Quiz Date: 5th September 2020

Directions (1-5): Given below is the percentage of graduate students in 5 different universities and the ratio of males to females in graduate and post graduate category. Study the table carefully and answer the following questions:

**Note-** There are only graduate and post graduate students in each University.

| Universities | % Graduate students | M : F (Graduate) | M : F (Post graduate) |
|---|---|---|---|
| P | 35 | 5 : 6 | 6 : 7 |
| Q | 25 | 3 : 5 | 4 : 5 |
| R | 24 | 1 : 2 | 2 : 3 |
| S | 20 | 3 : 2 | 4 : 3 |
| T | 15 | 5 : 3 | 3 : 2 |

Q1. If no. of graduate female students of university S is 2000 and total no. of students of university R is 20% less than that of S, then find the total no. of post graduate students in university R?
(a) 18 thousand
(b) 15.2 thousand
(c) 25 thousand
(d) 22 thousand
(e) 18.5 thousand

Q2. If post graduate male in university S and P are in ratio 4 : 3, Then no. of students of university S is what percent of that of P?
(a) 86.75%
(b) 89.25%
(c) 97.25%
(d) 87.5%
(e) 77.5%

Q3. If there are 2.4 thousand post graduate male in university Q and 4 thousand graduate female in university S then find ratio of no. of students in university Q to the no. of students in university S?
(a) 18 : 125
(b) 18 : 121
(c) 7 : 13
(d) 9 : 121
(e) 125 : 18

Q4. What is approximate no. of graduate female students of university T if total post graduate female in that university is 1 thousand? (in thousands)
(a) 2.20

(b) 1.13
(c) 1.26
(d) 0.17
(e) 0.98

Q5. If no. of students in universities P and R is 6 and 8 thousand respectively, then graduate female students of university R is what percent less/more than post graduate male students of university P? (rounded off to two decimal places)
(a) 26.13%
(b) 27.74%
(c) 28.89%
(d) 27.25%
(e) 31.50 %

Q6. In a class, the number of girls is 20% more than that of the boys. The strength of the class is 66. If 4 more girls are admitted to the class, the ratio of the number of boys to that of the girls is:
(a) 1 : 2
(b) 3 : 4
(c) 1 : 4
(d) 3 : 5
(e) 4 : 5

Q7. A man spends 40% of his monthly salary on food and one-third of the remaining on transport. If he saves Rs. 4500 per month, which is equal to half the balance after spending on food and transport, his monthly salary is:
(a) Rs. 11250
(b) Rs. 22500
(c) Rs. 25000
(d) Rs. 45000
(e) Rs. 50000

Q8. A principle of Rs. 10,000, after 2 years compound annually, the rate of interest being 10% per annum during the first year and 12% per annum during the second year (in rupees) will amount to :
(a) Rs. 12,000
(b) Rs. 12,350
(c) Rs. 12,500
(d) Rs. 12,320
(e) Rs. 11,540

Q9. Bahu is as much younger than Bhalla as he is older than Veer. If the sum of the ages of Bhalla and Veer is 50 years, what is the difference between Bhalla and Bahu's age?
(a) 12
(b) 10
(c) 8

(d) Cannot be determined
(e) None of these

Q10. Taps A, B and C are attached with a tank and velocity of water coming through them are 42 litre per hours, 56 litre per hours and 48 litre per hours, respectively. A and B are inlets and C is outlet. If all the taps are opened simultaneously, tank is filled in 16 hours. What is the capacity of the tank?
(a) 2346 litres
(b) 1600 litres
(c) 800 litres
(d) 960 litres
(e)1040 litres

Directions (11-15): What approximate value should come in place of the question mark (?) in following questions?

Q11. $\sqrt{?} = (1248.28 + 51.7) \div 99.9 - 7.98$
(a) 49
(b) 81
(c) 64
(d) 16
(e) 25

Q12. $(15.95)^{\frac{1}{4}} + (3.01)^3 - 111.99 \times 2.02 + (9.98)^2 = ?$
(a) 95
(b) –95
(c) 105
(d) –105
(e) –115

Q13. 69.008% of 699.998 + 32.99% of 399.999 =?
(a) 615
(b) 645
(c) 675
(d) 715
(e) 725

Q14. 180% of 25501 + 50% of 28999 =?
(a) 62400
(b) 64000
(c) 60400
(d) 64200
(e) 61600

Q15. $\dfrac{\frac{340}{20.002} \div \frac{29.997}{510} \times \frac{179.909}{59.919}}{} = ?$

(a) 760
(b) 800
(c) 690
(d) 870
(e) 780

## Solutions

S1. Ans.(b)
Sol.
Graduate female students of university S = 2000
Then total graduates = 2000 + 3000 = 5000
So, total students of university S
= 5 × 5 = 25 thousands
⇒ no. of students of university R
$= 25 \times \frac{80}{100} = 20$ thousands
∴post graduate students in university R
$= 20 \times \frac{76}{100} = 15.2 \; thousands$

S2. Ans.(d)
Sol.
Let graduate male in S = 4
Then total post graduate = 4 + 3 = 7
∴ Total students (S) $= \frac{7 \times 5}{4} = 8.75 \; thousands$
And post graduate male (P) = 3 thousands
Then total post graduates $= \frac{3}{6} \times 13 = 6.5 \; thousands$
So, total students (P) $= \frac{6.5 \times 100}{65} = 10$ thousands
Required answer $= \frac{8.75 \times 100}{10} = 87.5\%$

S3. Ans.(a)
Sol.
Post graduate male in Q = 2.4 thousands
Total post graduates $= \frac{2.4}{4} \times 9 = 5.4$ thousands
Total no. of students $= \frac{5.4 \times 4}{3} = 7.2$ thousands
graduate female in S = 4 thousands
Total graduates = (3 + 2) × 2 = 10 thousands
⇒ total no. of students = 10 × 5 = 50 thousands
Required ratio = 7.2 : 50 = 18 : 125

**S4. Ans.(d)**
**Sol.**
Total female in T (post graduate) = 1 thousands

∴ Total post graduates = $\frac{5}{2}$ = 2.5 thousands

∴ Total no. of graduates in T = $\frac{2.5}{85} \times 15$

∴ Required answer

= $\frac{2.5}{85} \times 15 \times \frac{3}{8} \approx 0.17$ thousands (approx.)

**S5. Ans.(c)**
**Sol.**
Total no. of graduate female in university R

= $8 \times \frac{24}{100} \times \frac{2}{3} = 1.28$ thousands

Post graduate male students of university P

= $6 \times \frac{65}{100} \times \frac{6}{13} = 1.80$ thousands

Required answer

= $\frac{1.8-1.28}{1.8} \times 100 = 28.89\%$ (less)

**S6. Ans.(b)**
**Sol.**
Let number of boys be x.

$x + \frac{120}{100}x = 66$

$\Rightarrow x + \frac{6x}{5} = 66$

$\Rightarrow x = \frac{66 \times 5}{11} = 30$

∴ Number of girls = 66 – 30 = 36

∴ New ratio = 30 : (36 + 4)

= 30 : 40 = 3 : 4

**S7. Ans.(b)**
**Sol.**

Suppose monthly income of the man is Rs. x.

Expenditure on food = 40% of x = Rs. $\frac{2x}{5}$

Remaining amount = $x - \frac{2x}{5} = Rs. \frac{3x}{5}$

Expenditure on transport = $\frac{1}{3} \times \frac{3x}{5}$

= Rs. $\frac{x}{5}$

Remaining amount = $\frac{3x}{5} - \frac{x}{5} = Rs. \frac{2x}{5}$

According to question $\frac{1}{2} \times \frac{2x}{5} = 4500$

$\therefore x = 4500 \times 5 = Rs. 22500$

S8. Ans.(d)
Sol.

Amount $= P\left(\frac{110}{100}\right) \times \left(\frac{112}{100}\right)$

$\Rightarrow 10000 \times \frac{11}{10} \times \frac{112}{100} = Rs. 12320$

S9. Ans.(d)
Sol. Age of (Bhalla – Bahu) = Age of (Bahu – Veer)
Also, Age of (Veer + Bhalla) = 50
From all inputs
Difference between the ages of Bhalla & Bahu cannot be determined.

S10. Ans.(c)
Sol. Quantity of water admitted by tap A in 1 hour = 42 litres
Quantity of water admitted by tap B in 1 hour = 56 litres
Quantity of water removed by tap C in 1 hour = 48 litres
So, quantity of water filled in the tank in 1 hour = (42 + 56 – 48) = 50 litres
Quantity of water filled in 16 hours
=16×50=800 litres
Hence, capacity of tank = 800 litres

S11. Ans.(e)
Sol.

$\sqrt{?} = (1248.28 + 51.7) \div 99.9 - 7.98$

$\sqrt{?} = (1300 \div 100) - 8$

$\sqrt{?} = 5$

$? = 25$

S12. Ans.(b)
Sol. 129 – 224 = - 95

S13. Ans.(a)
Sol.

$$\frac{69}{100} \times 700 + \frac{33}{100} \times 400$$
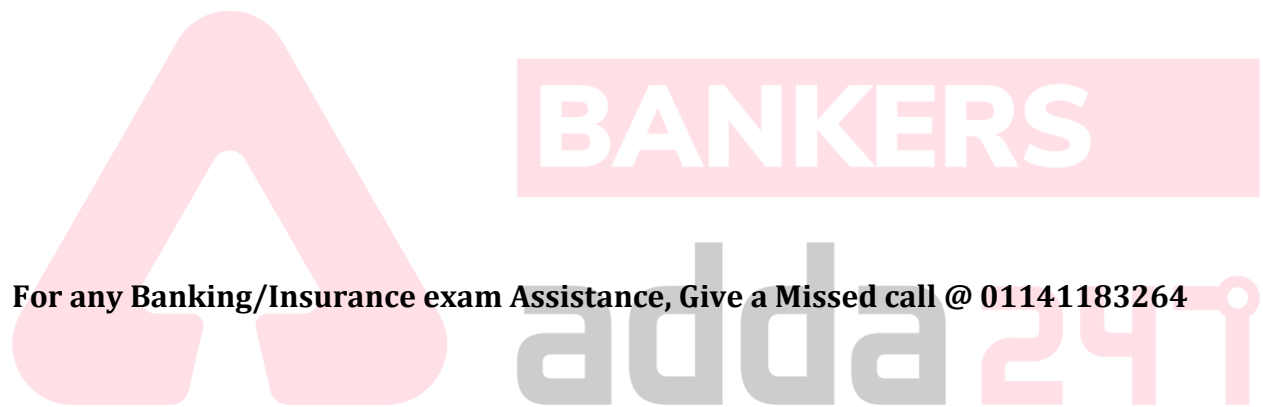$$= 483 + 132 = 615$$

S14. Ans.(c)
Sol.

$$\frac{180}{100} \times 25,500 + \frac{1}{2}(29,000)$$
$$= 45,900 + 14,500 = 60,400$$

S15. Ans.(d)
Sol.

$$\frac{340}{20} \div \frac{30}{510} \times \frac{180}{60} = 17 \times 17 \times 3 = 867 \approx 870$$

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