NABARD Grade A Previous Year Question Paper: 2021- Quantitative Aptitude

Directions (1 - 3): In each of these questions a number series is given. In each series only one number is wrong. Find out the wrong number.

Q1. 124, 64, 65, 100.5, 205, 517.5, 1558.5
(a) 124
(b) 64
(c) 65
(d) 517.5
(e) 1558.5

Q4. 96, 24, 48, 12, 18, 6, 12
(a) 96
(b) 24
(c) 48
(d) 6
(e) 18

Q3. 2006, 1277, 765, 422, 208, 81, 17
(a) 1277
(b) 2006
(c) 81
(d) 208
(e) 17

Direction (4-8): Read the given information carefully and answers the following questions.

There are three department H.R., Marketing & Accounts. The average number of employees in Marketing & Accounts is 720 whereas the average of employees in H.R. & Accounts is 610. Average of employees of H.R. & Marketing is 650. Ratio of male to female employees in H.R. is 5:4 and in Marketing male is 10% less than female. Ratio of male in Marketing to that in Accounts is 9:8.

Q4. Total females in H.R. and Accounts together are how much more or less than total employees in Marketing?
(a) 200
(b) 140
(c) 120
(d) 160
(e) 100

Q5. Total employees in Accounts are approximately what percent more or less than total male employees in H.R. and Marketing together?
(a) 14%
(b) 18%
(c) 21%
(d) 7%
(e) 3%

Q6. The average number of male & female employees in Marketing is what percent of total male employees in H.R.?
(a) 110.67%
(b) 104%
(c) 89.50%
(d) 126.66%
(e) 142.75%

Q7. Find ratio of total number of male employees in H.R. & Accounts together to the total number of female employees in Marketing & H.R. together?
(a) 5:4
(b) 31: 32
(c) 1: 3
(d) 11: 14
(e) 38: 21

Q8. If 75% & 55% of the male & female employees respectively in H.R. have done their post-graduation, then find total number of employees who have done their post-graduation?
(a) 124
(b) 357
(c) 216
(d) 440
(e) 516

Q9. Athena invested Rs. (X+800) in scheme B offering simple interest at the rate of 15% p.a. and he received Rs.1200 as interest after four years. If invested 135% of X in scheme A offering compound interest annually at the rate of 15% for two years, then find the interest received by Athena from scheme A?
(a) Rs.522.45
(b) Rs.578.50
(c) Rs.504.45
(d) Rs.546.50
(e) Rs.586.50

Q10. A boat in still water covers (2d-6) km in 120 minutes and speed of boat in upstream and downstream is 16 km/h and 32 km/h respectively. Find the time taken by boat to cover (3d+15) km in upstream?
(a) 18 hours
(b) 7 hours
(c) 26 hours
(d) 5 hours
(e) 6 hours

Directions (11-12): What approximate value will come in place of question mark (?) in the following questions? (You are not expected to calculate the exact value)

Q11. $4499.703 \div 50.005 + 19.78 \times 9.87 + \sqrt{440.909} = ?$
(a) 190
(b) 311
(c) 257
(d) 219
(e) 285

Q12. $(749.88\ \%\ of\ 299.91) - (19.823\ \%\ of\ 1799.98) = ? - 15.98^2 + 19.87 \times 24.98$
(a) 1646
(b) 1897
(c) 1276
(d) 986
(e) 452

Q13. The area of a rectangular park is 580 m^2 and length of the rectangular park is 45% more than its breadth. Perimeter of the rectangular park is how much more/less than the perimeter of a square park if side of square park is 2.5 m less than the average of length and breadth of rectangular park.
(a) 15m
(b) 10m
(c) 12.5m
(d) 16.5m
(e) 18m

Q14. Sohan is three years older than Mohan, while ratio of age of Rohan to that of Mohan four years ago was 3: 5. If age of Rohan eight years later will be equal to the age of Sohan three years ago then find present age of Sohan?
(a) 21 years
(b) 27 years
(c) 35 years
(d) 15 years
(e) 11 years

Q15. Average age of all the employees in a company is 32 years. 60% of the employees in the company are female and the ratio of the average age of all female to average age of all male employees is 6 : 7. Find the average age of all the male employees if there are total 50 employees in the company?

(a) 35 years

(b) 42 years

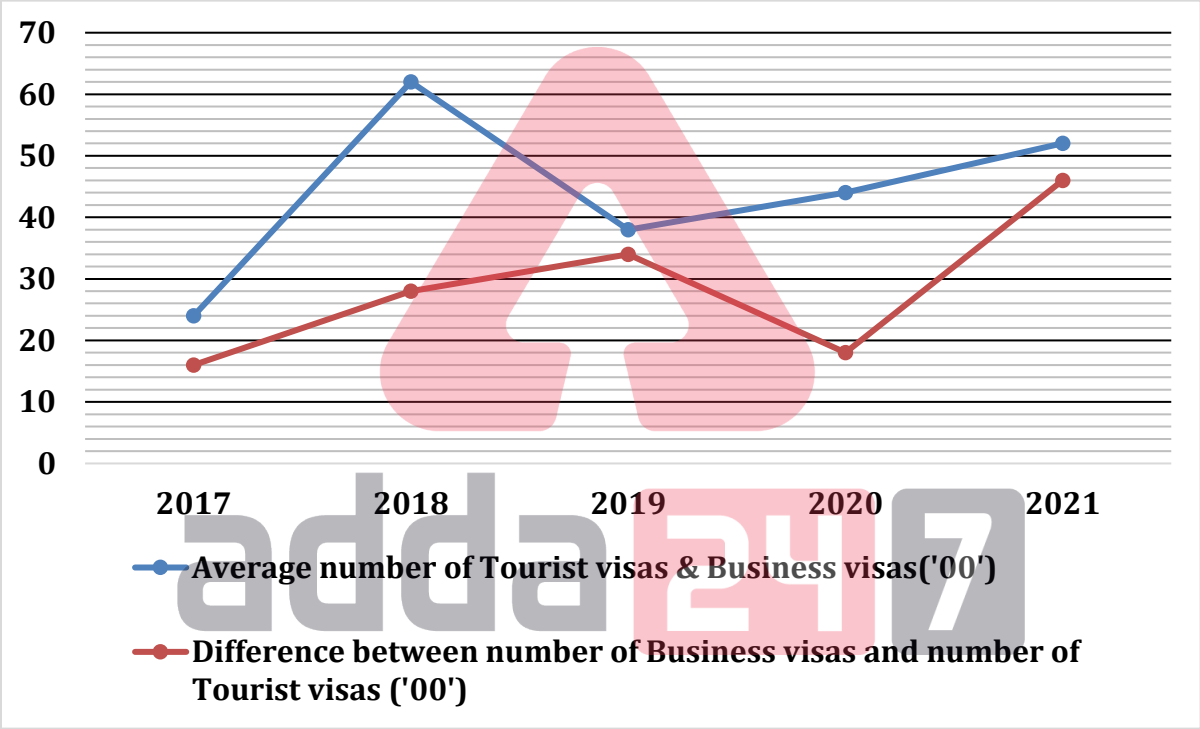
(c) 28 years

(d) 49 years

(e) 30 years

Directions (16-20): Read the following line graph carefully and answer the questions given below. The line graph shows average number of visa (Tourist and Business) issued and difference between number of Business visas and number of Tourist visas issued by India in five different years.

Note: Business visas in all the years are more than Tourist visas issued by India.



Q16. Number of Business visas issued in 2016 is $87\frac{1}{2}$% of Business visas of 2017 and number of Tourist visas issued in 2016 is $6\frac{1}{4}$% less than that in Tourist visa 2017. Find the average number of visas issued in 2016?

(a) 2150

(b) 2560

(c) 2156

(d) 2897

(e) 2451

Q17. Find the ratio of number of Tourist visas issued in 2019 and 2020 together to number of Business visas issued in 2021 and 2018 together?
(a) 59 : 151
(b) 56 : 159
(c) None of these
(d) 56 : 151
(e) 59 : 150

Q18. Number of Education visas issued in 2018 are $37\frac{1}{2}\%$ more than number of Tourist visas issued in 2018. Number of Business visas issued in 2021 is approximately what percent more/less than number of Education visas issued in 2018?
(a) 19%
(b) 24%
(c) 32%
(d) 6%
(e) 14%

Q19. In 2017, out of total number of Tourist visas issued, 25% visas issued for U.S. and 38% of remaining visas issued for U.K. and remaining visas issued for U.A.E. and Greece are in the ratio of 7:5 respectively. Find the difference between number of visas issued for U.A.E. and number of visas issued for U.K?
(a) 12
(b) 42
(c) 56
(d) 22
(e) 78

Q20. Total number of visas issued in 2019 is how much more/less than the number of Business visas issued in 2021?
(a) 55
(b) 68
(c) 95
(d) 112
(e) 100

Solutions

S1. Ans.(b)
Sol. Wrong no. = 64
Pattern of series –
$124 \times 0.5 + 1 = 63$
$63 \times 1 + 2 = 65$
$65 \times 1.5 + 3 = 100.5$
$100.5 \times 2 + 4 = 205$
$205 \times 2.5 + 5 = 517.5$
$517.5 \times 3 + 6 = 1558.5$

S2. Ans.(e)

Sol. Wrong no. = 18

Pattern of series –

$96 \div 4 = 24$

$24 \times 2 = 48$

$48 \div 4 = 12$

$12 \times 2 = 24$

$24 \div 4 = 6$

$6 \times 2 = 12$

S3. Ans.(d)

Sol. Wrong no. = 208

Pattern of series –

$2006 - 9^3 = 1277$

$1277 - 8^3 = 765$

$765 - 7^3 = 422$

$422 - 6^3 = 206$

$206 - 5^3 = 81$

$81 - 4^3 = 17$

Solutions (4-8):

Let the total employees in H.R., Marketing & Accounts be x, y & z respectively

y + z = 1440 ----------(i)

x + z = 1220 ----------(ii)

x + y = 1300 ----------(iii)

On adding (i), (ii) & (iii)

x+ y + z = 1980 ----------(iv)

from (i) & (iv)

x = 540

from (ii) & (iv)

y = 760

from (iii) & (iv)

z = 680

male in H.R. = $\frac{540\times5}{9} = 300$

female in H.R. = $540 \times \frac{4}{9} = 240$

male in Marketing = $\frac{760\times9}{19} = 360$

female in Marketing = $\frac{760\times10}{19} = 400$

male in Accounts = $\frac{360}{9} \times 8 = 320$

female in Accounts = 680 – 320 = 360

Departments	Male	Female	Total
H.R.	300	240	540
Marketing	360	400	760
Accounts	320	360	680

S4. Ans.(d)

Sol. Required difference = $760 - 240 - 360 = 160$

S5. Ans.(e)

Sol. Required percentage = $\frac{680-(300+360)}{660} \times 100 = 3.03\% \approx 3\%$

S6. Ans.(d)

Sol. Required percentage = $\frac{\left(\frac{760}{2}\right)}{300} \times 100 = \frac{380}{300} \times 100 = 126.66\%$

S7. Ans.(b)

Sol. Required ratio = $(300 + 320) : (400 + 240)$

$620 : 640 = 31 : 32$

S8. Ans.(b)

Sol. Number of male employees who have done their post-graduation = $300 \times \frac{75}{100} = 225$

Number of female employees who have done their post-graduation = $240 \times \frac{55}{100} = 132$

Required sum = 225+132 = 357

S9. Ans.(a)

Sol. ATQ- $\frac{(X+800)\times 15\times 4}{100} = 1200$

$X + 800 = 2000$

$X = 1200$

C.I. rate for 2 years = $(15 + 15 + \frac{15\times 15}{100})\% = 32.25\%$

$32.25\%\ of\ 1200 \times \frac{135}{100}$

$\frac{32.25}{100} \times 1200 \times \frac{135}{100} = Rs.522.45$

S10. Ans.(e)

Sol. Let speed of boat in still water be x km/h

Speed of current be y km/h

Downstream speed of a boat = $x + y = 32$ ...(i)

Upstream speed of a boat = $x - y = 16$ ....(ii)

From (i) & (ii)

Speed of boat in still water = 24 km/h

Speed of current = 8 km/h

boat in still water to cover a distance of (2d-6) km in 120 minutes

ATQ.

$\frac{2d-6}{24}=2$

$2d=54$

$d=27\ km$

Required time = $\frac{3\times27+15}{16}=6\ hours$

S11. Ans.(b)

Sol. $4499.703\div50.005+19.78\times9.87+\sqrt{440.909}=?$

$4500\div50+20\times10+\sqrt{441}=?$

$90+200+21=?$

$311=?$

S12. Ans.(a)

Sol. $(749.88\ \%\ of\ 301)-(19.823\ \%\ of\ 1799)=?-15.98^2+19.87\times24.98$

$(750\ \%\ of\ 300)-(20\ \%\ of\ 1800)=?-16^2+20\times25$

$2250-360=?-256+500$

$1646=?$

S13. Ans.(b)

Sol. Let the breadth of a rectangular park be 'x' m

And length of a rectangular park = 1.45x m

ATQ.

$x\times1.45x=580$

$x=20m$

Side of square park = $\frac{20+1.45\times20}{2}-2.5=22m$

Perimeter of a rectangular park = $2(20+29)=98\ m$

Perimeter of square park = $4\times22=88m$

Req. difference = 98m – 88m =10m

S14. Ans.(b)

Sol. Let the age of Rohan and Mohan four years ago be 3x and 5x years respectively.

Let present age of Sohan be y years

Present age of Rohan=(3x+4) years

Present age of Mohan=(5x+4) years

ATQ

$3x+4+8=$y-3

$y-3x=15\ldots\ldots(i)$

And $y-(5x+4)=3$

$y-5x=7\ldots\ldots(ii)$

From (i) and (ii)we get

x=4 years

present age of Sohan =27 years

S15. Ans.(a)

Sol. Number of female employees = $50 \times \frac{60}{100} = 30$

$\therefore$ Number of male employees = 20

Let the average age of male employees be 7x

and average age of female employees = 6x

ATQ,

$32 \times 50 = 30 \times 6x + 7x \times 20$

$\Rightarrow x = \frac{32 \times 50}{320} \Rightarrow x = 5$

Average age of all the male employees = 35 years

Sol. (16-20)

Total number of visas issued in 2017 = $2400 \times 2 = 4800$ .....(i)

Business Visas issued in 2017 –Tourist visas issued in 2017 = 1600 ……(ii)

From (i) & (ii)

Business visas issued in 2017 = 3200

Tourist visas issued in 2017 = 1600

Similarly:

Years	**Business visas**	**Tourist visas**
2017	3200	1600
2018	7600	4800
2019	5500	2100
2020	5300	3500
2021	7500	2900

S16. Ans.(a)

Sol. Number of Business visas issued in 2016 = $3200 \times \frac{7}{8} = 2800$

Number of Tourist visas issued in 2016 = $1600 \times \frac{15}{16} = 1500$

Required average number of visas issued in 2016 = $\frac{2800+1500}{2} = 2150$

S17. Ans.(d)

Sol. Number of Tourist visas issued in 2019 and 2020 = 2100+3500 = 5600

Number of Business visas issued in 2021 and 2018 = 7500+7600 = 15100

Required ratio = 5600 : 15100 = 56 : 151

S18. Ans.(e)

Sol. Number of Education visas issued in 2018 = $4800 \times \frac{11}{8} = 6600$

Required percentage = $\frac{7500-6600}{6600} \times 100 = 13.63\% \approx 14\%$

S19. Ans.(d)

Sol. Number of Tourist visas issued for U.S. = $1600 \times \frac{25}{100} = 400$

Number of Tourist visas issued for U.K. = $(1600 - 400) \times \frac{38}{100} = 456$

Number of Tourist visas issued for U.A.E.

= $(1600 - 400 - 456) \times \frac{7}{12} = 434$

Number of Tourist visas issued for Greece

= $(1600 - 400 - 456) \times \frac{5}{12} = 310$

Required difference = 456 – 434 = 22

S20. Ans.(e)

Sol. Total number of visas issued in 2019 = 5500 + 2100 = 7600

Number of Business visas issued in 2021 = 7500

Required difference = 7600 – 7500 = 100