

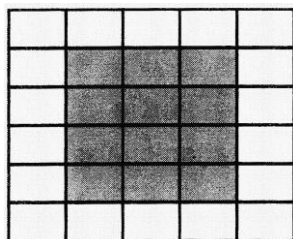
QUESTIONS

1. Which one of the following is a well-defined set?
 - (a) All the intelligent members in a family,
 - (b) All the tall boys in the class.
 - (c) All the good leaders of the nation.
 - (d) All the prime numbers less than 70.
 - (e) None of these
2. Let $A = \{a, e, i, o, u\}$, then which one among the following is correct?
 - (a) $d \in A$
 - (b) $e \notin A$
 - (c) $i = A$
 - (d) $o \in A$
 - (e) None of these
3. Which one among the following is correct represented of a set $E = \{1, 4, 9, 16, 25, 36, 49, 64, 81, 100\}$ in set builder form?
 - (a) $\{x : x \text{ is square of the first ten integers}\}.$
 - (b) $\{x : x \text{ is square of the first ten natural numbers}\}.$
 - (c) $\{x : x \text{ is square of the first ten whole numbers}\}.$
 - (d) $\{x : x \text{ is square of the first ten even numbers}\}.$
 - (e) None of these
4. Which one among the following is representing equal sets?
 - (a) $A = \{3, 6, 9\}$ and $B = \{9, 12, 15\}.$
 - (b) $M = \{a : a \text{ is a multiple of 2, } a < 12\}$ and $N = \{4, 8, 12\}.$
 - (c) $X = \{\text{all the vowels in the English alphabet}\}$ and $Y = \{a, e, i, o, u\}.$
 - (d) All the above
 - (e) None of these
5. The average of all the prime numbers between 10 and 20 is _____.
 - (a) 10
 - (b) 15
 - (c) 20
 - (d) 18
 - (e) None of these
6. The average of first 10 natural numbers is _____.
 - (a) 5.5
 - (b) 6.5
 - (c) 7.0
 - (d) 8.5
 - (e) None of these
7. Which one among the following statements is true?
 - (a) $E = \{x : x \text{ is an even prime number}\}$ is an example of infinite set.
 - (b) $E = \{x : x \text{ is an odd prime number}\}$ is an example of finite set.
 - (c) $F = \{m : m \text{ is a factor of } 360\}$ is an example of finite set.

(d) $G = \{n : n \text{ is a multiple of } 17, n < 1000\}$ is an example of infinite set.

(e) None of these

8. What percent of the portion of the following grid is shaded?



(a) 30%

(b) 40%

(c) 50%

(d) 60%

(e) None of these

9. The ratio of the number of boys to the total number of students in a class is 13: 22. What percent of students in the class are girls?

(a) $59\frac{1}{11}$

(b) $40\frac{1}{11}$

(c) $40\frac{10}{11}$

(d) $59\frac{10}{11}$

(e) None of these

10. Solve $\left[0.9\% \text{ of } \frac{1}{5} - 4.8\% \text{ of } \frac{1}{1728} + 3.7\% \text{ of } \frac{1}{444} \right]$

$\times 180000$

(a) 13

(b) 15

(c) 18

(d) 16

(e) None of these

11. By how much is 40% of 650 more than 65% of 320?

(a) 52

(b) 58

(c) 72

(d) 68

(e) None of these

12. The cost price of 5 cell phones is equal to selling price of 4 such cell phones. Find the profit earned by selling a cell phone for Rs 12500.

(a) Rs 3000

(b) Rs 3200

(c) Rs 2500

(d) Rs 2800

(e) None of these

13. If the numerator of a fraction is increased by 400% and the denominator is increased by 300%, the resultant fraction is $\frac{20}{17}$. What was the original fraction

(a) $\frac{2}{7}$

(b) $\frac{16}{17}$

(c) $\frac{14}{17}$

(d) $\frac{4}{7}$

(e) None of these

- 14.** Maria spent Rs 86560 on the renovation for her Home, Rs 26524 on purchasing a Laptop and the remaining 32% of the remaining amount she had as with her How much amount of cash with her?

(a) Rs 53216

(b) Rs 52306

(c) Rs 54432

(d) Rs 54482

(e) None of these

- 15.** Five-seventh of a number is 1694. If this number is 21% of another number, then find the sum of both of these numbers.

(a) 12678

(b) 14327

(c) 13667

(d) 13673

(e) None of these

- 16.** John sold a music system to Harry at 18% gain and Harry it to Jonty at 36% loss. If Jonty paid Rs 10384 for the music system, then find the amount John pay for the same.

(a) Rs 13750

(b) Rs 14570

(c) Rs 18750

(d) Rs 13000

(e) None of these

- 17.** If $17m + 34n = 17n + 714$, then what is the average of m and n?

(a) 21

(b) 23

(c) 27

(d) 28

(e) None of these

- 18.** Find the cardinal number of the set $C = \{x : x = 3m, m \in W \text{ and } m < 6\}$.

(a) 3

(b) 6

(c) 4

(d) 5

(e) None of these

- 19.** The profit earned after selling a wrist watch for Rs 7192 is the same as loss incurred after selling the same wrist watch for Rs 5208. What is the cost price of wrist watch?

(a) Rs 6300

(b) Rs 6800

(c) Rs 6400

(d) Rs 6200

(e) None of these

- 20.** What percent is equivalent to the ratio 5:13?

(a) 20%

(b) 15%

(c) $35\frac{20}{13}\%$

(d) $38\frac{6}{13}\%$

(e) None of these

21. Which one among the following ratio is not equivalent to its given percentage?

(a) $17 : 28 = 60\frac{5}{7}\%$

(b) $5 : 12 = 41\frac{2}{3}\%$

(c) $7:4=175\%$

(d) $9 : 11 = 81\frac{8}{11}\%$

(e) None of these

Directions (22 to 26): Study the table carefully to answer the questions that follow:

Cities	Total number of people	Percentage of		
	(In thousand)	Men	Women	Children
P	48.35	42	38	20
Q	36.10	39	37	24
R	46.85	40	34	26
S	54.35	46	30	24
T	43.20	52	31	17

Number of people (in thousands) staying in 5 different cities and the percentage of men, women and children in those cities

22. Which city has the lowest number of woman

(a) P

(b) Q

(c) R

(d) S

(e) None of these

23. What is the average number of children from all the cities together? [give your answer in nearest integer].

(a) 10171

(b) 10201

(c) 10181

(d) 10101

(e) None of these

24. What is the respective ratio of the number of men from city P to those from city T?

(a) 20307:25001

(b) 6769: 7488

(c) 6853:6732

(d) 2389:5123

(e) None of these

25. Number of women from city Q form approximately what percent of from city R? (Rounded off to two digits after decimal).

(a) 82.76%

(b) 79.98%

(c) 83.85%

(d) 84.78%

(e) None of these

26. Total number of people from city T form approximately what percent of the total number of people from all cities together?

(a) 18.88%

(b) 18.34%

- (c) 17.49% (d) 17.98%
- (e) None of these

27. Mr. Donald has a monthly salary of \$ 9380, If he spends \$ 6566 every month, then which one among the following statements about him is true?

- (a) His expenditure is 68 percent. (b) His savings are 32 percent.
- (c) His savings in one year are \$33768. (d) All the above
- (e) None of these

28. In a school, on a particular day 7% of the total number of students remained absent. If 4185 students were present on that day, then find the total number of students in the school.

- (a) 4800 (b) 4500
- (c) 4700 (d) 4900
- (e) None of these

29. An alloy is made of 32% copper, 37% zinc and the rest of nickel. If the mass of nickel is found to be 930 g, then find the total amount of the alloy.

- (a) 2.5 kg (b) 3.5 kg
- (c) 3.0 kg (d) 2.0 kg
- (e) None of these

30. If the selling price of 13 articles is equal to the cost price of 14 articles, then _____

- (a) gain = $7\frac{9}{13}\%$ (b) loss = $7\frac{9}{13}\%$
- (c) gain = $7\frac{1}{7}\%$ (d) loss = $7\frac{1}{7}\%$
- (e) None of these

Directions (31 to 35): Study the table carefully to answer the questions that follow:

Percentage of marks obtained by six students in six different subjects

Subject → students ↓	Maths (out of 150)	Science (out of 125)	Hindi (out of 75)	English (out of 125)	History (out of 50)	Civics (out of 25)	Geography (out of 75)
Shivam	68	76	60	72	58	84	72
Tanay	78	84	80	64	72	72	84
Pranav	86	64	64	72	64	88	80
Dharmendra	74	68	60	60	78	92	76
Khushboo	82	72	76	68	70	76	88
Swati	72	60	80	84	64	68	72

31. Which student scored the highest marks in all subjects together?

- (a) tanay (b) pranav
- (c) shivam (d) dharmendra
- (e) None of these

- 32.** What is the overall percentage of marks obtained by pranav in all the subject together?
 (a) 72.74% (b) 74.68%
 (c) 73.76% (d) 78.46%
 (e) None of these
- 33.** The total marks obtained by swati in Hindi geography together in how much percent of the marks obtained by shivam in the same subject?
 (a) 116.18% (b) 115, 15%
 (c) 115.25% (d) 115, $\overline{15}$ %
 (e) None of these
- 34.** Find the difference between the total marks obtained by shivam and Khushboo in all the subjects.
 (a) 45 (b) 37
 (c) 49 (d) 39
 (e) None of these
- 35.** Find the subject in which the average percentage of marks obtained by all the six student is the highest.
 (a) Math's (b) History
 (c) Civics (d) Geography
 (e) None of these
- 36.** In a class of 150 students, amongst 50% of the students each student got 'number of toffees that are 12 more than 20% of the total number of students and the amongst remaining 50% of the students each student got number of toffees that are 26 less than 32% of the total number of students. How many toffees were distributed among 150 students?
 (a) 4800 (b) 4600
 (c) 5200 (d) 5400
 (e) None of these
- 37.** The area of a rectangle is 75% of the square. If breadth of the rectangle is $\frac{75}{2}$ % of the side of the square and difference between length and breadth of the rectangle is 91 cm, then the perimeter of the square will be what percent of the perimeter of the rectangle?
 (a) $74\frac{7}{19}$ % (b) $83\frac{3}{5}$ %
 (c) $84\frac{4}{19}$ % (d) $79\frac{13}{5}$ %
 (e) None of these
- 38.** Radhika decided to donate 18% of her monthly salary to an NGO. On the day of donation she changed her mind and donated Rs 7749 which was 82% of what she had decided earlier. How much is Radhika's monthly salary?
 (a) Rs 42800 (b) Rs 52500
 (c) Rs 57500 (d) Rs 56500
 (e) None of these

- 39.** What approximate value will come in place of the question mark (?) in the following question?
 $85\% \text{ of } 330 + 15.2\% \text{ of } 692 + 14.8\% \text{ of } 489 = ?$
 (a) 678.890 (b) 458.056
 (c) 508.980 (d) 694.689
 (e) None of these
- 40.** If the numerator of a fraction is increased by 230% and the denominator is increased by 340%, the resultant fraction is $\frac{9}{14}$. What is the original fraction?
 (a) $\frac{9}{17}$ (b) $\frac{7}{11}$
 (c) $\frac{5}{8}$ (d) $\frac{6}{7}$
 (e) None of these

ANSWER - KEY				
1. (d)	2. (d)	3. (b)	4. (c)	5. (b)
6. (a)	7. (c)	8. (b)	9. (c)	10. (a)
11. (a)	12. (b)	13. (b)	14. (a)	15. (d)
16. (a)	17. (a)	18. (b)	19. (d)	20. (d)
21. (d)	22. (b)	23. (c)	24. (b)	25. (c)
26. (a)	27. (c)	28. (b)	29. (c)	30. (a)
31. (a)	32. (c)	33. (d)	34. (d)	35. (c)
36. (a)	37. (c)	38. (b)	39. (b)	40. (d)