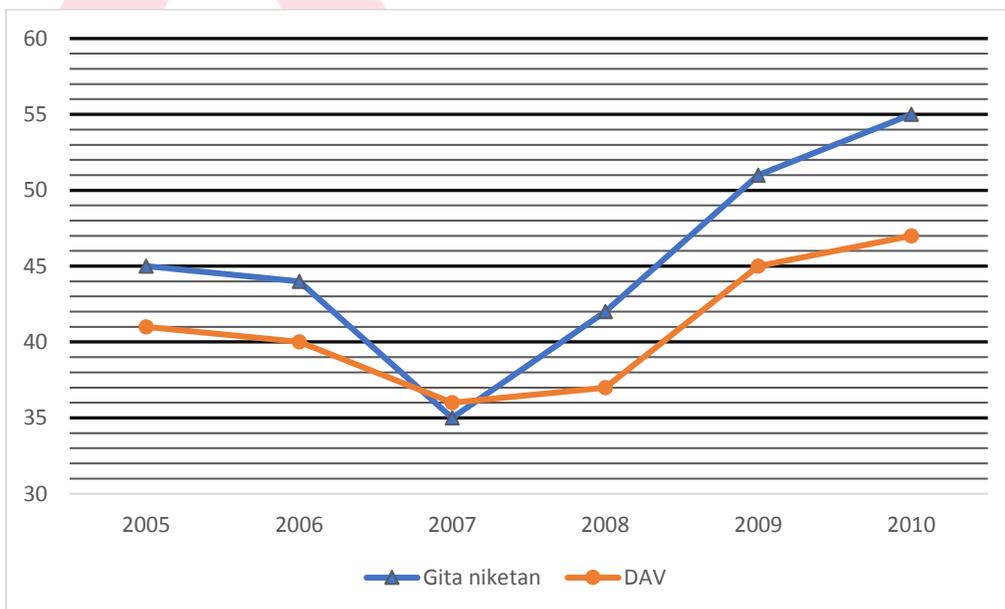
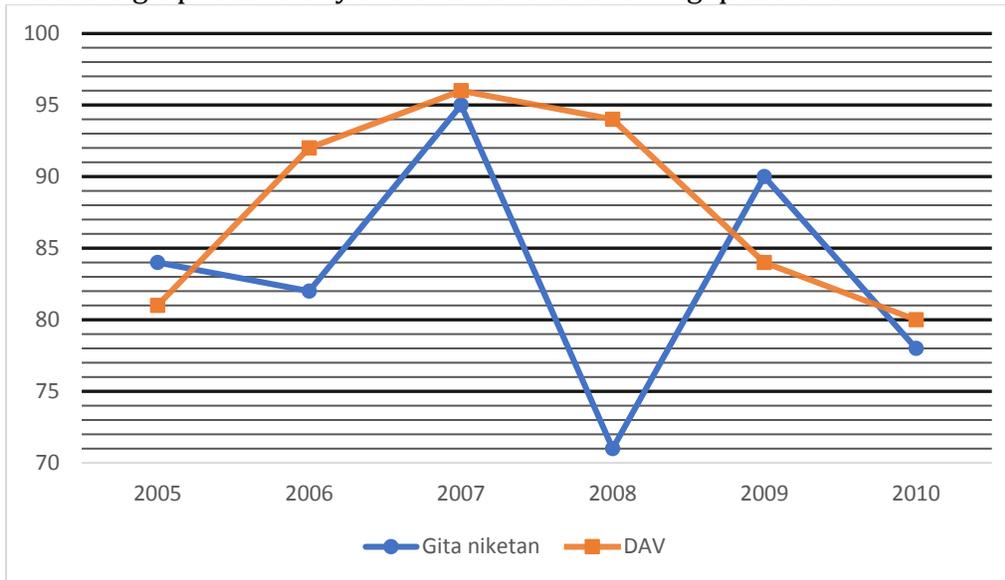


Quiz Date: 18<sup>th</sup> April 2020

Directions (1-5): Given below is the graph showing number of students participated (in hundreds) in NTSE (National Talent Search Exam) from 2 different schools from 2005-2010, the second graph shows the corresponding percentage of girls participated in this exam. Read the graphs carefully and answer the following questions:



Q1. Girls participated from DAV in 2007 is approximately what percent less/more than the boys participated from Gita Niketan in 2009 and 2010 together?

- (a) 56%
- (b) 42%
- (c) 50%

- (d) 44%
- (e) 58%

Q2. Find the difference between average no. of students participated from the 2 Schools over the years.

- (a) 4.5
- (b) 45
- (c) 415
- (d) 465
- (e) None of these

Q3. If no. of boys participated from Greenfield public school in 2009 is 10% less than the total no. of girls participated from DAV and Geeta Niketan in that year. The boys participated in 2009 from Greenfield was 45% of the total students participated from greenfield in that year, then find the no. of girls participated from greenfield school in 2009?

- (a) 9428
- (b) 8294
- (c) 9211
- (d) 9207
- (e) 9084

Q4. Find the total number of boys participated from Gita Niketan in all years together

- (a) 23225
- (b) 27425
- (c) 28525
- (d) 29625
- (e) 30425

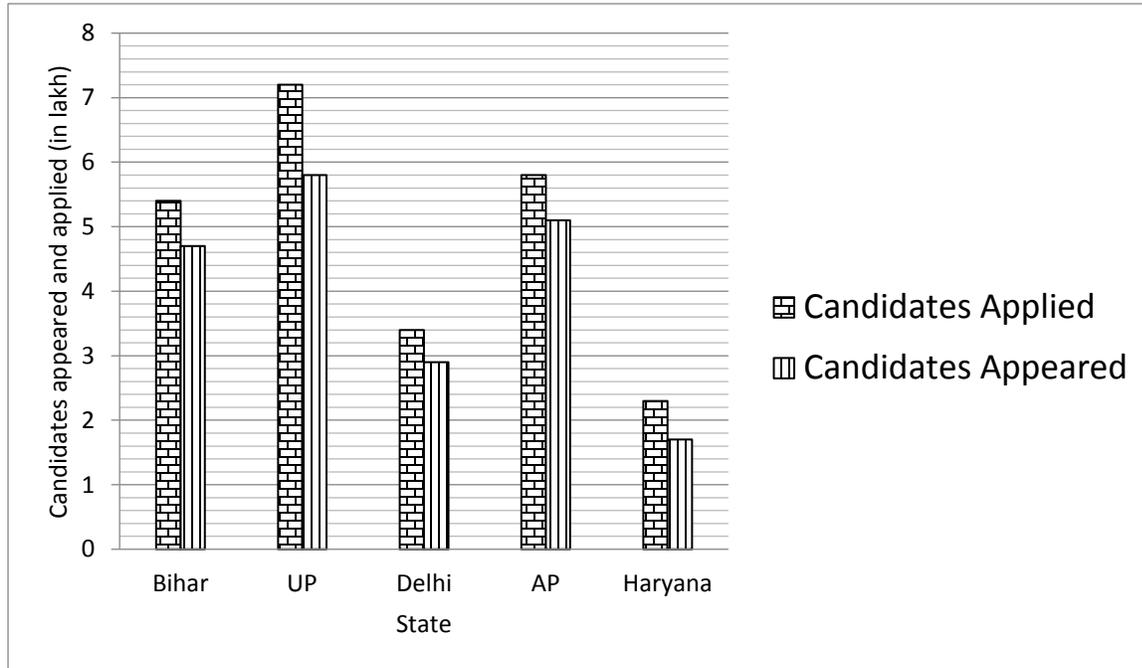


Q5. The difference between total number of boys participated and total number of girls participated from Gita Niketan in all years together is what percent of the total students participated from Gita Niketan in all years?

- (a) 9.7%
- (b) 9.1%
- (c) 9.6%
- (d) 9.4%
- (e) 9.3%

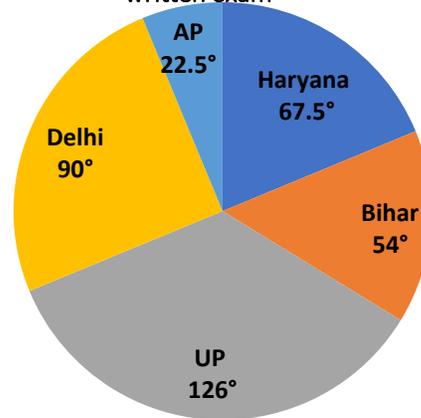
Directions (6 – 10): Study the following line – graph and pie-chart carefully to answer these questions.

The number of candidates appeared, applied and % passed in UPSC written exam in 2013 from five different states.



Percentage of candidates passed in written exam	
Bihar	23
UP	25
Delhi	29
AP	40
Haryana	32

Distribution of candidates who qualified in the interview conducted for those who passed the written exam



Q6. What is the total number of candidates who qualified in the interview from all the states together?

- (a) 145540
- (b) 128920
- (c) 158640
- (d) 110940

(e) 134560

Q7. What is the ratio of the number of candidates who applied from Bihar and UP together to that of those who qualified in the interview from Bihar, AP and Haryana?

- (a) 525 : 152
- (b) 152 : 525
- (c) 21 : 5
- (d) 25 : 6
- (e) None of these

Q8. The total number of candidates who cleared the interview is approximately what per cent of the number of candidates who appeared for interview from UP and Bihar ?

- (a) 44%
- (b) 52%
- (c) 56%
- (d) 58%
- (e) 60%

Q9. What is the difference between the number of candidates who applied from Delhi, Haryana and AP and the number of candidates qualified in the interview from these states?

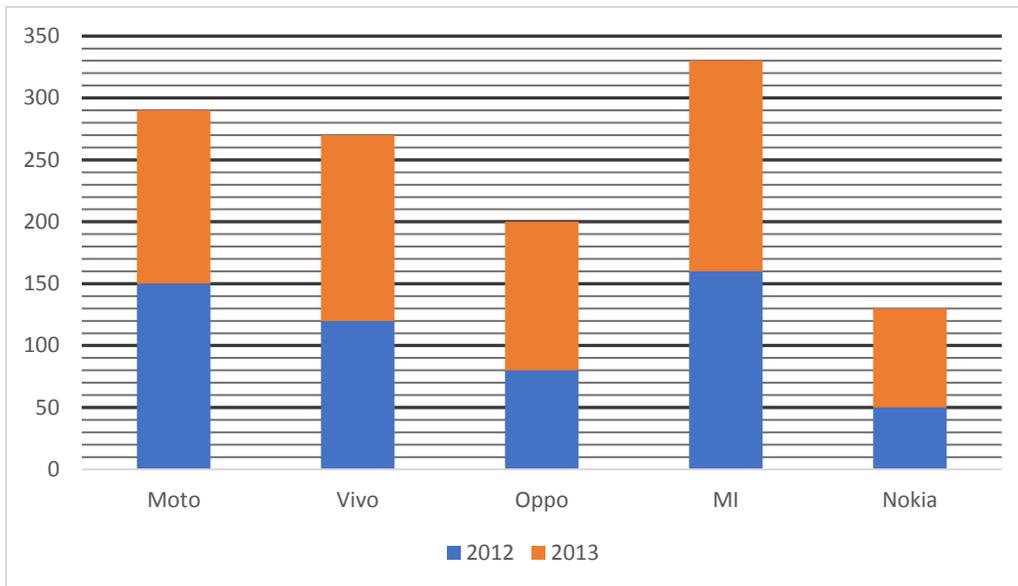
- (a) 1075455
- (b) 1072425
- (c) 1075485
- (d) 1065425
- (e) 1106025

Q10. What is the difference between the average number of candidates who passed the written exam from all the states and the average number of candidates qualified in the interview?

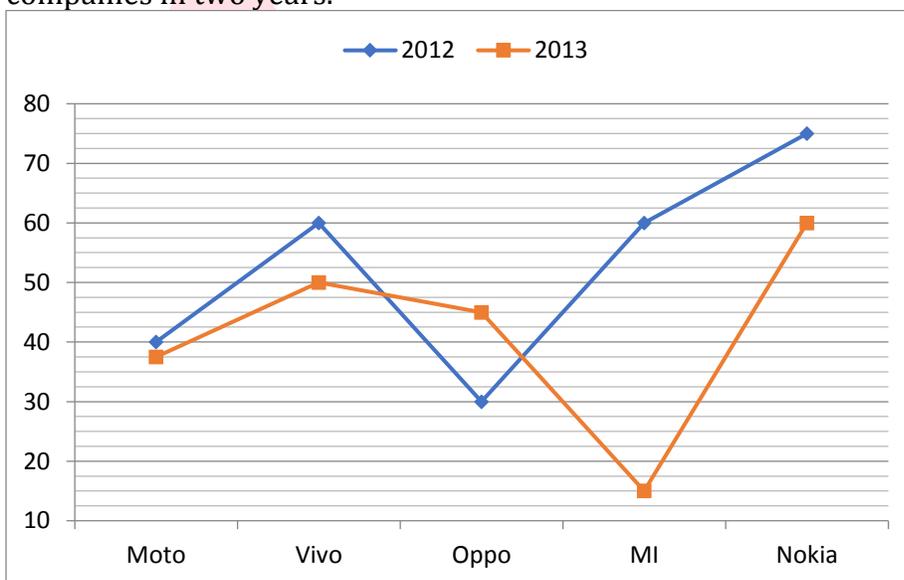
- (a) 96932
- (b) 70482
- (c) 90562
- (d) 90129
- (e) 98972

Directions (11-15): Carefully study the following bar graph and line graph to answer the questions that follow.

Bar graph shows the number of mobiles sold by 5 different companies in year 2012 and 2013.



Line graph shows the percentage of manufactured mobiles which are unsold by same companies in two years.



NOTE - Total manufactured phones in any year for any company = Total sold + Total unsold

Q11. What is the difference between total number of Moto and MI mobiles manufactured together in 2012 and total number of same mobiles manufactured together in year 2013?

- (a) 198
- (b) 226
- (c) 256
- (d) 178
- (e) 316

Q12. If defective Oppo mobiles are 20% of the total sold mobiles of all companies in year 2013, then defective Oppo mobiles in 2013 are what percent of the unsold Nokia mobiles in 2012?

- (a) 88%
- (b) 78%
- (c) 62%
- (d) 74%
- (e) 66%

Q13. If total Nokia and another brand mobile named Jio manufactured in year 2012 is 1000 and unsold Jio mobiles in 2012 are 40 percent more than unsold Nokia mobiles in 2013. Then what is the average of sold Jio mobiles in 2012 and sold Moto mobiles in 2013?

- (a) 336
- (b) 426
- (c) 386
- (d) 392
- (e) 416



Q14. Total manufactured mobiles of company MI and Vivo together in 2012 are what percent more/less than total sold mobiles in year 2013?

- (a)  $16\frac{2}{33}\%$
- (b)  $21\frac{2}{3}\%$
- (c)  $12\frac{1}{3}\%$
- (d)  $8\frac{1}{33}\%$
- (e)  $6\frac{2}{33}\%$

Q15. If total defective Vivo mobiles are 60% of total unsold Vivo mobiles in both years and ratio of defective vivo mobiles in 2012 and 2013 is 1 : 2, then find the sum of defective Vivo mobiles in 2012 and unsold moto mobiles in both years?

- (a) 150
- (b) 180
- (c) 240
- (d) 250
- (e) 320

## Solutions

S1. Ans (a)

$$\text{Sol. Girls participated from DAV in 2007} = 9600 \times \frac{36}{100} = 3456$$

$$\begin{aligned} \text{girls participated from Gita Niketan in 2009 and 2010 together} &= 9000 \times \frac{51}{100} + 7800 \times \frac{55}{100} \\ &= 8880 \end{aligned}$$

$$\begin{aligned} \text{boys participated from Gita Niketan in 2009 and 2010 together} &= (9000 + 7800) - 8880 \\ &= 7920 \end{aligned}$$

$$\text{Required percentage} = \frac{7920 - 3456}{7920} \times 100 \approx 56\%$$

S2. Ans (e)

$$\text{sol. Students from Gita Niketan} = 8400 + 8200 + 9500 + 7100 + 9000 + 7800 = 50000$$

$$\text{students from DAV} = 8100 + 9200 + 9600 + 9400 + 8400 + 8000 = 52700$$

$$\text{required difference} = \frac{52700}{6} - \frac{50000}{6} = \frac{2700}{6} = 450$$

S3. Ans (d)

$$\begin{aligned} \text{Sol. Girls participated from DAV \& Gita Niketan together in 2009} &= \frac{45}{100} \times 8400 + \frac{51}{100} \times 9000 \\ &= 3780 + 4590 = 8370 \end{aligned}$$

$$\text{boys participated from green field public school} = \frac{90}{100} \times 8370 = 7533$$

$$\text{total no. of students of green field} = 7533 \times \frac{100}{45} = 16740$$

$$\text{no. of girls} = 16740 - 7533 = 9207$$

S4. Ans (b)

$$\begin{aligned} \text{sol. Total no. of boys} &= 84 \times \frac{55}{100} + 82 \times \frac{56}{100} + \frac{65}{100} \times 95 + \frac{58}{100} \times 71 + \frac{49}{100} \times 90 + \frac{45}{100} \times 78 \\ &= 27425 \end{aligned}$$

S5. Ans (a)

$$\text{Sol. Total Students from Gita Niketan} = 50000$$

$$\text{Total boys from Gita Niketan} = 27425$$

$$\text{Total no. of girls participated} = 50000 - 27425 = 22575$$

$$\text{required percentage} = \frac{27425 - 22575}{50000} \times 100$$

$$= 9.7\%$$

S6. Ans (d)

$$\text{Sol. total number of candidates who qualified in the interview from all the states together}$$

$$\begin{aligned} &= (470000 \times \frac{23}{100} \times \frac{54}{360} + 580000 \times \frac{25}{100} \times \frac{126}{360} + 290000 \times \frac{29}{100} \times \frac{90}{360} + 510000 \times \frac{40}{100} \times \frac{22.5}{360} + \\ &170000 \times \frac{32}{100} \times \frac{67.5}{360} \end{aligned}$$

$$= 16215 + 50750 + 21025 + 12750 + 10200 = 110940$$

S7. Ans (e)

Sol. Total number of candidates applied from UP and Bihar =  $7.2 + 5.4 = 12.6$  lakh = 1260000

Total number of candidates qualified in interview from Bihar, AP and Haryana

$$= 470000 \times \frac{23}{100} \times \frac{54}{360} + 510000 \times \frac{40}{100} \times \frac{22.5}{360} + 170000 \times \frac{32}{100} \times \frac{67.5}{360}$$

$$= 16215 + 12750 + 10200 = 39165$$

$$\therefore \text{Reqd. ratio} = 1260000 : 39165$$

$$= 84000 : 2611$$

S8. Ans (a)

$$\text{Sol. Candidates appeared for interview from UP} = 580000 \times \frac{25}{100} = 145000$$

$$\text{Candidates appeared for interview from Bihar} = 470000 \times \frac{23}{100} = 108100$$

$$\text{Reqd. percentage} = \frac{110940}{108100+145000} \times 100$$

$$= \frac{110940}{253100} \times 100 \approx 43.83 \approx 44\%$$

S9. Ans (e)

Sol. Total no of candidates applied from Delhi, Haryana and AP =  $3.4 + 5.8 + 2.3 = 11.5$  lakh

Total number of candidates qualified in interview from Delhi, Haryana and AP =

$$290000 \times \frac{29}{100} \times \frac{90}{360} + 170000 \times \frac{32}{100} \times \frac{67.5}{360} + 510000 \times \frac{40}{100} \times \frac{22.5}{360}$$

$$= 21025 + 10200 + 12750 = 43975$$

$$\text{Difference} = 1150000 - 43975 = 1106025$$



S10. Ans (a)

Sol.

$$\text{candidates who passed written exam} = 470000 \times \frac{23}{100} + 580000 \times \frac{25}{100} + 290000 \times \frac{29}{100} +$$

$$510000 \times \frac{40}{100} + 170000 \times \frac{32}{100}$$

$$\text{Difference} = \frac{108100+145000+84100+204000+54400}{5} - \frac{110940}{5} = \frac{595600}{5} - \frac{110940}{5}$$

$$= 119120 - 22188 = 96932$$

S11. Ans.(b)

Sol.

Total no. of Moto & MI mobiles manufactured together in 2012

$$= \frac{150}{60} \times 100 + \frac{160}{40} \times 100$$

$$= 250 + 400 = 650$$

Total no. of Moto & MI mobiles manufactured together in 2013

$$= \frac{140}{62.5} \times 100 + \frac{170}{85} \times 100$$

$$= 224 + 200 = 424$$

$$\text{Required difference} = 650 - 424 = 226$$

S12. Ans.(a)

Sol.

$$\text{Defective Oppo mobiles in 2013} = \frac{20}{100} \times (140 + 150 + 120 + 170 + 80)$$

$$= \frac{1}{5} \times 660 = 132$$

$$\text{Unsold Nokia mobiles in 2012} = \frac{50}{25} \times 75 = 150$$

$$\text{Required percentage} = \frac{132}{150} \times 100 = 88\%$$

S13. Ans.(c)

Sol.

$$\text{Total Nokia mobiles manufactured} = \frac{50}{25} \times 100 = 200$$

$$\text{Total Jio mobiles manufactured in 2012} = 1000 - 200 = 800$$

$$\text{Unsold Jio mobiles in 2012} = \frac{140}{100} \times \frac{80}{40} \times 60 = 168$$

$$\text{Sold Jio mobiles in 2012} = 632$$

$$\text{Required average} = \frac{632+140}{2} = 386$$

S14. Ans.(e)

Sol.

Total manufactured mobiles of company MI & Vivo together in 2012

$$= \frac{160}{40} \times 100 + \frac{120}{40} \times 100$$

$$= 400 + 300 = 700$$

$$\text{Total mobiles sold in year 2013} = 140 + 150 + 120 + 170 + 80 = 660$$

$$\text{Required percentage} = \frac{700-660}{660} \times 100$$

$$= 6 \frac{2}{33}\%$$

S15. Ans.(d)

Sol.

$$\text{Total unsold Vivo mobiles} = \frac{120}{40} \times 60 + \frac{150}{50} \times 50$$

$$= 180 + 150 = 330$$

$$\text{Defective Vivo mobiles} = 60 \times \frac{330}{100} = 198$$

$$\text{Defective Vivo mobiles in 2012} = 198 \times \frac{1}{3} = 66$$

$$\text{Required total} = 66 + \frac{150}{60} \times 40 + \frac{140}{62.5} \times 37.5$$

$$= 66 + 100 + 84 = 250$$

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