



VIDHIGYA

— Undisputed Leader in CLAT Preps —



CLAT 2024 **RANBHOMI** *THE FINAL SPRINT*

— THE CLAT COMBAT —
THE MATHEMAGICIAN



QUANTITATIVE TECHNIQUES (DI)

THE CLAT COMBAT

Quatitative Technique 3

Directions (1-5): Read the following information carefully and answer the questions that follow.

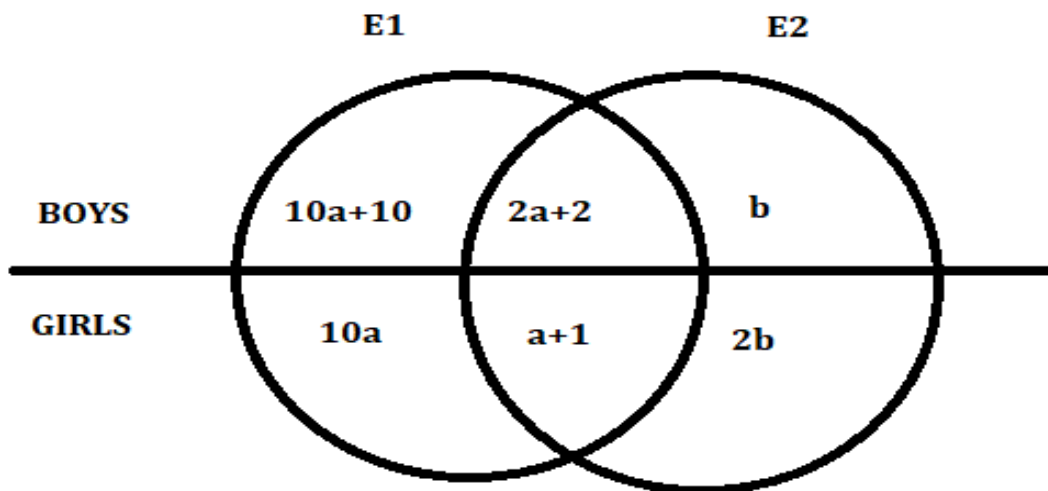
Vidit school of Law conducted a cultural festival in its premises. The program includes two events, E1 and E2. The ratio of no. of boys to the number of girls who participated in E1 is 4:3. The ratio of no. of girls to the no. of boys who participated in E2 is 13:8. The ratio of no. of boys who participated in both the events to the no. of girls who participated in both the events is 2:1. The ratio of no. of boys who participated in only E2 to the no. of girls who participated in only E2 is 1:2. The no. of boys who participated in E1 alone is 10 more than the no. of girls in the same event. The no. of boys who participated in both the events is 20% of the boys who participated in E1 alone.

1. What is the total no. of boys who participated in this cultural festival?
(a) 50 (b) 60 (c) 90 (d) 100
2. What is the total no. of girls who participated in the cultural festival?
(a) 75 (b) 85 (c) 95 (d) 105
3. The total no. of girls who participated in the event E1 is what percent of the total no. of girls who participated in only E2?
(a) 90% (b) 60% (c) 75% (d) 50%
4. The no. of boys who participated in only E2 is what percent of the no. of boys who participated in only E1?
(a) 90% (b) 60% (c) 75% (d) 33.33%
5. The total no. of students who participated in both the events is what percent of the no. of boys who participated in the event E2?
(a) 37.5% (b) 33.33% (c) 35% (d) 30%

1.Ans. c

Sol. COMMON EXPLANATION

Start by taking the value of only Girls in the E1 event as 10a and then proceed accordingly.



Now, the ratio of total no. of boys to the total no. of girls in the E1 event is 4:3.

So, the total no. of boys in the E1 event = $(10a+10) + (2a+2) = 12a+12$

The total no. of girls in the E1 event = $(10a) + (a+1) = 11a+1$

$$\text{So, } \frac{12a + 12}{11a + 1} = \frac{4}{3}$$

$$36a + 36 = 44a + 4$$

$$8a = 32, \text{ Thus } a = 4$$

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Given, the ratio of total no. of boys to the total no. of girls in the E2 event is 8:13

After the putting the value of 'a'

Boys and girls in both the events = 10 and 5 respectively

Also, the ratio of no. of boys to the no. of girls in only E2 is 1:2

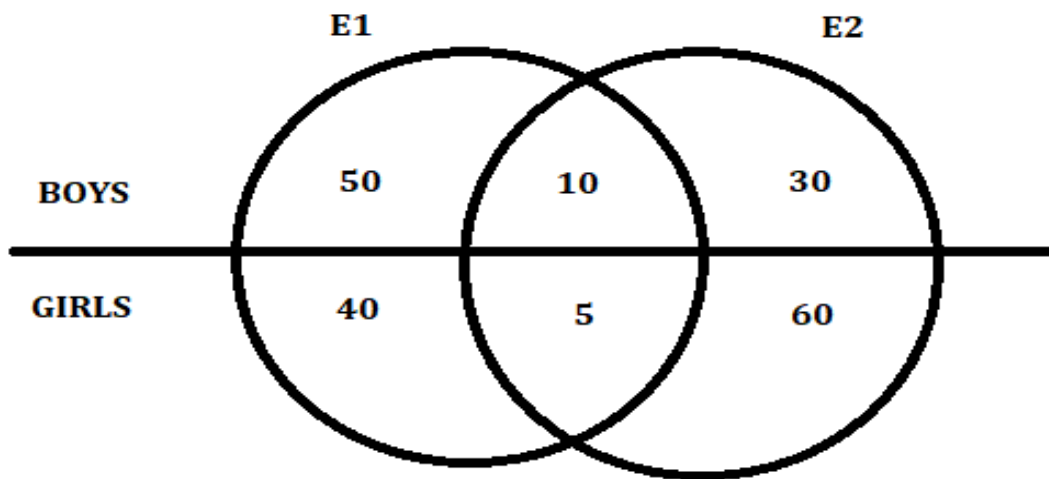
So, let their values be 'b' and '2b'

$$\text{So, } \frac{10 + b}{5 + 2b} = \frac{8}{13}$$

$$130 + 13b = 40 + 16b$$

$$3b = 90, \text{ Thus } b = 30$$

After putting the values of 'a' and 'b' we will have the following values.



Thus, the total no. of boys in the festival = $50 + 10 + 30 = 90$

Hence, option (c) is correct.

2.Ans. d

Sol. Following the COMMON EXPLANATION

The total no. of girls who participated in the festival = 105

Hence, option (d) is correct.

3.Ans. c

Sol. Following the COMMON EXPLANATION

Total no. of girls in the event E1 = $40 + 5 = 45$

No. of girls in the event E2 = 60

Required % = $45/60 = 75\%$

Hence, option (c) is correct.

4.Ans. b

Sol. Following the COMMON EXPLANATION

The no. of boys who participated in only E2 = 30

The no. of boys who participated in only E1 = 50

Required % = $30/50 = 60\%$

Hence, option (b) is correct.

5.Ans. a

Sol. Following the COMMON EXPLANATION

The total no. of students who participated in both the events = 15

The no. of boys who participated in the event E2 = 40

Required % = $15/40 = 3/8 = 37.5\%$

Hence, option (a) is correct.