Quiz Date: 3rd September 2020
Directions (1-5): Study the following pie chart and table chart carefully and answer the question given below.
The pie-chart shows the percentage of number of competitors to appear in the six different types of govt. examination.

Total number of competitors $=\mathbf{6 8 0 0 0}$


Table graph shows the ratio between boys and girls who give six different exam.

|  | Banking | SSC | Railway | Teachin <br> g | UPSC | PCS |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Boys | 2 | 10 | 5 | 3 | 12 | 8 |
| Girls | 3 | 7 | 3 | 7 | 5 | 9 |

Q1. Find the total number of boys competitor to appear in all six different exam ?
(a) 34,096
(b) 35,012
(c) 37,287

(d) 35,000
(e) 35,212

Q2. Find the difference between the total competitor of railways and PCS together and the total competitor of banking and SSC together ?
(a) 22,440
(b) 44,220
(c) 24,240
(d) 42,420
(e) 23,320

Q3. Number of girls competitor in teaching and UPSC together is what approximate percent of total competitor in these exams?
(a) $45 \%$
(b) $55.5 \%$
(c) $40.5 \%$
(d) $60 \%$
(e) $51.5 \%$

Q4. Find the ratio between the total number of girls competitors in Banking, Railway and PCS together to the total number of competitor in SSC exam ?
(a) $217: 430$
(b) $7: 9$
(c) $340: 217$
(d) $217: 340$
(e) $31: 32$

Q5. Find the total number of competitor in teaching, UPSC and banking together.
(a) 36040
(b) 32042
(c) 63004
(d) 40213
(e) 29248

Directions (6-10): Given below is the pie chart which shows the percentage expenditure of government on different sports in a state in year 2016
Total expenditure on sports $=500$ lacs


Hockey and Tennis together?
(a) $11: 10$
(b) $9: 10$
(c) $10: 11$
(d) $11: 12$
(e) $5: 6$

Q7. What is the difference between average of expenditure on sports Golf, Football together to the average of expenditure on sport tennis and Hockey together ?
(a) 4.25 L
(b) 10.25 L
(c) 6.25 L
(d) 5.5 L
(e) 7.25 L

Q8. If in year 2017 expenditure on Cricket and baseball increases by $20 \%$ and $12 \%$ respectively and respective ratio of expenditure between these two sports in 2016 is $2: 1$ then find the total expenditure of these two sports in 2017.
(a) 180 L
(b) 310 L
(c) 285 L
(d) 220 L
(e) 170 L

Q9. If expenditure on football and Hockey increases $20 \%$ and $25 \%$ in 2017 then what is the total expenditure for these two sports in 2017 ?
(a) 120.65 lacs
(b) 170.50 lacs
(c) 183.75 lacs
(d) 190.00 lacs
(e) 201.5 lacs

Q10. Total expenditure of Tennis and football together in 2016 is what percent of total expenditure on all, sports in 2017 if in 2017 expenditure on all sports increases by $20 \%$
(a) $20 \frac{5}{6} \%$
(b) $30 \frac{2}{3} \%$
(c) $13 \frac{7}{9} \%$

(d) $14 \frac{2}{7} \%$
(e) $16 \frac{2}{3} \%$

Directions (11-15): The following pie-chart shows the population of six cities of MP who is going to cost their votes in Assembly election of MP 2018. Study the graph carefully and answer the questions that follow:
Note: - Some data are missing in chart, find them if it is required in any question and then proceed.
Also, some data are in degree and some data are in absolute value.


Q11. If no. of voters in Rewa make a central angle of $12^{\circ}$ then total no. of voters in Indore is what percent more than the total no. of voters in Satna if ratio of voters in Indore and Satna is $20: 9$ ?
(a) $132 \frac{2}{9} \%$
(b) $122 \frac{7}{9} \%$
(c) $120 \frac{2}{9} \%$
(d) $122 \frac{2}{9} \%$
(e) None of these

Q12. If ratio of no. of voters of Rewa, Indore and Satna is $4: 20: 9$, then total no. of voters in Indore is what percent of total no. of voters in Ujjain?
(a) $53 \frac{33}{56} \%$
(b) $56 \frac{32}{53} \%$
(c) $56 \frac{43}{53} \%$
(d) $46 \frac{32}{53} \%$
(e) $66 \frac{32}{53} \%$

Q13. What is the average no. of voters in Bhopal, Ujjain and Rewa together? If voters from Rewa makes central angle of $12^{0}$.
(a) $1,24,000$
(b) $1,41,000$
(c) $1,14,000$
(d) $2,14,000$
(e) $1,12,400$

Q14. No. of voters in Jabalpur and Satna together is what percent more or less than the number of voters in Indore and Rewa together? If ratio of no. of voters of Rewa, Indore and Satna is $4: 20: 9$.
(a) $4 \%$
(b) $3 \%$
(c) $2 \%$
(d) $1 \%$
(e) $0 \%$

Q15. If $40 \%$ voters of Ujjain are in the age group of (20-30) years and $25 \%$ are in the age group of (31-40) years and the ratio of voters of age group of above 40 years and below 20 years is $4: 3$, then what is the total no. of voters who are below 20 years in Ujjain? If Rewa makes central angle of $12^{0}$.
(a) 24,850
(b) 23,850
(c) 22,850
(d) 25,830
(e) 24,420

## Solutions

## S1. Ans.(b)

Sol.
Total number of boys appeared in all six exam
$=68000\left[\frac{2}{5} \times \frac{20}{100}+\frac{30}{100} \times \frac{10}{17}+\frac{12}{100} \times \frac{5}{8}+\frac{18}{100} \times \frac{3}{10}+\frac{15}{100} \times \frac{12}{17}+\frac{5}{100} \times \frac{8}{17}\right]$
$=68000\left[\frac{2}{25}+\frac{3}{17}+\frac{3}{40}+\frac{27}{500}+\frac{9}{85}+\frac{2}{85}\right]$
$=35,012$
S2. Ans.(a)
Sol.
Total competitor of Railway and PCS exam = 68000 (12\% + 5\%)
$=68000 \times \frac{17}{100}$
$=11,560$
Total competitor of banking and SSC exam $=68000 \times(20 \%+30 \%)$
$=68000 \times \frac{50}{100}$
$=34000$
Required difference $=34,000-11,560=22,440$
S3. Ans.(e)
Sol.
Number of girls in teaching and UPSC exam
$=68000\left[\frac{18}{100} \times \frac{7}{10}+\frac{15}{100} \times \frac{5}{17}\right]$
$=68000\left[\frac{63}{500}+\frac{3}{68}\right]$

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=11,568
$$

Total competitor in teaching and UPSC exam
$=68000 \times \frac{33}{100}$
$=22,440$
Required $\%=\frac{11568}{22440} \times 100 \simeq 51.5 \%$
S4. Ans.(d)
Sol.
Total number of girls in banking, Railway and PCS exams
$=68000 \times \frac{3}{5} \times \frac{20}{100}+68000 \times \frac{3}{8} \times \frac{12}{100}+68000 \times \frac{9}{17} \times \frac{5}{100}$
$=680 \times 12+340 \times 9+45 \times 40$
$=8160+3060+1800$
$=13020$
Total competitor in SSC $=68000 \times \frac{30}{100}=20400$
Required ratio $=13020: 20400=217: 340$
S5. Ans.(a)
Sol.
Total number of competitor in teaching, UPSC and banking $=68000(18 \%+15 \%+20 \%)$
$=68000 \times \frac{53}{100}$
$=36040$
S6. Ans.(a)
Sol.
Required ratio $=\frac{\frac{27.5}{100} \times 500}{\frac{25}{100} \times 500}$
$=\frac{275}{250} 11: 10$
S7. Ans.(c)
Sol.
Average expenditure on football and Golf together
$=\frac{27.5 \times 5}{2}=68.75$ lacs
Average of expenditure Tennis and Hockey
$=\frac{25 \times 5}{2}=62.5$ lacs
Required difference $=6.25$ lacs
S8. Ans.(d)
Sol.
Expenditure on Cricket in 2016
$=\frac{(100 \%-62.5 \%) \times 500}{3} \times 2$
$\frac{37.5 \times 5}{3} \times 2$
$=12.5 \times 5 \times 2$
$=125$ lacs
Expenditure on Baseball in $2016=\frac{37.5 \times 5}{3}$
$=12.5 \times 5$
$=62.5$ lacs
Required expenditure in $2017=\frac{120}{100} \times 125+\frac{112}{100} \times 62.5$
$=150+70$
$=220$

S9. Ans.(c)
Sol.
Required expenditure
$=15 \times 5 \times \frac{120}{100}+15 \times 5 \times \frac{125}{100}$
$=90+93.75$
$=183.75$
S.10.Ans.(a)

Sol.
Required percentage $=\frac{(10 \%+15 \%) 500}{120 \% \times 500} \times 100$
$=20 \frac{5}{6} \%$
S11. Ans.(d)
Sol.
$\therefore$ Required answer $=\frac{20-9}{9} \times 100$
$=\frac{1100}{9}$
$=122 \frac{2}{9} \%$
S12. Ans.(b)
Sol. Total no. of voters in Indore $=\frac{20}{33} \times[360-(106+110+45)]$
$=60^{\circ}$
$\therefore$ Required answer $=\frac{60}{106} \times 100$
$=56 \frac{32}{53} \%$
S13. Ans.(c)
Sol.

Required average $=\frac{1}{3} \times \frac{(12+110+106)}{360} \times \frac{18000}{12} \times 360$
$=1,14,000$

S14. Ans.(e)
Sol. No. of voters in Jabalpur and Satna together (in form of degree)
$=45+\frac{9}{33} \times(360-(106+110+45))$
$=72^{\circ}$
No. of voters in Indore and Rewa together
$=\frac{20}{33} \times(360-(106+110+45))^{0}+12^{0}=72^{0}$
$\therefore$ Required percentage $=0 \%$
S15. Ans.(b)
Sol. Total no. of voters in Ujjain
$=\frac{106}{360} \times \frac{18000}{12} \times 360$
= 1,59,000
$\therefore$ No. of voters who are below 20 years in Ujjain
$=\frac{(100-40-25)}{100} \times \frac{3}{7} \times 1,59,000$
$=23,850$


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