SBI Clerk Mains 2020 Memory Based Paper Quantitative Aptitude – English Version

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Directions (1-4): Read the following information carefully and answer the questions based on it.

In the year 2020 there were 3 classes 8th, 9th and 10th in a school which boys and girls study. Number of boys in 9th class was 20% more than that of 8th class. Number of girls in 9th class was 50% more than that of 10th class. The sum of total number of boys in 8th and 9th class and total number of girls in 9th and 10th class is equal to 128. Sum of boys in 8th class and girls in 10th class is 56. The number of Boys in 10th class is 17 more than the number of girls in 8th class. Total students in all three classes are 181.

1. If in class 11th of the same school, the number of boys is 80% of that in class 10th and it is known that 75% of the number of boys in class 11th is equal to 50% of the number of girls in class 11th. Find the number of girls in class 11th is what percent of the total students in the same class.

a) 45%
b) 70%
c) 50%
d) 40%
e) 60%

2. On a certain day in 2020, 25% of the total students in class 11th of that school were absent. The ratio of boys to girls present is 11:19. The total number of girls enrolled in class 11th is 65. The number of boys who were absent is 14 more than that of girls. Then the number of students in class 11th is what percent more or less than the number of students in class 8th and 9th combined?

a) 7.69%
b) 6.25%
c) 8.33%
d) 9.09%
e) None of these

3. The number of boys in class 8th in 2020 was 16.67% less than the boys in class 7th in 2019. Out of all the students who appeared for the final exam in the year 2019 from class 7th, 75% passed and got promoted. In 2020, class 8th had some new admission. If the girls who took admission in 8th in 2020 was 75% of the boys who took new admission. Then find the difference between the number of girls appearing in the final exam of class 7th in 2019 and girls in class 10th in 2020.

a) 14
b) 13
c) 17
d) Can't be determined
e) 12

4. If in 2020, in class 10th some students did not attend final exams due to covid19, number of students passed the final exam is 11 less than the total students attended the exam in that class. If number of boys who didn't attend final exam is 20%, which is 75% more than number of girls who didn't attend final exam, then find

the total number of girls in class 11th in 2021 if no other admission has done.

a) 18
b) 15
c) 12
d) 10
e) 8

Directions (5-7): Read the following information carefully and answer the questions based on it. There are total 350 students who like three different fruits apple, orange and grapes. Each students compulsorily like one or more than one fruit. The number of students liking only apple, only orange and only grapes is 18%, 6% and 12% respectively of total number of students. Students who like apple and orange but not grapes are x%, those like only orange and grapes not apple are y% and those like grapes and apple but not orange are z% of total no. of students. Also it is known that the value of x, y, z are distinct integral multiple of 10. Based on this information, solve the questions below.

5. Find the number of students liking all three fruits

a) 28
b) 21
c) 14
d) 20
e) 16

6. Find the maximum value of X i.e students liking apple and orange but not grapes?

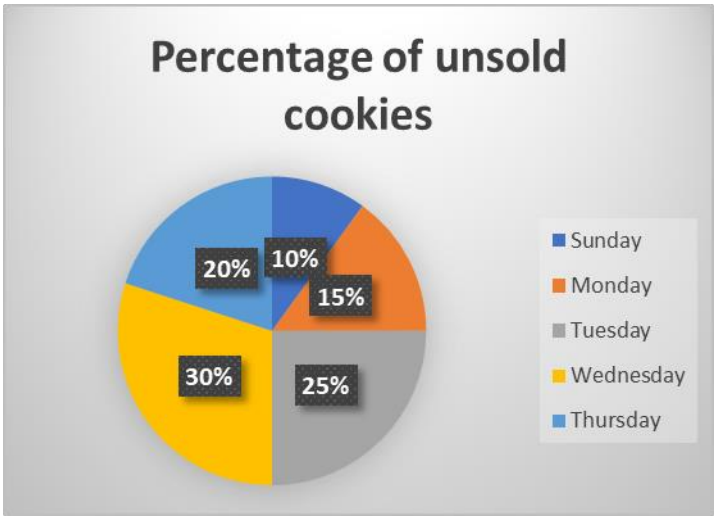
a) 30%
b) 20%
c) 40%
d) 50%
e) 25%

7. If number of students like orange and grapes but not apple is minimum, also number of students like apple and grapes but not orange is 50% more than number of students like only apple and orange but not grapes, then find the difference between number of students like only apple and orange but not grapes and the number of students like at least 2 fruits?

a) 143
b) 121
c) 132
d) 154
e) 176

Directions (8-10): Read the following information carefully and answer the questions based on it. The pie-chart given below shows the distribution of total unsold cookies of ABC bakery on 5 days of the week. It is also known that 200 cookies are baked daily in the bakery for selling purpose. All the unsold cookies of a particular day is sold next day. On Sunday there was no unsold cookies that were carry forwarded from Saturday.

Total unsold cookies 180



8. The bakery sold 9/14 of total cookies sold on Tuesday at Rs.X each and rest of the cookies at Rs.Y each and ratio of X and Y is 2:3. If he received total amount of Rs.1716 after selling all the cookies. Then find the amount received by selling cookies at Rs.X?

a) Rs.954
b) Rs.918
c) Rs.936
d) Rs.972
e) None of these

9. Given that the average number of cookies baked on Monday and Friday is 220. Ratio of total baked cookies and unsold cookies on Friday is 6:1, find the percentage of cookies sold on Friday. (Consider unsold cookies of Thursday to be carry forwarded to Friday)

a) 66.67%
b) 83.33%
c) 75%
d) 80%
e) 77.77%

10. On Sunday, 45% of the cookies baked were chocolate based, 25% cookies baked were almond based and rest was fruit cake based. If ratio of unsold cookies of chocolate, fruit cake and almond based is 2:1:3, then find the number of fruit based cookies sold on Sunday.

a) 44
b) 47
c) 54
d) 51
e) 57

Directions (11-12): Read the following information carefully and answer the questions based on it.

Below data gives information about the percentage of profit generated by three sellers X,Y and Z on selling 5 articles namely A1, A2, A3, A4 and A5 whose cost price is Rs.100 each.

Note :

i) The percentage of profit generated by X is 82%

ii) The average % of profit earned by Y and Z together is 75%, which is 10 percentage points more than the profit percentage of Y

11. Profit (in Rs) earned by seller Z by selling A3+A4+A2 and A1+A5 is in the ratio of 13:4. If Profit earned by selling A1 is 25 more than the profit earned by selling A5, then what is the percentage profit on A5?

a) 32.5%
b) 37.5%
c) 33.33%
d) 30%

e) 36.66%

12. If the profit earned by X on articles A1, A3, and A5 (in the same order) is in arithmetic progression with common difference of Rs.10 and profit earned by X in A2 is Rs.85 then find the profit percentage earned by X by selling A4.

a) 70%
b) 75%
c) 78%
d) 80%
e) Can't be determined

Directions (13-14): Read the following information carefully and answer the questions based on it.
Data given here is about percentage of marks scored by A,B,C in five subjects namely S1, S2, S3, S4 and S5.
Percentage of marks scored by A, B,C in all subjects are 86, 78, 82 respectively.
Note: Maximum marks in each subject is 100

13. Average marks scored by A in S1, S2 and S3 is 84 and A's score in subject S4 is 10 more than that in S5, then find the marks scored by A in S5?

a) 94
b) 96
c) 74
d) 84
e) 92

14. B scored 70% in subject S1 and B's score in subject S2 is 10 more than that in S3 while B's score in subject S3 is 10 more than that in S4, then what percentage of marks B scored in S5?

a) 82%
b) 88%
c) 85%
d) 75%
e) Can't be determined

Directions (15-17): Read the following information carefully and answer the questions based on it.
Given table depicts the number of Doctors and Engineers in 6 cities X,Y,Z,A,B and C. Use the additional notes in order to answer the following questions

	City X	City Y	City Z	City A	City B	City C
No of doctors				110		
No. of Engineers	102					

Note:

i) Doctors in city X and Engineers in city Z are same
ii) Doctors in city Y and Engineers in city A are 263 together
iii) Sum of the number of doctors and engineers in city B is 290, while that in city Y is 228.
iv) Number of doctors in city B is 60 more than number of engineers in same city
v) Sum of number of doctors and engineers in cities C & Y is 496

vi) Number of doctors in city C is 96

vii) Number of engineers in city C are 100% more than that in city Y

viii) Number of doctors in city X are 11 more than that in city Y

ix) Number of doctors in city Y are 11 more than that in city Z

15. Find the average of total number of doctors in city X,Y,A,B together

a) 155

b) 140

c) 145

d) 135

e) 130

16. If 30% of doctors from city A are cardiologists, 40% of engineers from city B are mechanical engineers, then find the difference between the sum of number of doctors (other than cardiologists) from city A and number of engineers (other than mechanical) from city B and number of engineers from city X,Y,C together.

a) 212

b) 210

c) 224

d) 204

e) None of these

17. Find the difference between total number of engineers and total persons from city A,B,C together?

a) 45

b) 40

c) 50

d) 55

e) 35

Directions (18-20): Read the following information carefully and answer the questions based on it.

Given data is about number of books contained in a library, books are either owned or issued by library.

Library	Number of books owned by library	Number of books issued by library
A	560	160
B	460	200
C	720	400
D	640	260

Note:

Books owned by library = Books issued by library + Number of books available in library

18. In library D, out of total books owned by library, 144 are in Urdu language, if 25% of number of books in Urdu language are issued by library, then number of none issued Urdu book is approximately what percentage of the book available in library D?

a) 15.25%

b) 28.42%

c) 16.5%

d) 15.77%

e) None of these

19. In library C, there are some quantitative aptitude books and reasoning books, if 20% of books removed and replaced by reasoning books, then the no. of quantitative aptitude books and the no. of reasoning books becomes equal, then find the number of quantitative aptitude books in the library.

a) 288
b) 270
c) 252
d) 216
e) Can't be determined

20. If in another library E which has only two type of books English and Hindi, total number of books is 25% less than that of A. Number of books not issued by library E is 60 less than that of library D, if number of English books in the library E is 60 less than that of Hindi books, then find the number of Hindi books not issued by library E if it issued 40 English books?

a) 140
b) 160
c) 180
d) 120
e) 200

Directions (21-23): Read the following information carefully and answer the questions based on it.

A,B,C are three cubes. Three cubes of P,Q,R of different measurement of sides are formed by cutting the sides of A,B,C respectively.

Side of P can be calculated by $x^2-10x+25=0$, and difference between side of A and P is 3cm

Side of Q can be determined by $y^2-4y-12=0$ and difference between side of B and that of Q is 4cm

Side of R is calculated as $z^2-8z+16=0$ and difference between side of C and that of R is 5cm

21. Find the numerical difference between volume of cube C and total surface area of cube P

a) 512
b) 549
c) 569
d) 579
e) 729

22. Find the ratio of volume of cube Q and sum of the total surface area of cube A and R together(By taking the numerical value).

a) 20:9
b) 16:9
c) 9:16
d) 9:20
e) None of these

23. Find the sum of the volume (in cm^3) of all the cubes together

a) 2646 cm^3
b) 2442 cm^3
c) 2546 cm^3
d) 2424 cm^3
e) None of the above

Directions (24-26): Read the following information carefully and answer the questions based on it.

The following table shows the number of IT and HR department employees in various years.

Company	Number of IT employees in 2018	Number of HR dept employees in 2018	Transfer from IT to HR in 2019	Total number of IT employees in 2019
A	30	25	6	28
B	40	35	10	39
C	50	40	6	54

Note:

No employees left in 2018 and No new employee joined in 2019

No employee transferred to HR or IT from any other departments and vice versa

24. If 25% of HR employees from company B in 2019 are Ph.d holders, then find the difference between Ph.d and non Ph.d employees in HR.

a) 18

b) 12

c) 20

d) 16

e) 14

25. Ratio of male and female in HR from company A in 2018 and 2019 are 2:3 and 4:5 respectively. If 2 male employees shifted from HR to IT in 2019, then find how many male employees shifted from IT to HR in 2019?

a) 2

b) 3

c) 4

d) 5

e) 0

26. If in 2019, total employees in IT from company D is 2/3rd of employees of company C working in IT in 2019, total employees in HR from company D is 25% less than the no. of employees of company B working in HR in 2019. Find the total employees in company D in 2019?

a) 45

b) 54

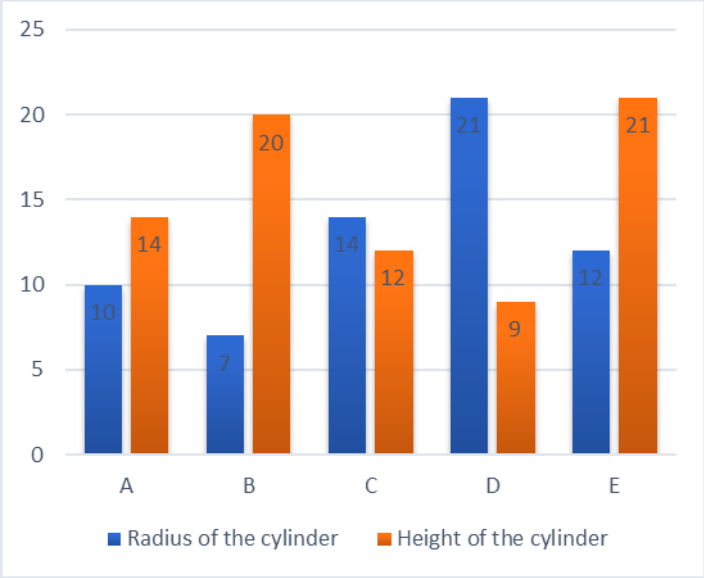
c) 63

d) 56

e) 60

Directions (27-31): Read the following information carefully and answer the questions based on it.

The following bar graph shows the radius (in cm) and height (in cm) of five different cylinders.



27. By some cubes which side 2 cm is filled with cylinder A and cylinder B. Find the difference of number of cubes required to fill both the cylinders.

a) 155
b) 150
c) 145
d) 165
e) None of these

28. If cylinder C is 40% filled with water and cylinder D is 80% filled with water, then find the difference between empty volumes (in cm^3) of both cylinders.

a) 1920.4 cm^3
b) 1930.4 cm^3
c) 1940.4 cm^3
d) 1950.4 cm^3
e) None of these

29. Difference between diameter and height of cylinder A is what percentage more or less than difference between diameter and height of cylinder C?

a) 62.5%
b) 67.5%
c) 60%
d) 55.55%
e) 65%

30. Find the sum of total surface area (approximately) of cylinder B and E?

a) 3737cm^2
b) 3608cm^2
c) 3677cm^2
d) 3636cm^2
e) None of these

31. Find the average of the volume of cylinder C, D and E (in cm^3)?

a) 9990 cm^3
b) 9870 cm^3
c) 9780 cm^3
d) 9690 cm^3
e) None of these

Answer With Explanation

1) Answer: E

Let us take total number of boys in class 8th be '100x'

Therefore number of boys in class 9th be 120x

Let us assume total number of girls in class 10th be '100y'

Therefore number of girls in 9th be '150y'

It is given that,

100x+100y =56

100x+120x+100y+150y = 128

220x + 250y = 128

By solving the above we get,

x= 2/5

100x = 40

100y = 16

Let number of girls from class 8th be 'a'

Therefore number of boys from class 10th be 'a+17'

40+48+16+24+a+a+17 = 181

a= 18

All the values are tabulated as follows

Class	Number of boys	Number of girls
8th	40	18
9th	48	24
10th	35	16

Number of boys in class 11th = 80% of 35 = 28

75% of boys in class 11th = 50% of girls in class 11th

3 (28) = 2 (number of girls in class 11th)

42 = number of girls in class 11th

Total students in class 11th = 42+28 = 70

% of girls in class 11th = $\frac{42}{70} \times 100 = 60\%$

2) Answer: A

Number of boys present in class 11th be 11a

Therefore number of girls present in class 11th be 19a

Total students present in class 11th = 11a+19a =30a

Total students absents in class 11th = $\frac{30a}{75} \times 25 = 10a$

Let number of boys absent in class 11th be 'b+14'

Therefore number of girls absent in class 11th 'b'

Therefore,

19a+b =65----- i)

b+ b+14 = 10a

5a –b =7------ ii)

By solving the above, we get

a = 3

Total students in class 11th = 40a = 120

Required percentage = $\frac{130-120}{130} \times 100 = 7.69\%$

3) Answer: D

Number of boys in 2019 in class 7th = $\frac{40}{(100-16.67)} \times 100 = 48$

Let number of girls in 2019 in class 7th be '100x'

Total students in class 7th in 2019 = 48+100x

Number of students passed in 2019 = 75% of (48+100x) = 36+75x

Number of new admission (boys in the year 2020) = 100y

Therefore, number of girls who got admission in 2020 = 75% of 100y =75y

Total students in 2020

36+75x+100y+75y = (40+18)

75x+175y = 22

From this value required solution can't be determined

4) Answer: C

Total students who cleared class 10th = (35+16) – 11 = 40

Number of boys who didn't attend the exam = 20% of 35 = 7

Number of boys attended the exam = 35-7 = 28

Number of girls who didn't attend the exam = 7*(100/175) =4

Total number of girls who attended in class 10th = 16 – 4 = 12

so, total no. of students attended in class 10th = 28+12=40

As, total no. of attended and total no. of passed students is equal so, we can say all the girls who attended the exam passed the exam.

So, no. of girls in class 11th in 2021 = 12

5) Answer: C

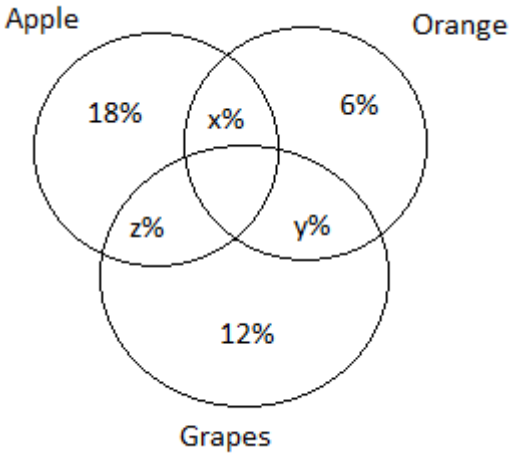
Sum of any of the fruits liked by the students = 100%

Number of students like only apple = 18%

Number of students like only orange = 6%

Number of students like only grapes = 12%

Venn diagram for the given data is as follows,



Percentage of students like only one fruits = 18%+12%+6% =36%

Therefore remaining (100-36) i.e64% of students like more than one fruits

All other values are multiple of 10%

If the minimum percentage is 10% then 10%+20%+30% = 60% < 64%

All the values of (x,y,z) are multiple of 10 i.e(10%, 20%, 30%)

Number of students like all the fruits =100% - (36%+ 10%+20%+30%)

= 4%

= 4% of 350

= 14

6) Answer: A

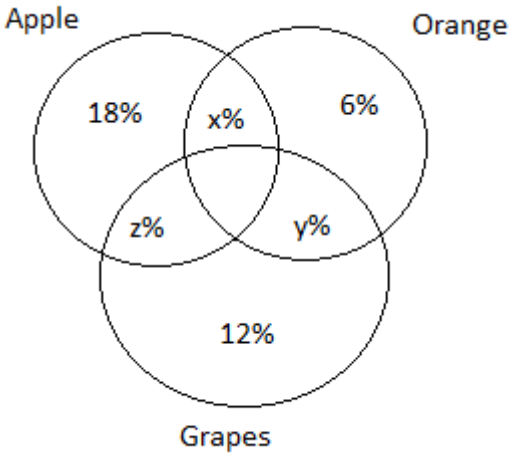
Sum of any of the fruits liked by the students = 100%

Number of students like only apple = 18%

Number of students like only orange = 6%

Number of students like only grapes = 12%

Venn diagram for the given data is as follows,



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Therefore remaining (100-36) i.e64% of students like more than one fruits

All other values are multiple of 10%

If the minimum percentage is 10% then 10%+20%+30% = 60% < 64%

All the values of (x,y,z) are multiple of 10 i.e(10%, 20%, 30%)

Therefore maximum possible value of percentage of students like apple and orange but not grapes = 30%

7) Answer: D

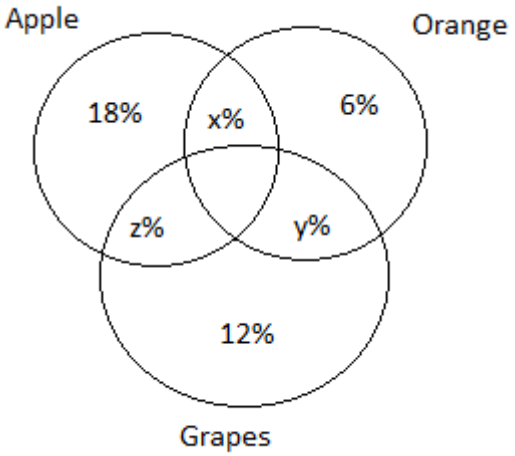
Sum of any of the fruits liked by the students = 100%

Number of students like only apple = 18%

Number of students like only orange = 6%

Number of students like only grapes = 12%

Venn diagram for the given data is as follows,



Percentage of students like only one fruits = 18%+12%+6% =36%

Therefore remaining (100-36) i.e64% of students like more than one fruits

All other values are multiple of 10%

If the minimum percentage is 10% then 10%+20%+30% = 60% < 64%

All the values of (x,y,z) are multiple of 10 i.e(10%, 20%, 30%)

Here, y=10% (minimum)

x = 20%

z = 30%

Required difference = 20% ~ (100% - 36%) = 44% of 350 = 154

8) Answer: C

Total cookies produced on each day =200

Total unsold cookies on Sunday = 10% of 180 = 18

Total sold cookies on Sunday = 200 – 18 = 182

Remaining 18 cookies sold on next day.

Total cookies produced on Monday = 200 +18 = 218

Similarly for all other days are calculated and the values are tabulated

Days	Total cookies	Number of cookies unsold	Number of cookies sold
Sunday	200	18	182
Monday	218	27	191
Tuesday	227	45	182
Wednesday	245	54	191
Thursday	254	36	218

Total cookies available for sale on Tuesday = 182

9/14th of the cookies i.e 9/14*182 = 117 sold at Rs.x

Remaining i.e 182 – 117 = 65 sold at Rs.y

Total revenue = Rs.1716

117(2a) +65(3a) = 1716

a =4

Amount earned while selling the products at Rs.X = 117 (2a) = Rs.936

9) Answer: B

Let total cookies baked on Friday = 6x

Number of cookies unsold on Friday = x

Therefore number of cookies sold on Friday = 6x – x =5x

Percentage of cookies sold on Friday = $\frac{5x}{6x} \times 100 = 83.33\%$

10) Answer: E

Total cookies baked on Sunday = 200

Number of fruit based cookies baked on Sunday = (100-45-25)% of 200 = 30% of 200 = 60

Total unsold cookies on Sunday = 18

Total fruit based cookies unsold on Sunday = $\frac{1}{(2+1+3)}(18) = 3$

Therefore,

Total fruit based cookies sold on Sunday = 60 – 3 = 57

11) Answer: B

It is given that,

Profit earned by seller X = 82%

Average of the profits earned by seller Y and Z together = 75%

Profit earned by seller Y = 75% - 10% = 65%

Sum of the profits earned by seller Y and Z together = 75%*2 = 150%

Therefore

Profit earned by seller Z = 150% -65% = 85%

Ratio of profits earned by seller Z

A3+A4+A2 and A1+A5 = 13x:4x

Total profit = 17x = 85% of 500 = 425

17x =425

x = 25

Total profits earned on A1+A5 = 4x = 100

It is given that,

A1 – A5 =25

By solving the above equations we get,

A5 = 37.5

12) Answer: E

Total profits earned by seller X = 82% of 500 = Rs.410

Profit earned on article A2 = Rs.85

Profit earned on other articles

i.e A1+A3+A4+A5 = 410 – 85 = 325

x+x+10 + A4+ x+20 = 325

From the above we have two unknown variable, from this equation profit percentage of article A4 can't be determined

13) Answer: D

Percentage of marks scored by A = 86%

Total marks scored by A = 86% of 500 = 430

Total marks scored by A in S1, S2, S3 = 84*3 = 252

Let marks scored by A in S4 = x+10

Marks scored by A in S5 =x

252 + x+ +x+10 = 430

x= 84

14) Answer: E

Total marks scored by B = 390

Marks scored by B in S1 = 70% of 100 = Rs.70

Let marks scored by B in S2 = x+10

Marks scored by B in S3 = x

Marks scored by B in S4 = x-10

70+ x+ x+10 + x-10 +S5 =390

3x + S5 =320

Percentage of marks scored by B in S5 can't be determined

15) Answer: C

Let number of doctors in city X = number of engineers in city Z be 'x'

Let number of doctors in city Y = 'a'

Number of engineers in city A = 'b'

a+ b = 263

Let number of engineers in city B =y

Therefore number of doctors in city B = y+60

y + y+60 =290

y = 115

Therefore number of doctors in city B = 175

Number of engineers in city Y = 228-a (given)

Number of engineers in city C = 228 – a + (228-a)

= 456 – 2a

Total persons in city Y and C = 496

(456-2a)+96 + a+ 228-a = 496

a = 142

142 + b = 263

Number of engineers in city A i.e b = 121

Number of doctors in city X = 142+11 = 153

Therefore number of engineers in city Z = 153

All the values are tabulated.

	City X	City Y	City Z	City A	City B	City C
Doctors	153	142	131	110	175	96
Engineers	102	86	153	121	115	172

Required average = $\frac{153+142+110+175}{4} = 145$

16) Answer: E

Number of doctors (other than cardiologists) from city A = 70% of 110 = 77

Number of engineers (other than mechanical) from city B = 60% of 115 = 69

Required difference = [(102+86+172) – (77+69)] = 214

17) Answer: B

Required difference

= (102+86+153+121+115+172) ~ (110+121+290+96+172)

= 749 ~ 789

= 40

18) Answer: B

Total number of books in library D = 640

Total number of urdu books in library D = 144

Number of urdu books not issued = 75% of 144 = 108

Number of available books in D = 640- 260= 380

Required percentage =

$\frac{108}{380} \times 100 = 28.42\% \ (approx)$

19) Answer: E

Total books in library C = 720

After replacement total reasoning books = quantitative aptitude books = 360

20% of books removed from the library, i.e 20% of 720 = 144

These 144 books are replaced with reasoning books.

The ratio of quantitative aptitude and reasoning books is not given, there number of quantitative aptitude books in the library can't be determined

20) Answer: C

Total number of books in library E = 75% of 560 = 420

Number of books not issued by library E = (640-260)-60 = 320

Number of books issued by library E = 420 – 320 = 100

Let number of English books in library E =x

Therefore number of hindi books in library E = x+60

(x+ x+60) = 420

x = 180

Number of hindi books in library E = 180+60 =240

Number of English books issued by library E = 40

Therefore number of hindi books issued = 100 – 40 =60

Number of hindi books not issued by library E = 240 – 60 = 180

21) Answer: D

Side of P can be calculated from x^2-10x+25=0

x^2-5x-5x+25=0

x(x-5)-5(x-5)=0

(x-5) (x-5) =0

X= 5, 5

Side of cube P = 5cm

Therefore side of cube A = 5+3 = 8cm

Side of Q can be calculated from y^2-4y-12=0

y^2-6y+2y-12 =0

y(y-6) +2(y-6) =0

(y-6) (y+2) =0

Y= 6, -2 (take positive value only)

Side of cube Q = 6cm

Side of cube B = 6+4 = 10cm

Side of R can be calculated from z^2-8x+16 =0

z^2-8z+16 =0

z^2-4z-4z+16 =0

(z-4) (z-4) =0

Z=4 cm

Side of cube R =4cm

Therefore side of cube C = 4+5 =9cm

Required difference = $9^3 – 6(5^2)$

= 729 – 150

= 579

22) Answer: D

Volume of cube Q = 6^3 = 216cm^3

Total surface area of cube A = 6(8^2) = 384cm^2

Total surface area of cube R = 6(4^2) = 96cm^2

Sum of the total surface area of A and R = 384 + 96 = 480cm^2

Required ratio

216: 480

9 : 20

23) Answer: A

Volumes of all the cubes together

=5^3 + 8^3 + 6^3 + 10^3 + 4^3 + 9^3

= 125 + 512 + 216 + 1000 +64 + 729

= 2646cm^3

24) Answer: A

It is given that,

In company A,

Total number of IT employees from 2018 = 30

Number of HR employees from 2018 = 25

Number of IT employees transferred to HR = 6

Number of IT employees in 2019 (if no HR transferred to IT) = 30 -6 =24

Number of HR transferred to IT = 28 – 24 =4

Number of HR employees in 2019 = (25+6)-4 = 27

Similarly for all other companies are calculated and the results were tabulated

Company	Number of IT employees (2018)	Number of HR employees (2018)	Number of IT employees (2019)	Number of HR employees (2019)
A	30	25	28	27
B	40	35	39	36
C	50	40	54	36

Total HR employees from company B in 2019 = 36

25% of the employeesi.e 25% of 36 = 9 arePh.d holders

Remaining 27 are non Ph.d holders

Required difference = 27 – 9 = 18

25) Answer: C

Total male employees of company A from HR in 2018 = $\frac{2}{5}(25) = 10$

Total female employees of company A from HR in 2018 = 25-10 = 15

Total male employees of company A from HR in 2019 = $\frac{4}{9}(27) = 12$

Total female employees of company A from HR in 2019 = 15

2 male employees from HR shifted to IT

Therefore number of employees in HR dept = 10 – 2=8

But in 2019, number of male employees are 12

Therefore 4 male members are transferred from IT to HR

26) Answer: C

Total employees in company D in 2019

= 2/3rd of 54 + 75% of 36

= 36 + 27

= 63

27) Answer: D

Volume of cylinder A = $\pi r^2 h = \pi (10)^2(14) = 4400cm^3$

Volume of each cube = $a^3 = 2^3 = 8cm^3$

Number of cubes required for cylinder A = $\frac{volume\ of\ cylinder}{Volume\ of\ cube} = \frac{4400}{8} = 550$

Volume of cylinder B = $\pi r^2 h = \pi(49)(20) = 3080cm^3$

Volume of each cube = $2^3 = 8cm^3$

Number of cubes required for cylinder B = 3080/8 = 385

Required difference = 550 – 385 = 165

28) Answer: C

Required difference

= 60% of $\pi(14^2)(12)$ – 20% of $\pi(21^2)(9)$

= 4435.2 – 2494.8

= $1940.4cm^3$

29) Answer: A

Required percentage = $\frac{(28-12)-(20-14)}{(28-12)} \times 100 = 62.5\%$

30) Answer: C

Required sum = $2\pi [(r(h+r))_b + (r(h+r))_e]$

= $2\pi[(7(27)) + (12(33))]$

= $3677cm^2$

31) Answer: E

Volume of cylinder C = $\pi (14^2)12 = 7392cm^3$

Volume of cylinder D = $\pi (21^2)9 = 12474cm^3$

Volume of cylinder E = $\pi (12)^2 21 = 9504cm^3$

Required average = (7392+12474+9504) /3 = $9790cm^3$

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