Quiz Date: 1st September 2020

Directions (1-6): Study the passage and answer the questions given.
 Data given below shows the total number of books available in the college library which is 24,000. Ratio of medical (BDS and MBBS) to non-medical books is 7:9. Out of the total medical books (BDS and MBBS), the number of books for MBBS are 10% more than the number of books available for BDS.
Non-medical books consist of books for management, engineering, Diploma and BSC courses. 36% of the total non-medical books are for Diploma and BSC courses and out of this, $44\frac{4}{9}$% are for BSC courses. The ratio of the number of books for management to number of books for engineering courses is 21 : 27.

Q1. The number of books available for engineering course is how much more or less than the number of books available for BDS course
(a) 120
(b) 140
(c) 160
(d) 170
(e) 180

Q2. Find the ratio of the total number of books available for MBBS and Diploma courses together to the total number of books available for management and engineering together?
(a) 205 : 216
(b) 216 : 205
(c) 26 : 27
(d) 23 : 24
(e) 209 : 216

Q3. The number of books available for management courses is what percent more or less than the number of books available for MBBS.
(a) $31\frac{1}{11}$%
(b) 30%
(c) $31\frac{2}{11}$%
(d) $31\frac{3}{11}$%
(e) $31\frac{4}{11}$%

Q4. Total number of management and engineering books together is what percent of the total number of medical books in the library.
(a) $82\frac{2}{7}$%
(b) $82\frac{4}{7}$%
(c) $82\frac{3}{7}$%
(d) $82\frac{1}{7}$%

(e) $85\frac{5}{7}\%$

Q5. Find the difference between the total number of books for BDS and management courses together and the total number of books for engineering, BSC and Diploma courses together?
(a) 960
(b) 950
(c) 940
(d) 980
(e) 930

Q6. Total number of engineering books are further classified as books for M. Tech courses and books for B. Tech courses which are in ratio 5 : 7 (M. Tech : B. Tech). Number of books for B.Tech is what percent of the number of books for BDS?
(a) 55.7%
(b) 56.7%
(c) 50.6%
(d) 62.6%
(e) 57.6%

Directions(7-11): Study the passage and answer the questions given.
In a school total 450 students are present. Ratio of girls to boys in the school is 8:7. 50% of girls and 40% of boys play basketball. 30% of boys and 30% of girls play cricket. 20% of girls and 30% of boys play football. 21 boys and 27 girls play both cricket and basketball. 18 boys and 21 girls play both cricket and football. 15 boys and 24 girls play both basketball and football. 6 boys and 9 girls play all three games.
NOTE:- Only three games are played in the school and some students dose not play any game.
Q7. What is the percentage of the students that does not play any games?
(a) $14\frac{2}{3}\%$
(b) $26\frac{8}{9}\%$
(c) $24\frac{2}{3}\%$
(d) $26\frac{2}{3}\%$
(e) $24\frac{2}{5}\%$

Q8. What is the ratio of boys to girls who play only basketball?
(a) 13:9
(b) 13:11
(c) 9:13
(d) 9:8
(e) 12:11

Q9. Girls who play only cricket are what percent of the girls who play football?

(a) 72%
(b) 62.25%
(c) 66.50%
(d) 68.75%
(e) none of these

Q10. Number of boys who does not play any games are how much less than that of girls?
(a) 15
(b) 14
(c) 29
(d) 20
(e) 12

Q11. What is the ratio of the girls who play basketball to boys who play cricket?
(a) 21:40
(b) 20:21
(c) 40:19
(d) 40:23
(e) 40 : 21

Directions (12-15): Find out the approximate value which should replace the question mark (?) in the following questions. (You are not expected to find out the exact value)

$$\sqrt{2400.9995} + (6.9989)^2 =? \div \frac{1}{6.9900865}$$

Q12.
(a) 17
(b) 20
(c) 10
(d) 14
(e) 21

Q13. 673.966 + 73.9791 × 34.981 – 1454.971 = ?
(a) 1880
(b) 1810
(c) 1740
(d) 1725
(e) 2120

Q14. (57% of 1650.02 – 32% of 1124.98) ÷ 124.97 = ?
(a) 11
(b) 5
(c) 1
(d) 13
(e) 15

Q15. (532679 + 369321) ÷ (7854 – 7629) = ?

(a) 4008
(b) 4020
(c) 4108
(d) 4206
(e) 125

Solutions

Sol (1-6):
Number of Medical books = $\frac{24000 \times 7}{16} = 10,500$
Number of Non-Medical books = 24,000 -10,500 = 13,500
Number of books for MBBS = $\frac{10,500}{210} \times 110 = 5500$
Number of books for BDS= 10500- 5500=5000
Number of books for BSC = $13,500 \times \frac{36}{100} \times \frac{4}{9} = 2160.$
Number of books for Diploma = $13,500 \times \frac{36}{100} - 2160 = 2700$
Total number of books for management and engineering = 13,500 – (2160 – 2700) = 8640
Number of books for management = $8640 \times \frac{21}{48} = 3780.$
Number of books for engineering = 8640–3780 = 4860
S1. Ans(b)
Sol. Required difference = 5000–4860 = 140

S2. And(a)
Sol. Required ratio = $\frac{(5500+2700)}{(3780+4860)} = \frac{205}{216}$

S3. Ans (d)
Sol. Required % = $\frac{(5500-3780)}{5500} \times 100 = 31\frac{3}{11}\%$

S4. Ans (a)
Sol. Required % = $\frac{8640}{10500} \times 100 = \frac{576}{7}\% = 82\frac{2}{7}\%$

S5. Ans (c)
Sol. Required difference = (4860 +2160+2700)–(5000+3780) = 9720–8780 = 940

S6. Ans (b)
Sol. Number of books for B.Tech = $\frac{4860 \times 7}{12} = 2835$
Required percentage = $\frac{2835}{5000} \times 100 = 56.7\%$

Sol (7-11):
Total students → 450
Total boys → $\frac{7}{15} \times 450 = 210$

Total girls $\rightarrow \frac{8}{15} \times 450 = 240$

In basketball

Boys $\rightarrow \frac{40 \times 210}{100} = 84$

Girls $\rightarrow \frac{50 \times 240}{100} = 120$

In Cricket

$boys \rightarrow \frac{30 \times 210}{100} = 63$

Girls $\rightarrow \frac{30 \times 240}{100} = 72$

In football

$boys \rightarrow \frac{30 \times 210}{100} = 63$

Girls $\rightarrow \frac{20 \times 240}{100} = 48$
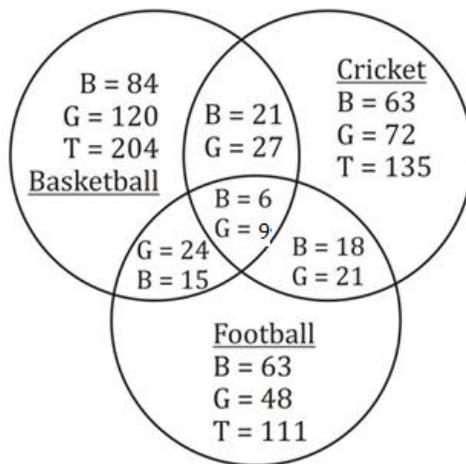
Now,

Student does not play any games

= 450 – (204 + 135 + 111 – 48 – 39 – 39 + 15)

= 111

S7. Ans.(c)

Sol.

Required Percentage $= \frac{111}{450} \times 100 = 24\frac{2}{3}\%$

S8. Ans.(c)

Sol.

Girls who play only basketball = 120 – (27 + 24) + 9

=78

boys who play only basketball = 84 – (21 + 15) + 6 = 54

Ratio $= \frac{54}{78} = \frac{9}{13}$

S9. Ans.(d)

Sol.
Girls play only cricket = 72 – (21 + 27) + 9
= 33
Required % $= \frac{33}{48} \times 100 = 68.75\%$

S10. Ans.(a)
Sol.
Number of boys who does not play any games
= 210 – (84 + 63 + 63 – 21 – 18 – 15 + 6)
= 48
Number of girls who does not play any games
= 240 – (120 + 72 + 48 – 27 – 21 - 24 +9)
= 63
Difference = 63 – 48 = 15

S11. Ans.(e)
Sol. Ratio $= \frac{120}{63} = \frac{40}{21}$
= 40 : 21

S12. Ans.(d)
Sol.
$$? = \frac{49 + 49}{7}$$
$$\simeq 14$$

S13. Ans.(b)
Sol.
$$? \simeq 674 + 74 \times 35 - 1455$$
$$\simeq 1810$$

S14. Ans.(b)
Sol.
$$? \simeq \frac{(57 \times 1650 - 32 \times 1125)}{100} \times \frac{1}{125}$$
$$\simeq \frac{58050}{12500}$$
$$\simeq 5$$

S15. Ans.(a)
Sol.

$$? \simeq \frac{902000}{225}$$

$$\simeq 4008$$

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