Date Interpretation Set Theory Questions Quiz for Bank PO Pre and Clerk Mains Exams

Set theory Quiz 4

Directions: Study the given information carefully to answer the questions.

A survey of a group of 1250 students is conducted to know about their likeness of sports. 68% students like Football, 69.6% like Cricket and 64% like Badminton. 14.4% of them like only Football, 16.8% like only Cricket and 8.8% like only Badminton. Now, answer the following questions based on this information.

1. What per cent of the students like, at most, one sport from the given sports?

A. 24% B. 30% C. 40% D. 54% E. 60%

2. How many students are there who like any two sports from the given three sports?

A. 210 B. 230 C. 270 D. 320 E. 340

3. What per cent of the students like Football and Badminton both but not Cricket?

A. 4.8% B. 5.6% C. 6.4% D. 7.2% E. 8.4%

4. How many students are there who like all three sports?

A. 420 B. 450 C. 480 D. 520 E. 540

5. What per cent of students like both Football and Cricket but not Badminton?

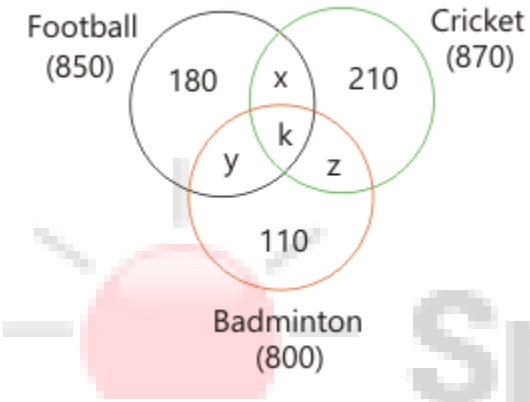
A. 4.2% B. 4.8% C. 5.6% D. 6.4% E. 7.2%

Correct Answers:

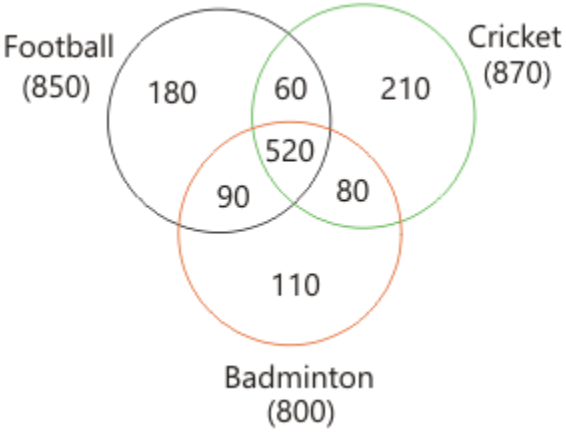
1	2	3	4	5
C	B	D	D	B

Explanations:

Common Explanation:
As per the given information, we get
No. of students who like football = 68% of 1250 = 850
No. of students who like Cricket = 69.6% of 1250 = 870
And, No. of students who like Badminton = 64% of 1250 = 800
From the further information, we get
No. of students who like only Football = 14.4% of 1250 = 180
No. of students who like only Cricket = 16.8% of 1250 = 210
No. of students who like only Badminton = 8.8% of 1250 = 110
Suppose, x students like both Football and Cricket, y students like both Football and Badminton, z students like Badminton and Cricket and k students like all three games.



x + y + k + 180 = 850
or, x + y + k = 670 **...(i)**
Similarly,
x + z + k = 660 **...(ii)**
y + z + k = 690 **...(iii)**
And, x + y + z + k = (1250 – 180 + 210 + 110)
x + y + z + k = 750 **....(iv)**
By solving the equations (i), (ii), (iii) and (iv), we get
k = 520 or, x = 60, y = 90, z = 80



Answers.

1. Following the common explanation, we get

The total number of people who like only one sport = 180 + 210 + 110 = 500

$\therefore$ Reqd. % = $\frac{500}{1250} \times 100 = 40\%$

Hence, option C is correct.

2. Following the common explanation, we get

The total no. of students who like any two sports = x + y + z = 60 + 90 + 80 = 230

Hence, option B is correct.

3. Following the common explanation, we get

The total number of students who like Football and Badminton = 90

And the total number of students = 1250

Reqd. % = $\frac{90}{1250} \times 100 = 7.2\%$

Hence, option D is correct.

4. We can clearly get from the common explanation that, there are 520 students (representing k) who like all the three sports.

Hence, option D is correct.

5. Following the common explanation, we get

Total number of students who like only Football and Cricket = 60

And the total number students = 1250

$\therefore$ Reqd. % = $\frac{60}{1250} \times 100 = 4.8\%$

Hence, option B is correct.