Q.1.(5)** $? = \frac{5}{4} + \frac{14}{9} \times \frac{13}{8} \times \frac{2}{13}$

$? = \frac{5}{4} + \frac{7}{18}$

$? = \frac{59}{36}$

**Q.2.(5)** $(17)^{\frac{x}{5}} = (17)^2$

$\frac{x}{5} = 2$

$x=10$

**Q.3.(5)** $? = 0.001 - \frac{0.001}{10} + 0.01$

$? = 0.001 - 0.0001 + 0.01$

$? = 0.0109$

**Q.4.(4)** $5x=3y$ ------ (i)

and $xy = 3000$ ---- (ii)

From (i),

$x \times \frac{5x}{3} = 3000$

$x = \sqrt{1800}$

$x = 30\sqrt{2}$

**Q.5.(4)** $? = \frac{16 \times 32}{9 \times 27 \times 81}$

$? = \frac{(2)^4 \times (2)^5}{(3)^2 \times (3)^3 \times (3)^4}$

$? = \left(\frac{2}{3}\right)^9$

**Q.6.(4)** $? = 24 \times 9 \times 17$

$? = 3700$ (approx.)

**Q.7.(1)** $? = \frac{52}{9} \times \frac{44}{5} \times \frac{29}{3}$

$? = 490$ (approx.)

**Q.8.(2)** $? = \frac{5940}{28 \times 6}$

$? = 35$ (approx)

**Q.9.(1)** $? = \frac{850 \times 15}{100} + \frac{650 \times 25}{100}$

$? = 295$ (approx.)

**Q.10.(5)** $? = \sqrt{2230}$

$? = 47$ (approx.)

**Q.11.(3)** $+3^1, +3^2, +3^3, +3^4, ----$

**Q.12.(3)** $\times 2+3, \times 2+3, \ldots\ldots\ldots\ldots$

**Q.13.(2)** Raman's expenses = Rs. 100.

Vimal's expenses = Rs. 90

Aman's expenses = Rs. $90 \times \frac{130}{100}$

= Rs. 117.

Aman's expenses = $117 \times \frac{6447}{307}$

= Rs. 2457

**Q.14.(1)** 192 --------- 400

336 --------- $\frac{336 \times 400}{192}$

= 700

**Q.15.(4)** AC consumes electricity in 1 hour

= 16 units.

Bulb consumes electricity in 1 hour.

= 3 units

Required units = $(16+3) \times 8 \times 10$

= 1520 units

**Q.16.(3)** S.I = $\frac{4000 \times 2 \times 5}{100}$ = 400 Rs.

Amount = 4000+400

= Rs. 4400

**Q.17.(3)** Let present age of Shyam and Ram be x and y years

$(x-4) = \frac{3}{4}(y-4)$

$\Rightarrow 4x-3y = 4$ ---------- (i)

and, $(x+4) = \frac{5}{6}(y+4)$

$6x-5y = -4$ -------- (ii)

Solve (I) and (II)

x = 16 years

and y = 20 years.





**Q.18.(2)** Required avg

$= \frac{(20 \times 68) + (72 + 61) - (48 + 65)}{20}$

= 69

**Q.19.(5)** Required ways = ${}^{8}C_6 \times {}^{6}C_1$

= 168

**Q.20.(1)** Distance = $\frac{44}{60} \times 50$

$= \frac{110}{3}$ kms.

Required time = $\frac{\frac{110}{3}}{(50+5)}$

$= \frac{2}{3} \times 60$

= 40 minutes.

**Q.21.(2)** I. $x^2-1 = 0$

$x^2 = 1$

$x = \pm 1$

II. $y^2+4y+3=0$

$y^2+3y+y+3=0$

$y(y+3)+1(y+3)=0$

$(y+1)(y+3) = 0$

$y=-1, -3$

$\therefore x \geq y$

**Q.22.(4)** I. $x^2-7x+12=0$

$x^2-4x-3x+12=0$

$x(x-4)-3(x-4)=0$

$(x-3)(x-4)=0$

$x=3,4$

II. $y^2-12y+32=0$

$y^2-8y-4y+32=0$

$y(y-8)-4(y-8)=0$

$(y-4)(y-8) = 0$

$y=4,8$

$y \geq x$

**Q.23.(3)** I. $x^3=629+371$

$x = \sqrt[3]{1000}$

$x=10.$

II. $y^3=788+543$

$y = \sqrt[3]{1331}$

$y = 11$

$\therefore y>x$

**Q.24.(1)** I. $5x-2y = 31$

II. $3x+7y = 36.$

From eq. I and II,

$x = \frac{289}{41}$

and $y = \frac{87}{41}$

$\therefore x>y$

**Q.25.(5)** I. $2x^2+11x+12=0$

$2x^2+8x+3x+12=0$

$2x(x+4)+3(x+4)=0$

$(2x+3)(x+4)=0$

$x = \frac{-3}{2}, -4$

II. $5y^2+27y+10=0$

$5y^2+25y+2y+10=0$

$5y(y+5)+2(y+5)=0$

$(5y+2)(y+5)=0$

$y = \frac{-2}{5}, -5$

Relationship Can't be established.

**Q.26-30.**

| | Boys | Girls |
|---|---|---|
| Dance | 35 | 63 |
| Solo Song | 28 | 56 |
| Group Song | 126 | 84 |
| Drama | - | 112 |
| Total | 189 | 315 |

**Q.26.(1)** Required % = $\frac{35}{189} \times 100$

= 19% (approx.)

**Q.27.(1)** Required% = $\frac{56}{504} \times 100$

= 11%

**Q.28.(2)** Required number = 84+112

= 196

**Q.29.(1)** Required Ratio = 28 : 56

= 1 : 2

**Q.30.(3)** Required difference = 63 - 35

= 28

**Q.31.(3)** $x+(x+2)+(x+4)+(x+6) = 284$

$4x = 284-12$

$x = \frac{272}{4}$

$x = 68$

**Q.32.(3)** $\frac{a^2+b^2-2ab-a^2-b^2-2ab}{4a}=\frac{x}{y}$

$\frac{x}{y}=\frac{-4ab}{-4a}$

$\frac{x}{y}=b$

by = x

**Q.33.(3)** $\frac{1}{4}\times\frac{3}{5}\times\frac{6}{5}\times x=54$

$x=\frac{54\times5\times5\times4}{18}$

x= 300

**Q.34.(1)** Required average = $\frac{24\times5-8\times5}{4}$

= 20 years

**Q.35.(3)** Required maximum marks

$\Rightarrow 40+30=\frac{35}{100}x$

x = 200.

**Q.36.(1)** Area = $\frac{256}{2}$

= 128 $m^2$.

2x×x = 128

$x^2$ = 64

x = 8

∴ Length = 8×2

= 16 m.

**Q.37.(5)** Let ∠D be $x^0$.

∠C = $x^0+10^0$.

∠B = $2x^0+20^0$

and ∠A = $2x^0-6^0$.

∴ $2x^0-6^0+2x^0+20^0+x^0+10^0+x^0=360^0$.

$6x^0+24=360^0$

$x^0=56$

$=2\times56-6$

∴ ∠A = $106^0$.

**Q.38.(2)** $x-\frac{x}{7}=180$

$x=\frac{180\times7}{6}$

= 210.

**Q.39.(5)** Speed = A : B

4 : 6

Time = 6 : 4

Ratio = 3 : 2

**Q.40.(3)** 5 am+6 hours = 11 am

11 am + (6×6) min.

11 : 36 am.

**Q.41.(1)** Required % = $\frac{42}{490}\times100$

= 9%(appox.)

**Q.42.(2)** Required ratio = 90 : 60

= 3 : 2

**Q.43.(5)** Required % = $\frac{45+19}{640}\times100$

= 10%

**Q.44.(3)** Required ratio = 280 : 210

= 4 : 3

**Q.45.(4)** Required % = $\frac{45}{225}\times100$

= 20%

**Q.46.(1)** Difference = (15–5)% of 500

= 50 lakhs

**Q.47.(5)** Required amt

$=\left[500\times\frac{45}{100}-500\times\frac{45}{100}\times\frac{20}{100}\right]$

= 225–45

= 180 lakhs

**Q.48.(5)** Required % = $\frac{26.25}{175}\times100$

= 15%

**Q.49.(3)** Required amt = $500\times\frac{30}{100}$

= 150 lakhs

**Q.50.(4)** Required amt = $500\times\frac{45}{100}$

= 225 lakhs





# EXPLANATION/BPO/QUANTITATIVE APTITUDE/09

**Q.1.(2)** $\frac{7225}{17}\times\frac{34}{68}=?$

? = 212.5

**Q.2.(3)** ? = $2^4(2^4+1)$

? = 16 ×17

? = 272

**Q.3.(1)** ? = 40.64 – 18.04

? = 22.6

**Q.4.(3)** ? = 57.60 + 57.60

? = 115.20

**Q.5.(3)** ? = $\sqrt{68+76}$

? = 12

**Q.6.(1)** ? = 480 +37.5 – 17.5

? = 500

**Q.7.(1)** ? = 290 – 267

? = 23

**Q.8.(4)** ? = 219.04 – 163.84

? = 55.2

**Q.9.(3)** ? = 6673 – 2876

? = 3797

**Q.10.(5)** ? = $\frac{81}{6.75\times6}$

? = 2

**Q.11.(3)** ×3 +3, ×3 +3,.....

**Q.12.(4)** ×2 +5, ×2 +10, ×2+15, .....

**Q.13.(1)** ×1 +3, ×2 +6, ×3 +9, .....

**Q.14.(3)** +111, +111, +111,.....

**Q.15.(4)** $+4^3$, $+5^3$, $+6^3$,.....

**Q.16.(2)** ? = 18×18×18

? = 5830 (approx)

**Q.17.(1)** ? = $\frac{3673}{275}$

? = 13 (approx)

**Q.18.(3)** ? = $\frac{1400\times425}{60\times100}$

? = 100 (approx)

**Q.19.(1)** ? = 280×10

? = 2800 (approx)

**Q.20.(1)** ? = 170+65×2–50

? = 250 (approx)

**Q.21.(4)** Total ways = $\frac{9!}{2!\times2!}$

= 90720

**Q.22.(2)** D = $\frac{Pr^2(300+r)}{100^3}$

D= $\frac{12000\times100\times(310)}{100^3}$

D= Rs. 372

**Q.23.(3)** Speed = $\frac{210+210}{20}\times\frac{18}{5}$ = 75.6 km/hr

**Q.24.(4)** Let the ages of Salman and Aamir be x and y years.

$\frac{(x-4)}{(y-4)}=\frac{5}{4}$

5y – 4x = 4_____(i)

and, $\frac{(x+8)}{(y+8)}=\frac{13}{11}$

11x – 13y = 16_____(ii)

Solve (i) and (ii)

x = 44 and y = 36

**Q.25.(2)** Let the two numbers be x and y.

x = 30% of y + 44

10x – 3y = 440_____(i)

and, x + y = 200_____(ii)

Solve eq. (i) and (ii)

and get x = 80

and y = 120

Required difference = 120 – 80 = 40

**Q.26.(4)** Let the monthly salary be Rs. x.

125% of 18% of x = 12510

x = Rs. 55600

**Q.27.(2)** Required Number = ${}^{10}C_2+{}^{8}C_2=73$

**Q.28.(2)** Let the length and breadth be x cm. and y cm.

$\frac{8x+5}{5x+5}=\frac{7}{5}$ x = 2

∴ Area = (8×2)×(5×2) = 160 $cm^2$

∴ New Area = 21×15

= 315 $cm^2$

Required difference = (315 – 160) $cm^2$

= 155 $cm^2$

**Q.29.(3)** Let the original fraction be $\frac{x}{y}$

$\frac{x+3}{y+4}=\frac{4}{5}$

5x – 4y = 1_____(i)

and, $\frac{x+7}{y+3} = \frac{4}{3}$

$4y - 3x = 9$ _____ (ii)

Solve eq. (i) and (ii)

and get,

$x = 5$ and $y = 6$

Then fraction $= \frac{5}{6}$

**Q.30.(1)** Total Cost = 10×10.50+20×12= Rs. 345

Cost/kg $= \frac{345}{30}$ = Rs. 11.5

Profit = 30 × (12.40 – 11.5) = Rs. 27

**Q.31.(5)** I. $12x^2 - 2x - 4 = 0$

$6x^2 - x - 2 = 0$

$6x^2 - 4x + 3x - 2 = 0$

$2x(3x - 2) + 1(3x - 2) = 0$

$(2x + 1)(3x - 2) = 0$

$x = -\frac{1}{2}, \frac{2}{3}$

II. $10y^2 + 2 - 9y = 0$

$10y^2 - 5y - 4y + 2 = 0$

$5y(2y - 1) - 2(2y - 1) = 0$

$(5y - 2)(2y - 1) = 0$

$y = \frac{2}{5}, +\frac{1}{2}$

∴ Relationship can't be established

**Q.32.(1)** I. $8x^2 + 10x + 3 = 0$

$8x^2 + 6x + 4x + 3 = 0$

$2x(4x + 3) + 1(4x + 3) = 0$

$(2x + 1)(4x + 3) = 0$

$x = -\frac{1}{2}, -\frac{3}{4}$

II. $2y^2 + 5y + 3 = 0$

$2y^2 + 3y + 2y + 3 = 0$

$y(2y + 3) + 1(2y + 3) = 0$

$(y + 1)(2y + 3) = 0$

$y = -1, -\frac{3}{2}$

∴ $x > y$

**Q.33.(3)** I. $x^2 + x - 2 = 0$

$x^2 + 2x - x - 2 = 0$

$x(x + 2) - 1(x + 2) = 0$

$(x - 1)(x + 2) = 0$

$x = 1, -2$

II. $y^2 - 9y + 20 = 0$

$y^2 - 5y - 4y + 20 = 0$

$y(y - 5) - 4(y - 5) = 0$

$(y - 4)(y - 5) = 0$

$y = 4, 5$

∴ $y > x$

**Q.34.(5)** I. $x^2 + x - 12 = 0$

$x^2 + 4x - 3x - 12 = 0$

$x(x + 4) - 3(x + 4) = 0$

$(x - 3)(x + 4) = 0$

$x = -4, 3$

II. $y^2 + 4y - 21 = 0$

$y^2 + 7y - 3y - 21 = 0$

$y(y + 7) - 3(y + 7) = 0$

$(y - 3)(y + 7) = 0$

$y = 3, -7$

relation cannot be established

**Q.35.(2)** I. $6x^2 + x - 1 = 0$

$6x^2 + 3x - 2x - 1 = 0$

$3x(2x + 1) - 1(2x + 1) = 0$

$(3x - 1)(2x + 1) = 0$

$x = \frac{1}{3}, -\frac{1}{2}$

II. $8y^2 + 10y + 3 = 0$

$8y^2 + 6y + 4y + 3 = 0$

$2y(4y + 3) + 1(4y + 3) = 0$

$(2y + 1)(4y + 3) = 0$

$y = -\frac{1}{2}, -\frac{3}{4}$

∴ $x \geq y$

**Q.36.(2)** Required % $= \frac{45}{80} \times 100 = 56.25\%$

**Q.37.(4)** Required ratio = 4:3

**Q.38.(1)** Required difference = 345 – 330=15000

**Q.39.(1)** 2001

**Q.40.(4)** Required % $= \frac{110}{165} \times 100 = 66\frac{2}{3}\%$

**Q.41.(1)** Required % $= \frac{540 - 330}{330} \times 100$

$= \frac{210}{330} \times 100 = 64\%$ (approx)

**Q.42.(3)** Required average $= \frac{135}{6} = 22.5$

**Q.43.(3)** Required ratio = 4690 : 3750= 469 : 375

**Q.44.(2)** Required difference = 1215 – 690

= 525 lakhs

**Q.45.(4)** Required profit

= (30+90+90+175+315+240)=Rs.940 lacs

**Q.46.(4)** Required ratio = 1152:684= 32:19

**Q.47.(5)** Required % $= \frac{2760}{1560} \times 100 = 177\%$ (app)

**Q.48.(2)** Required difference = 7140 – 4860= 2280

**Q.49.(1)** Required % $= \frac{1080}{1380} \times 100 = 78.26\%$

**Q.50.(3)** Required ratio = 1326:1326= 1:1





# EXPLANATION/BPO/QUANTITATIVE APTITUDE/10

**Q.1.(2)** $107 \times 79 - 2916 = \sqrt{?} + 5476$

$\sqrt{?} = 5537 - 5476$

$= 61$

$? = 61 \times 61$

$= 3721$

**Q.2.(3)** $\sqrt{8}(3+1) \times 15\sqrt{8} - 98 = ?$

$? = 4\sqrt{8} \times 15\sqrt{8} - 98$

$= 4 \times 15 \times 8 - 96$

$= 382$

**Q.3.(1)** ? = 1021585- 18611 - 5883

= 997091

**Q.4.(4)** $? = \frac{4}{13} + \frac{5}{26}$

$= \frac{1}{2}$

**Q.5.(3)** 533.61 + 2361.96-1584.04 = ? + 1147.69

? = 1311.53 - 1147.69

= 163.84

**Q.6.(5)** ? = (16+350) ×21

= 7680 (approx)

**Q.7.(3)** ? = 1732 + 2950

= 4700 (approx)

**Q.8.(3)** ? = 5 ×6

= 30 (approx)

**Q.9.(5)** ?= 21 × 400

= 8300 (approx)

**Q.10.(2)** ? = 80 × 35

= 2800 (approx)

**Q.11.(5)** $-15^3, -13^3, -11^3, -9^3 - 7^3, -5^3$

**Q.12.(4)** 7×2-2 = 12

12 × 4 - 8 = 40

40 × 6 - 18 = 222

222 × 8 - 32 = 1744

1744 × 10 - 50 = 17390

17390×12 - 72 = 208608

**Q.13.(3)** ×7+ 49, ×6 + 36, ×5+25, ×4+16, ×3+9,×2+4

**Q.14.(4)** $1^1, 2^2, 3^3, 4^4, 5^5, 6^6, 7^7$

**Q.15.(2)** ÷2, --------

**Q.16.(5)** Let the first, second and third number be x,y and z respectively

$\frac{6x}{11} = \frac{22y}{100}$

$\frac{6x}{11} = \frac{22y}{100}$ -------- (I)

$y = \frac{z}{4}$

$= \frac{2400}{4}$

$= 600$

$\frac{6x}{11} = 6 \times \frac{11}{50}$

$x = 242$

Required answer $= 242 \times \frac{45}{100}$

=108.9

**Q.17.(4)** No. of males $= 4800 \times \frac{45}{100} \times \frac{40}{100}$

= 864

**Q.18.(5)** Average $= \frac{24 \times 56 + (174 - 150)}{24}$

= 57

**Q.19.(3)** Let the maximum marks be $x = \frac{336}{700} \times 100$

= 48

$x \times \frac{48}{100} = 468$

$x = 975$

**Q.20.(2)** $10800 = \frac{22500 \times 4 \times r}{100}$

r = 12%

Compound interest

$= 22500 \times \left(\frac{112}{100} \times \frac{112}{100} - 1\right)$

=Rs. 5724

**Q.21.(1)** No. of tickets $= \frac{2940}{245}$

= 12

**Q.22.(2)** Ramola = Ravina × 3

Ravina = Ruchira × $\frac{115}{100}$

$= 32000 \times \frac{115}{100}$

= Rs. 36800

Ramola's annual income = 36800×3 ×12

= Rs. 13,24,800

**Q.23.(5)** Average marks $= \frac{490 + 805 + 634}{3}$

= 643

**Q.24.(2)** Parineeta's present age = 24 years
Manisha's present age = 15 years
$x - 15 = 24$
$x = 39$ years

**Q.25.(3)** Total cost = $20\times7+22\times8+175\times6+(29+14)\times7$
$= 140 + 176 + 1050 + 301$
= Rs. 1667

**Q.26.(1)** Required probability = $\frac{{}^5C_2 \times {}^2C_2}{{}^{14}C_4}$

$= \frac{10}{1001}$

**Q.27.(3)** Required probability= $\frac{{}^4C_2 \times {}^5C_2 \times {}^2C_2 \times {}^3C_2}{{}^{14}C_8}$

$= \frac{180}{3003} = \frac{60}{1001}$

**Q.28.(1)** Required probability = $\frac{{}^2C_2}{{}^{14}C_2} + \left[1 - \frac{{}^{12}C_2}{{}^{14}C_2}\right]$

$= \frac{1}{91} + \left[1 - \frac{66}{91}\right]$

$= \frac{1}{91} + \frac{25}{91}$

$= \frac{26}{91}$

**Q.29.(2)** Required probability = $1 - \frac{{}^{11}C_3}{{}^{14}C_3}$

$= 1 - \frac{165}{364}$

$= \frac{199}{364}$

**Q.30.(5)** Required probability = $\frac{{}^{10}C_3}{{}^{14}C_3}$

$= \frac{30}{91}$

**Q.31.(5)** Ratio = 19008 : 20538
= 1056 : 1141

**Q.32.(5)** Ratio = $\frac{22755}{303600} \times 100$
= 7.5 (approx)

**Q.33.(4)** Percent = $\frac{9128}{8351} \times 100$
= 109.30%

**Q.34.(3)** Total Number = 13180 + 18315
= 31495

**Q.35.(1)** Average number = $\frac{148941}{6}$
= 24823.5

**Q.36.(2)** $1^0 = \frac{6800}{360}$

$= \frac{170}{9}$

Percent = $\frac{272}{2312} \times 100$
= 12% (approx)

**Q.37.(1)** Totel number = 1088 + 1224
= 2312

**Q.38.(3)** Difference = (2312 + 408) - (1496+272)
= 2720 - 1768
= 952

**Q.39.(4)** Percent = $\frac{1632}{6800} \times 100$
= 24%

**Q.40.(1)** Ratio = 408 : 1496
= 3 : 11

**Q.41.(2)** Total = 99 + 75 + 132 + 70 + 42 + + 45
= 463

**Q.42.(4)** Garvita

**Q.43.(3)** Percent = $\frac{88}{76} \times 100$
= 115.79%

**Q.44.(2)**

**Q.45.(1)** Average number = $\frac{696}{6}$
= 116

**Q.46.(4)** Percnet = $\frac{45}{135} \times 100$
= 32% (approx)

**Q.47.(4)**

**Q.48.(1)** Ratio = 55 : 25
= 11 : 5

**Q.49.(2)** Percent = $\frac{40000}{455030} \times 100$
= 9% (approx)

**Q.50.(5)** Total number = 95 × 1000
= 95000

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