

Quiz Date: 13th April 2020

Directions (1–5): Study the table and answer the given questions.

Data related to candidates appeared and qualified from Delhi in UPSC exam during 5 years

Years	No. of appeared candidates	% of appeared candidates who qualified	Respective ratio of number of qualified male & female candidates
2006	700	--	3 : 2
2007	--	--	5 : 3
2008	480	60%	--
2009	--	42%	9 : 5
2010	900	64%	--

Q1. In 2010, if the number of female qualified candidates was 176, what was the respective ratio of number of male qualified candidates and number of female qualified candidates?

- (a) 25 : 16
- (b) 5 : 4
- (c) 25 : 11
- (d) 21 : 16
- (e) 4 : 5

Q2. If the number of appeared candidates in 2011 were 40% more than that in 2006 and If 25% of the appeared candidates qualified in 2011, then what was the number of qualified candidates in 2011?

- (a) 240
- (b) 225
- (c) 255
- (d) 245
- (e) 265

Q3. In 2007, the respective ratio of number of appeared candidates to the qualified candidates was 5:4. Number of female qualified candidates constitutes what per cent of number of appeared candidates in the same year?

- (a) 20%
- (b) 25%
- (c) 30%
- (d) 15%
- (e) 40%

Q4. In 2009, if the difference between number of male qualified candidates and female qualified candidates was 72, what was the number of appeared candidates in 2009?

- (a) 800
- (b) 900
- (c) 850

- (d) 600
(e) None of these

Q5. If the average number of qualified candidates in 2006 and 2008 was 249, what percent of appeared candidates qualified in the exam in 2006?

- (a) 40%
(b) 30%
(c) 20%
(d) 35%
(e) 25%



Directions (6-10): Study the following table carefully to answer the questions that follow-

Company year	Per cent profit earned by six companies over the years					
	A	B	C	D	E	F
2010	11	12	3	7	10	6
2011	9	10	5	8	12	6
2012	4	5	7	13	12	5
2013	7	6	8	14	14	7
2014	12	8	9	15	13	5
2015	14	12	11	15	14	8

Q6. If the profit earned by Company C in the year 2014 was Rs. 18.9 lakhs, what was the income of company C in that year?

- (a) Rs. 303.7 lakhs
(b) Rs. 264.5 lakhs
(c) Rs. 329.4 lakhs
(d) Rs. 228.9 lakhs
(e) Rs. 218.9 lakhs

Q7. What is the percentage rise in profit of Company E in year 2015 from the year 2010?

- (a) 40%
(b) 35%
(c) 26%

- (d) 48%
(e) 38%

Q8. If the profit earned by Company A in the year 2013 was Rs. 2.1 lakhs, what was the expenditure in that year?

- (a) Rs. 30 lakhs
(b) Rs. 15 lakhs
(c) Rs. 23 lakhs
(d) Rs. 27 lakhs
(e) Rs. 25 lakhs

Q9. What was the average per cent profit of Company D over all the years together?

- (a) 13.5
(b) 11
(c) 12
(d) 14
(e) 10

Q10. What is the difference between the per cent profit earned by Company B in the year 2011 and the average per cent profit earned by the remaining Companies together in that year?

- (a) 4
(b) 2
(c) 1
(d) 3
(e) 5

Directions (11-15): In the following table, number of students studying in five different branches of a university is given for the year 2017. Also given the percentage of students participating in two different games (Hockey and Football). Study the table carefully and answer the questions that follow:

Branches	Total Students	Sports for participation	
		Hockey	Football
Mechanical	480	25%	15%
Electrical	320	20%	25%
Civil	260	30%	10%
Computer Science	450	10%	40%
Electronics	300	16%	30%

Q11. What will be the difference between sum of no. of students playing Hockey and football from Electrical branch and the sum of no. of students playing the same games from Electronics branch?

- (a) 8

- (b) 6
- (c) 12
- (d) 11
- (e) 18

Q12. If 40% students in Mechanical branch are girls, then find the ratio of girls playing Hockey from Mechanical branch to the students playing Football from Civil branch?

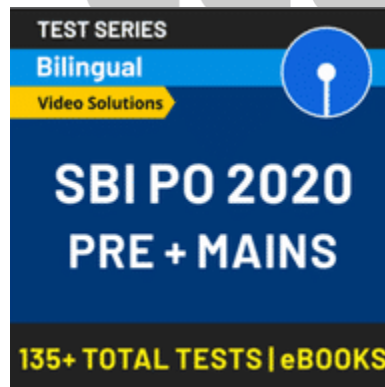
- (a) 24 : 13
- (b) 25 : 17
- (c) 13 : 24
- (d) Cannot be determined
- (e) None of these

Q13. Total no. of students playing Hockey and Football from Computer Science branch are approximately what percent of total no. of students playing the same games from Mechanical branch ?

- (a) 125%
- (b) 120%
- (c) 117%
- (d) 113%
- (e) 135%

Q14. Find the approximate average no. of students playing Football from all branches.

- (a) 81
- (b) 93
- (c) 95
- (d) 85
- (e) 90



Q15. If 40%, 30% and 50% students are girls in respected branches Electrical, Civil and computer Science, then find the average no. of girls from these branches who participate in Hockey if percentage of girls participating in Hockey are 25%, 50% and 12% from girls in respected branches (approximately).

- (a) 21
- (b) 23
- (c) 24

- (d) 33
(e) 26

Solutions

S1. Ans.(c)

Sol.

No. of qualified candidates in 2010

$$= 64 \times 9 = 576$$

$$\therefore \text{no. of males} = 576 - 176 = 400$$

$$\therefore \text{Required Ratio} = 400 : 176 = 25 : 11$$

S2. Ans.(d)

Sol.

No. of appeared candidates in 2011

$$= \frac{140}{100} \times 700 = 980$$

$$\text{Required no. of candidates} = \frac{25}{100} \times 980 = 245$$

S3. Ans.(c)

Sol.

Let appeared candidates in 2007 = 500

$$\therefore \text{Let qualified candidates in 2007} = 400$$

$$\therefore \text{No. of female candidates qualified in 2007} = \frac{3}{8} \times 400 = 150$$

$$\therefore \text{Required \%} = \frac{150}{500} \times 100 = 30\%$$

S4. Ans.(d)

Sol.

Let no. of males qualified in 2009 = $9x$

$$\therefore \text{No. of females qualified in 2009} = 5x$$

$$\therefore 9x - 5x = 72$$

$$x = 18$$

$$\therefore \text{No. of candidates qualified in 2009} = 14x = 14 \times 18 = 252$$

$$\therefore \text{Required no. of candidates} = \frac{252}{42} \times 100 = 600$$

S5. Ans.(b)

Sol. let candidate who qualified in 2006 = x

Candidate who qualified in 2008 = $480 \times 0.6 = 288$

$$x = 498 - 288 = 210$$

$$\text{Required percent} = \frac{210}{7} = 30\%$$

S6. Ans.(d)

Sol.

Income in the year of 2014 by C

$$= \frac{100}{9} \times 18.9 \times \frac{109}{100}$$

$$= \text{Rs. 228.9 lakhs}$$

S7. Ans.(a)

Sol.

$$\% \text{ rise} = \frac{14 - 10}{10} \times 100 = 40\%$$

S8. Ans.(a)

Sol.

$$\text{Total income of A in 2013} = \frac{100}{7} \times 2.1 \times \frac{107}{100} = 32.1 \text{ lakhs}$$

$$\therefore \text{expenditure} = 32.1 - 2.1$$

$$= 30 \text{ lakhs}$$

S9. Ans.(c)

Sol.

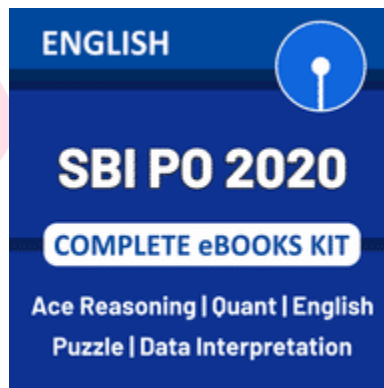
Average % profit of company D

$$= \frac{1}{6} \times (7 + 8 + 13 + 14 + 15 + 15)$$

$$= \frac{1}{6} \times 72$$

$$= 12\%$$

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S10. Ans.(b)

Sol.

Average percent profit earned by all companies except B in the year 2011

$$= \frac{1}{5} \times (9 + 5 + 8 + 12 + 6)$$

$$= \frac{1}{5} \times 40$$

$$= 8\%$$

$$\therefore \text{Required difference} = 10 - 8 = 2\%$$

S11. Ans. (b)

Sol.

Student playing Hockey and Football together from Electrical branch
 = 20% of 320 + 25% of 320
 = 144

Students playing Hockey and Football together from Electronics branch
 = 16% of 300 + 30% of 300
 = 138

∴ Required difference = 144 - 138
 = 6

S12. Ans. (d)

Sol.

Here we don't know what percentage of girls who play Hockey. So, we cannot find the required answer.

S13. Ans. (c)

Sol.

Total no. of students playing Hockey and Football from CS branch
 = (10+40) % of 450
 = 225

Total no. of student playing Hockey and Football from Mechanical branch
 = (25 + 15)% of 480
 = 192

∴ required percentage = $\frac{225}{192} \times 100$
 ≤ 117.18
 $\leq 117\%$

S14. Ans. (e)

Sol.

Required average no. = $\frac{1}{5} \times (15\% \text{ of } 480 + 25\% \text{ of } 320 + 10\% \text{ of } 260 + 40\% \text{ of } 450 + 30\% \text{ of } 300)$
 $= \frac{1}{5} \times (72 + 80 + 26 + 180 + 90)$
 $= \frac{448}{5}$
 ≤ 90

S15. Ans. (d)

Sol.

Required average =
 $= \frac{1}{3} \times (25\% \text{ of } 40\% \text{ of } 320 + 50\% \text{ of } 30\% \text{ of } 260 + 12\% \text{ of } 50\% \text{ of } 450)$
 $= \frac{1}{3} \times (32 + 39 + 27)$
 $= \frac{1}{3} \times 98$
 ≤ 33