NTS Guide

GRE-GAT GENERAL TESTS

With Explanatory Answers

NTS Guide

GRE - GAT TEST 1

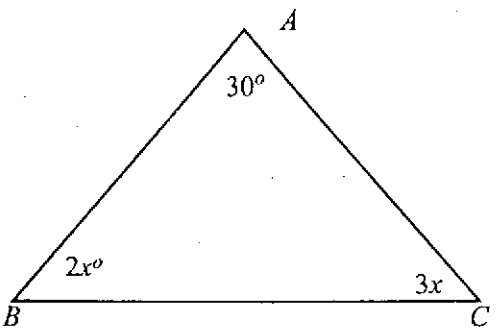
Quantitative Section	No. of Questions = 20

Q1. If it is now March, what month will be after the 100 months from now?

(A) March (B) April

(C) July (D) August

Q2. What is the value of x in the following figure?



(A) 30° (B) 40°

(C) 50° (D) 60°

Q3. What is the value of x if $3^{x+1} = 243$?

(A) 3 (B) 5

(C) 7 (D) 4

Q4. If x is a multiple of 5 and $y = 5x$, then which of the following could be the value of $x + y$?

I. 60

II. 110

III. 50

(A) I only (B) II only

(C) I and II only (D) I and III only

Q5. If Riaz can mow $\frac{3}{4}$ of a lawn each hour, how many lawns can he mowed in k hours?

(A) $\frac{4k}{3}$ (B) $\frac{3k}{4}$

(C) $\frac{2k}{3}$ (D) $\frac{3k}{2}$

Q6. If $2^a = x$ and $2^b = y$, then $xy =$

(A) 9^{a+b} (B) 2^{ab}

(C) 4^{a+b} (D) 2^{a+b}

Q7. If the average (arithmetic mean) of three consecutive integers is M, then which of the following must be true?

I Any one of the three numbers is M

II The average of two of the three numbers is M.

III M is also an integer

(A) I only (B) II only

(C) III only (D) I, II and X

Q8. If $a^2 = 17$, then $(a + 1)(a - 1) = ?$

(A) 15 (B) 12

(C) $\sqrt{18}$ (D) 16

Q9. Which of the following cannot be expressed as the sum of three consecutive integers?

(A) 27 (B) 26

(C) 21 (D) 42

Q10. Ali and Omer share an apartment. If each month Ali pays x dollars and Omer pays y dollars, what percent of the total cost does Ali pay?

(A) $.(x + y)100$ (B) $\frac{x}{y}\%$

(C) $\frac{100x}{y}\%$ (D) $\frac{100x}{x+y}\%$

Q11. If $(a - b)^2 = a^2 - b^2$ and $a \neq b$, then which of the following is true?

I $a = 0$

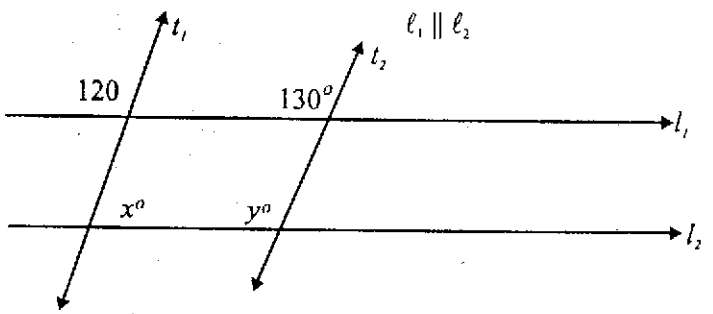
II $b = 0$

III $a = -b$

(A) I only (B) II only

(C) I and II only (D) I and III only

Q12. In the following figure

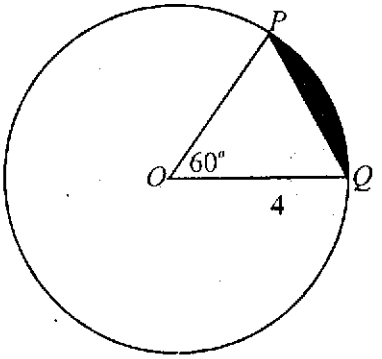


$x + y =$

(A) 230 (B) 210

(C) 110 (D) 190

Q13. In the following figure the radius of the circle is 4, and m∠POQ = 60. What is the perimeter of the shaded region?



(A) $4+\frac{2\pi}{3}$ (B) $4+\left(2+\frac{\pi}{3}\right)$

(C) $4+\frac{5\pi}{3}$ (D) $4+\frac{4\pi}{3}$

Q14. If S_1 is the sum of integers from 1 to 60 and S_2 is the sum of the integers from 61 to 100, what is the value of $S_2 - S_1$?

(A) 2500 (B) 2100

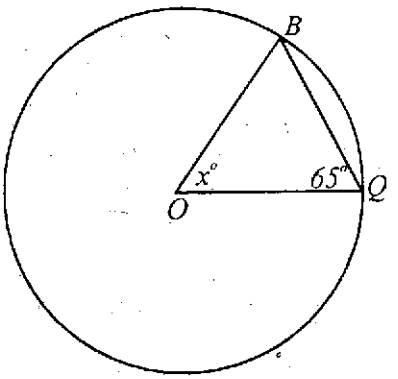
(C) 1800 (D) 1390

Q15. If p, q and r are different prime numbers less than 15, what is the greatest possible value of $\frac{p+q}{r}$?

(A) 9 (B) 2

(C) 13 (D) 12

Q16. In the following figure O is the center of the circle. What is the value of x?



(A) 65° (B) 50°

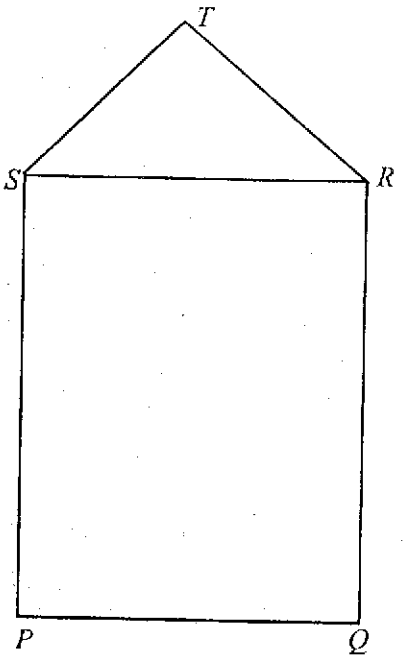
(C) 45° (D) 35°

Q17. If x is increased by 10% and y is decreased by 10%, the resulting numbers will be equal. What is the ratio x to y?

(A) $\frac{3}{4}$ (B) $\frac{9}{11}$

(C) $\frac{4}{3}$ (D) $\frac{5}{3}$

Q18. In the following figure, the area of the isosceles triangle RST is 8 and the area of the square PQRS is 64. What is the distance from P to T.

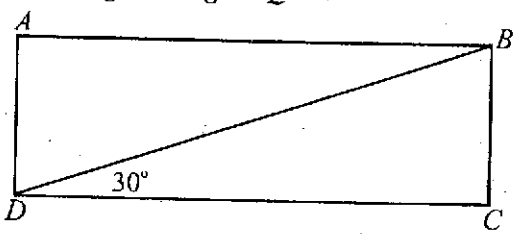


(A) 64 (B) 5
(C) 41 (D) $2\sqrt{29}$

Q19. If $5x + 3 = 3x + 5$, then $x = ?$

(A) 1 (B) 2
(C) $\frac{1}{2}$ (D) $\frac{1}{3}$

Q20. What is the area of the following rectangle $PQRS$?



(A) $25\sqrt{3}$ (B) $16\sqrt{3}$
(C) $12\sqrt{3}$ (D) 64

Explanatory Answers

Q1. (C) In a year there are 12 months, so

100 month $= (12 \times 8) + 4$

$= 96 + 4$

= (March) + April + May + June + (July)

Explanation: 8 years from now, it will again be March, and 4 months later it will be July.

Q2. (A) In any triangle,

The sum of three angles = 180°

$\therefore \quad 30^\circ + 2x + 3x = 180$

$\Rightarrow \quad 5x = 180 - 30$

$\Rightarrow \quad x = \frac{150}{5} \Rightarrow x = 30$

Q3. (D) $3^{x+1} = 243$

$\Rightarrow 3^{x+1} = 3^5$

$\Rightarrow x + 1 = 5$

$\Rightarrow x = 4$

Q4. (A) As x is a multiple of 5, then for any integer n, x can be written as

$$x = 5n$$

Also $y = 5x$

$\Rightarrow x + y = x + 5x \Rightarrow x + y = 6x$

$\Rightarrow x + y = 6(5n) \Rightarrow x + y = 30n$

It means, that $x + y$ is the multiple of 30.

Now, w check I, II and III

(i) Could $x + y = 60$?

Yes, because $x + y = 30(2) \Rightarrow x + y = 30n$

i.e., $(a = 10, b = 50)$

(ii) Could $x + y = 110$?

No, because 110 is not multiple of 30.

(iii) Could $x + y = 50$?

No, because 50 is not multiple of 50.

Therefore, only option A is true.

Q5. (B) Simply multiply $\frac{3}{4}$ by k.

$$\frac{3}{4}(k) = \frac{3k}{4}$$

Q6. (D) $x = 2^a$ and $y = 2^b$ (given)

$xy = 2^a \times 2^b$

$\Rightarrow xy = 2^{a+b}$

Q7. (D) Let the three consecutive numbers be 5, 6 and 7. Its average is

$$M = \frac{5+6+7}{3} = \frac{18}{3} = 6$$

Hence I is true.

Now, $\frac{5+7}{2} = \frac{12}{2} = 6$

Hence, II is true.

Also, III is true.

Q8. (D) $a^2 = 17 \Rightarrow a^2 - 1 = 17 - 1$

$\Rightarrow a^2 - 1 = 16$

$\Rightarrow (a - 1)(a + 1) = 16$

Q9. (B) Let the three consecutive numbers be x, $x + 1$ and $x + 2$, then their sum $(x) + (x + 1) + (x + 2) = 3x + 3 = 3(x + 1)$ which is multiple of 3. Only 26 is not multiple of 26.

Q10.(D) The total rent is $x + y$, so Ali's share is $\frac{x}{x+y}$. To convert into percentage we multiply $\frac{x}{x+y}$ by 100 and place %age sign.

Q11.(B) $(a-b)^2 = a^2 - b^2$

$a^2 + b^2 - 2ab = a^2 - b^2$

Case I: If $a = 0$, then

$(0)^2 + b^2 - 2(0)(b) = (0)^2 - b^2$

$b^2 = -b^2$

which is not true.

Case II: If $b = 0$, then

$a^2 + b^2 - 2ab = a^2 - 0^2$

$a^2 + (0)^2 - 2a(0) = a^2 - (0)^2$

$\Rightarrow a^2 = a^2$

which is true.

Case III: If $a = -b$, then

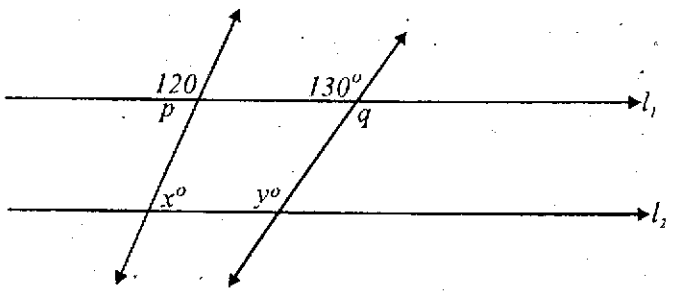
$(-b)^2 + b^2 - (2)(-b)(b) = (-b)^2 - b^2$

$b^2 + b^2 + 2b^2 = b^2 - b^2$

$\Rightarrow \quad 4b^2 = 0$

which is not true.

Q12.(D) Here $120 + p = 180 \Rightarrow p = 60$



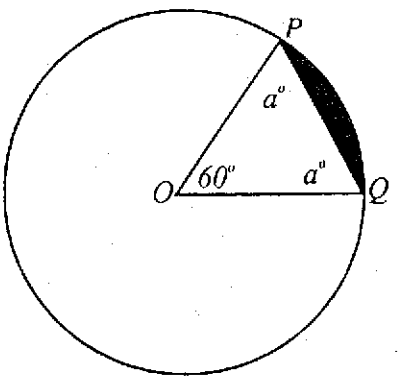
and $q = 130$ (corresponding angles)

Since l_1 and l_2 are parallel, so

$p = x^o = 60$ and $q = y^o = 130$

Hence $x + y = 60 + 130 = 190$.

Q13.(D) Since each radius of a circle is always equal, so



$OP = OQ = 4$

Because, two sides of a triangle. POQ are equal, so their opposite angles must be equal. Let one angle be a° then the other will also be a°.

Thus in ΔPOQ

$60^\circ + a^\circ + a^\circ = 180 \quad \Rightarrow 2a^\circ = 180 - 60$

$$\Rightarrow a^\circ = \frac{120}{2} = 60$$

Thus the length of $\overline{PQ}$ also 4, and the length of arc PQ is

$\frac{60}{360} = \frac{1}{6}$ of the circumference.

Now, circumference, $C = 2\pi r \Rightarrow C = 2\pi(4)$

$\Rightarrow C = 8\pi \Rightarrow \frac{1}{6}C = 8\pi \times \frac{1}{6}$

$$= \frac{4\pi}{3}$$

Hence the perimeter of the region is

$$4 + \frac{4\pi}{3}$$

Q14.(D) To find the sum of $1 + 2 + 3 + \ldots\ldots + 60$, use the following formula

$$S_1 = \frac{n}{2}\{2a + (n-1)d\}$$

Here, $n = 60$, $a = 1$, $d = 2 - 1 = 1$

$$S_1 = \frac{60}{2}\{2(1) + (60-1)1\}$$

$S_1 = 30(2 + 59) \Rightarrow S_1 = 30(61)$

$\Rightarrow \quad S_1 = 1830$

Now, we find the sum of $\{61 + 62 + 63 + \ldots\ldots + 100\}$

Here, $a = 61$, $n = 40 \qquad d = 62 - 61 = 1$

$$S_n = \frac{n}{2}\{2a + (n-1)d\}$$

$$S_2 = \frac{40}{2}\{2(61) + (40-1)1\}$$

$S_2 = 20\{122 + 39\} \Rightarrow S_2 = 20(161)$

$\Rightarrow \quad S_2 = 3220$

Now, $S_2 - S_1 = 3220 - 1830$

$= 1390$

Q15.(D) The prime numbers less than 17 are 2, 3, 5, 7, 11, 13

To make a larger fraction, make the numerator as large and denominator as small. So, Let $p = 13$ and $q = 11$

and $r = 2$ (smallest prime number)

$$\therefore \quad \frac{p+q}{2} = \frac{13+11}{2} = \frac{24}{2} = 12$$

Q16.(B) Since all the radii of a circle have the same magnitude, thus $OA = OB$. Therefore $m\angle A = m\angle B = 65^\circ$

Hence, $\quad x + m\angle A + m\angle B = 180^\circ$

$\Rightarrow \quad x + 65 + 65 = 180$

$\Rightarrow \quad x + 130 = 180$

$\Rightarrow \quad x = 50$

Q17.(B) $x + \frac{10}{100}(x) = x + 0.1x = 1.1x$

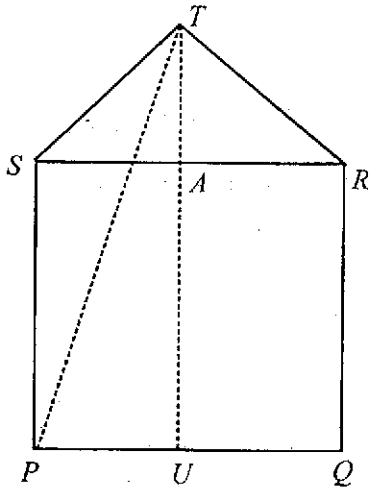
Now $y - \frac{10}{100}(y) = y - 0.1y = 0.9y$

Setting ratio

$$1.1\,x = 0.9\,y \Rightarrow \frac{x}{y} = \frac{0.9}{1.1}$$

$$\Rightarrow \quad \frac{x}{y} = \frac{9}{11}.$$

Q18.(D) Join the point P to T by line segment. From T draw TU perpendicular on PQ, which cut the line RS at A.



Then $AU = 8$

In $\Delta\, RST$, base = 8 and Area = 8

As Area $= \frac{1}{2}$(base)(Altitude)

$$\Rightarrow 8 = \frac{1}{2}(8)AT \Rightarrow AT = \frac{8 \times 2}{8} = 2$$

$$\Rightarrow TU = TA + AU \Rightarrow TU = 2 + 8 \Rightarrow \boxed{TU = 10}$$

Now, In $\Delta\, PTU$

Altitude $PU = 4$ and Base, $TU = 10$

We know, $(PT)^2 = (PU)^2 + (TU)^2$

$\Rightarrow \quad (PT)^2 = (4)^2 + (10)^2 \Rightarrow (PT)^2 = 16 + 100$

$\Rightarrow \quad PT = \sqrt{116} \Rightarrow 2\sqrt{29}$

Q19.(A) $5x + 3 = 3x + 5$

$\Rightarrow \quad 5x - 3x = 5 - 3$

$\Rightarrow \quad 2x = 2$

$\Rightarrow \quad x = 1$

Q20.(B) PR is the hypotenuse of a 30 – 60 – 90 triangle. Thus, QR, the opposite leg of the 30° angle, is 4 (half of PR), and PQ is $4\sqrt{3}$. Then the area of the rectangle $PQRS$.

$$4 \times 4\sqrt{3} = 16\sqrt{3}$$

Analytical Section	No. of Questions = 20

For questions 1 to 4

Three women — X, Y, and Z are traveling in a van with five children — A, B, C, D and E. The van has a driver's seat and one passenger seat in the front, and two benches behind the front seats, one bench behind the first. Each bench has room for exactly three people. Everyone must sit in a seat or on a bench and seating is subject to the following restrictions: A women must sit on each bench. Either X or Y must sit in the driver's seat. C must sit immediately beside E.

Q1. Which of the following can sit in the front passenger seat?

(A) C (B) D
(C) X (D) Y
(E) Z

Q2. Which of the following groups of three can sit together on a bench?

(A) A, C and E (B) A, C and Z
(C) A, Y and Z (D) B, D and Y
(E) D, E and X

Q3. If A sits immediately beside Z, which of the following CANNOT be true?

(A) C sits immediately beside Y. (B) D sits immediately beside Z.
(C) B sits in the front passenger seat. (D) A sits on the same bench as B.
(E) B sits on the same bench as X.

Q4. If Y sits on a bench that is behind where C is sitting, which of the following must be true?

(A) B sits in a seat or on a bench that is in front of where E is sitting.
(B) D sits in a seat or on a bench that is in front of where A is sitting.
(C) A sits on the same bench as B.
(D) D sits on the same bench as Y.
(E) E sits on the same bench as Z.

For questions 5 to 7

Four computer operators (Ali, Babar, Cheema and Dar) each have to perform duties at the NADRA on four different days, Thursday through Sunday. The following is their duty schedule: Cheema has his duty day before Ali. Dar has his duty day later than Babar.

Q5. Which of the following is a possible order of duty days for the four operators?

(A) Cheema, Dar, Ali and Babar (B) Dar, Cheema, Ali and Babar
(C) Babar, Cheema, Dar and Ali (D) Ali, Cheema, Dar and Babar
(E) Ali, Babar, Dar and Cheema

Q6. If Cheema has his duty day on Saturday, who must have his duty day on Thursday?

(A) Either Ali or Dar (B) Dar
(C) Ali (D) Either Babar or Dar
(E) Babar

Q7. Each of the following possible EXCEPT:

(A) Cheema has his duty on Thursday. (B) Babar has his duty on Thursday.
(C) Dar has his duty on Saturday. (D) Babar has his duty on Sunday.
(E) Ali has his duty on Sunday.

Two statements, labeled *X* and *Y*, follow each of the following questions. The statements contain certain information. In the questions you do not actually have to compute an answer, rather you have to decide whether the information given in the statements *X* and *Y* is sufficient to find a correct answer by using basic mathematics and everyday facts.

Q8. How much time will computer need to solve 150 problems?

***X*. The computer needs 50 seconds to solve one problem.**

***Y*. Computer never takes more than 60 seconds to solve a problem.**

(A) Statement *X*. Alone is sufficient but *Y*. Alone is not sufficient to answer this question.

(B) Statement *Y*. Alone is sufficient but *X*. Alone is not sufficient to answer this question.

(C) Statements *X* and *Y*. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements *X* and *Y*. COMBINED are NOT sufficient to answer the question and additional information is needed to find the correct answer.

Q9. A horse ran 80 miles without stopping. What was its average speed in miles per hour?

***X*. The journey started at 6 PM and ended at 2 AM the following day.**

***Y*. The horse ran 20 miles per hour for the first 40 miles.**

(A) Statement *X*. ALONE is sufficient but *Y*. ALONE is not sufficient to answer this question.

(B) Statement *Y*. ALONE is sufficient but *X*. ALONE is not sufficient to answer this question.

(C) Statements *X* and *Y*. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements *X* and *Y*. COMBINED are NOT sufficient to answer the question and additional information is needed to find the correct answer.

Q10. In a B.Sc. class at G.C. University, 40 boys and 15 girls registered for Calculus and Analytical geometry. How many boys passed the course?

***X*. 7 students could not pass.**

***Y*. There were 3 girls who obtained A grade.**

(A) Statement *X*. ALONE is sufficient but *Y*. ALONE is not sufficient to answer this question.

(B) Statement *Y*. ALONE is sufficient but *X*. ALONE is not sufficient to answer this question.

(C) Statements *X* and *Y*. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements *X* and *Y*. COMBINED are NOT sufficient to answer the question and additional information is needed to find the correct answer.

Q11. A runner has just completed 46 miles running. How long did it take him to finish the journey?

***X*. His record speed is 13.2 miles per hour.**

***Y*. His average speed through the journey was 9.2 miles per hour.**

(A) Statement *X*. ALONE is sufficient but *Y*. ALONE is not sufficient to answer this question.

(B) Statement *Y*. ALONE is sufficient but *X*. ALONE is not sufficient to answer this question.

(C) Statements *X* and *Y*. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements *X* and *Y*. COMBINED are NOT sufficient to answer the question and additional information is needed to find the correct answer.

Q12. **Captain of national hockey team should be the most popular member of the team. Who is the captain of Pakistan's national hockey team?**

***X.* Saqlain is the best player on the team.**

***Y.* Junaid is the senior-most member.**

(A) Statement *X.* ALONE is sufficient but *Y.* ALONE is not sufficient to answer this question.

(B) Statement *Y.* ALONE is sufficient but *X.* ALONE is not sufficient to answer this question.

(C) Statements *X* and *Y.* TOGETHER are sufficient to answer the question, but NEITHER of them is sufficient ALONE.

(D) Statements *X* and *Y.* COMBINED are NOT sufficient to answer the question and additional information is needed to find the correct answer.

Q13. **The principal of a college is forming a committee. There are to be five members: three teachers, chosen from Mr. *A*, Mr. *B*, Mr. *C*, Mr. *D* and Mr. E; and two students, chosen from *L*, *M*, *N*, and *O*. The composition of the committee must conform the following conditions:**

Mr. A will serve only if *O* is also on the committee. Mr. *C* will not serve unless Mr. *B* and *L* also serve. Neither Mr. *D* nor Mr. *E* will serve without the other. If *M* serves, either *N* nor *O* can serve. Which of the following is an acceptable committee?

(A) *A, C, D, E, L* (B) *B, C, E, L, M*

(C) *B, D, E, L, O* (D) *C, D, E, L, M*

(E) *D, E, L, M, N*

Q14. **How many different committees could include Mr. A and *N*?**

(A) 1 (B) 2

(C) 3 (D) 4

(E) 5

Q15. **If *N* and *O* are both on the committee, who else must be on the committee?**

(A) *A* (B) *B*

(C) *C* (D) *D*

(E) *L*

Q16. **In how many different ways can the principal select an acceptable committee?**

(A) less than 3 (B) 3

(C) 7 (D) 5

(E) more than 7

Explanatory Answers

Solution 1-4

We summarize the given paragraph as:

i) Everyone must sit in a seat or on a bench but
   a) A women must sit on each bench.
   b) Either *X* or *Y* must sit in the driver's seat.
   c) C must sit immediately beside E.

ii) There are three women and 5 children in the van.

iii) There are two benches behind the front seats.

iv) Each bench has room for exactly three people.

v) The van has a driver's seat and one passenger seat in the front.

Q1. (B) There are five options given and asked which of the following sit on the front passenger seat. *C* cannot sit in the front passenger's seat, because by given restrictions *C* must sit immediately beside *E*, and there are only one passenger seat in front, so *C* cannot sit in the front passenger seat. *X*, *Y* and *Z* also could not sit in front seat, because by the given restriction, either *X* or *Y* must sit in the driver's seat and a woman must sit on each bench. So, if *Y* sits on driver's seat, then *X* and *Z* must be on benches, similarly, if *X* sits on driver's seat then *Y* and *Z* must be on the benches. Hence, *X*, *Y* and *Z* cannot sit on front passenger's seat. The possible children who can sit on front passenger's seat are *A*, *B* and D. But *D* is the only name from these three (*A*, *B* and D) names in the given choices. Hence the correct answer is choice (B).

Q2. (D) Take first choice *A*, *C* and E. Here we see that *C* and *E* must sit together, it is also restricted that a woman must sit on a bench, but A is not a women. Hence, choice A is not a correct answer. Take second choice, *A*, *C* and Z. Because *C* must sit beside *E*, so this choice is not acceptable. Take third choice, *A*, *Y* and Z. In this choice *Y* and *Z* are women, and according to given restriction, a woman must sit on each bench. Now if *Y* and *Z* sit on a same bench, then *X* will be on driving seat. In this case a bench will be without a woman. Hence, choice *C* is also not acceptable combination. Now take choice *D*, *i.e.*, *B*, *D* and *Y*. In this choice, there is only one woman *Y* since *C* and *E* not occurring separately. So this choice is acceptable. In last choice, since *E* is sitting without *C*, so this choice is also not acceptable. Hence the best answer is choice D.

Q3. (E) In this question, we should choose a wrong combination in case of, if A sits immediately beside Z. Take choice *A*, *C* sits immediately beside *Y*. This is correct choice, because there is only one woman *Y* and one child C. The third child may be E. According to second choice, "D sets immediately beside Z". It may also be possible that *D* may sit beside Z. Here *Z* is only one woman on the bench, the third child may be *A*, according to this question. According to third choice, *B* sits in the front passenger seat. This is also possible. Because, women *X*, *Y*, *Z* and children *A*, *C* and *E* cannot sit on front passenger's seat. So *B* may sit in front passenger's seat. The fourth choice, *D* may also be true, because if A sits immediately beside Z, then there is one seat of a child is empty on that bench. Since, *C* sits beside *E*, so *C* and *E* may not be sit on this bench. Only *B* or *D* can sit on that empty seat. Hence, choice *D* may be possible. According to choice *E*, *B* sits on the same bench as *X*." Since, *X* is a woman and she cannot sit on that bench with other woman Z. So, *B* cannot sit as *X*. This choice may not be possible. Hence the correct answer is choice E.

Q4. (E) In this question, it is understood that *C* and *Y* are not on the same bench. Thus *E* is also not on the same bench where *Y* is. Take choice *A*, "B sits in a seat or on a bench that is in front of where *E* is sitting. From above discussion we concluded that woman *Y* is on the last bench since *C* and *E* must sit together, therefore *B*, A and *D* can sit only in front passenger's seat. Now, take second choice, according to this, *D* sits in a seat or on a bench that is in front of where A is sitting." This is also incorrect choice, because *C* and *E* sit between front and a last bench, so *D* can sit with A or behind *C* and E. According to third choice, "A sits on the same bench as B." A can sit both *B* and *D* not only B. Choice *C*, may also be true, but choice *D* may not be possible, because *C* and *E* must sit together. Thus if *E* sits as *Z* then the third may be *X*.

Solution 5-7

Here, we decompose the given paragraph:

i) There are four computer operators, Ali, Babar, Cheema and Dar.

ii) Each have to perform their duties on four different days.

iii) Days of duty are: Thursday, Friday, Saturday and Sunday.

iv) Cheema has his duty day before Ali.

v) Dar has his duty day later than Babar.

Q5. (C) In choice *A*, Cheema will perform his duty a day before Ali, this is according to the given restriction, but by the given restriction, Dar's duty should be a day later than Babar. Here, the Dar's duty is before Babar. Thus, this combination is not acceptable. In second choice, there is not a day's gap between Cheema and Ali, so this is also not acceptable. Choice *C*, is a right combination because,

Cheema will perform his duty a day before Ali, and Dar will perform his duty a day later than Babar. Hence, the correct answer is choice C.

Q6. (E) If Cheema has his duty on Saturday, then the possible schedule is:

Thursday	Friday	Saturday	Sunday
Babar	Dar	Cheema	Ali

Hence, the correct answer is choice E.

Q7. (D) If Cheema has his duty on Thursday, the possible schedule is:

Thursday	Friday	Saturday	Sunday
Cheema	Babar	Ali	Dar

which is acceptable according to the given restrictions.

If Babar has his duty on Thursday, then the possible schedule is:

Thursday	Friday	Saturday	Sunday
Babar	Cheema	Dar	Ali

which is also acceptable according to the given restrictions.

If Dar has his duty on Saturday, then the above schedule is formed, which is acceptable. If Babar has his duty on Sunday, then it is not possible to follow the given restrictions. Because, Dar has his duty later than Babar. So, it is not possible to perform Dar duty if Babar perform his duty on Sunday. Because Sunday is the last day in the given schedule. Hence the correct answer is choice D.

Q8. (A) We set a proportion, to solve this problem

Time in seconds : Problems :: Time in second : Problems

$$50 : 1 :: x : 150$$

$$\therefore \quad \frac{50}{1} = \frac{x}{150}$$

$$\Rightarrow \quad x = 150 \times 50 \quad \Rightarrow X = 7500 \text{ seconds} = 2 \text{ hours and } 5 \text{ minutes}$$

So, statement *X*, ALONE is sufficient to solve this problem. Hence, the correct answer is choice A.

Q9. (A) Since, the journey started at 6 PM and ended at 2 AM, so this journey is 8 hours. The average speed of the horse is $= \frac{80}{8} = 10$ miles per hour. So, statement *X*, ALONE is sufficient to solve this problem. Hence, the correct answer is choice A.

Q10.(D) Statements *X* and *Y* are not sufficient to answer.

Q11.(B) Average speed of the runner $= 9.2$ m/hour

Distance traveled $= 46$ miles

$$\because \quad \text{Average speed} = \frac{\text{Distance travelled}}{\text{time}}$$

$$9.2 = \frac{46}{t}$$

$$\Rightarrow \quad t = \frac{46}{9.2} = 5 \text{ hours}$$

So, statement *Y*, ALONE is sufficient but *X* alone is not sufficient to answer this question. Hence, the correct answer is choice B.

Q12.(D) COMBINED statements *X* and *Y* are not sufficient to answer the question and some additional information is needed to find the correct answer.

Solution 13-16

Here, we decompose the given paragraph:

i) The principal of college is forming a committee of five members.

ii) Three teachers chosen from five teachers, Mr. *A*, Mr. *B*, Mr. *C*, Mr. *D* and Mr. E.

iii) Two students chosen from four students, *L*, *M*, *N* and *O*.

iv) Mr. *A* will serve only if *O* is also in the committee.

v) Mr. *C* will not serve unless Mr. *B* and *L* also serve.

vi) Neither Mr. *D* nor Mr. *E* will serve without the other.

vii) If *M* serves, neither *N* nor *O* can serve.

Q13.(C) Take choice *A i.e., A, C, D, E* and *L*, this choice will not be acceptable because according to the given condition, Mr. A will serve only if *O* is also in the committee. Take choice *B i.e., B, C, E, L*, M. This choice is also not acceptable, because according to the given restriction, neither Mr. *D* not Mr. *E* will serve without the other. Here, *E* is without D. Take choice *C i.e., B, D, E, L, O*. Since, this choice satisfies all the given restrictions. So this combination is acceptable for committee.

Q14.(A) There is only possible committee can be formed including Mr. A and N. The combination of this committee is *A, D, E,* N, *O*. Hence the correct answer is choice A.

Q15.(C) If *N* and *O* are both on the committee, then the other three members should all be teachers. Since, Mr. *C* will not serve unless Mr. *B* and *L* also serve. So Mr. *C* would not be on the committee. If he is on the committee, the third student *L* must include the other two students *N* and *O*. Thus the correct answer is choice C.

Q16.(C) The principal can select acceptable committee in the following ways:

1. *B, D, E, L, O*
2. *A, D, E, N, O*
3. *A, C, B, L, O*
4. *D, E, M, B, L*
5. *C, B, L, N, A*
6. *A, B, O, L, C*
7. *D, E, B, L, N*

Hence. the correct answer is choice C.

III. Verbal Section	No. of Questions = 25
Select the correct answer for each question and blacken the corresponding circle in the answer sheet.	

Instructions (1-10): In this part of test, you have 10 MCQs about English. Each sentence below has one or two blanks, each blank shows that something has been omitted. Choose the correct answer from the four answer choices given with each question, numbered *(A), (B), (C), (D)*.

1. ***She turned this place _____ looking for her keys.***

(A) Thoroughly **(B)** Inside out
(C) Up and down **(D)** In and out

2. ***It is widely believed that a nuclear war could _____ enough smoke and dust to black out the sun and freeze the earth.***

(A) Billow **(B)** Extinguish
(C) Generate **(D)** Duplicate

3. ***Many kinds of harmful viruses are unhindered when passing through different parts of the host organism; indeed, there are few organic substances which such viruses cannot _____.***

(A) Undermine **(B)** Disseminate
(C) Aerate **(D)** Exterminate

4. ***The light kept flashing _____ all night long.***

(A) One and of **(B)** On and off
(C) Up and down **(D)** In and out

5. *Some illnesses such as smallpox, which have been almost eliminated in the United States are still _____ in many places abroad.*
   (A) Discussed (B) Prevalent
   (C) Scarce (D) Unknown

6. *The Inuit natives of Alaska's North Slope worry that _____ oil exploration might _____ their sensitive natural environment.*
   (A) Additional; Assist (B) Current; Bolster
   (C) Curtailed; Shatter (D) Unregulated; Damage

7. *Everywhere the iron horse replaced the living _____ to pull trains carrying _____ and goods.*
   (A) Animals; Passengers (B) Horses; Passengers
   (C) Horses; Labourers (D) Animals; Men

8. *James Watt first realized the _____ of steam when he saw a _____ boiling on the fire.*
   (A) Strength; Pot (B) Force; Kettle
   (C) Force; Tea-Pot (D) Power; Vessel

9. *A _____ response is one that is made with _____.*
   (A) Stupid, Fear (B) Speedy, Alacrity
   (C) Sure, Slowness (D) Harmful, Grimaces

10. *A _____ glance pays _____ attention to details.*
    (A) Furtive; Meticulous (B) Cursory; Little
    (C) Cryptic; Close (D) Keen; Scanty

Instructions (11-20): Each question below consists of a related pair of words or phrases, followed by four lettered pairs of words or phrases numbered *(A), (B), (C), (D)*. Choose the lettered pair that best expresses a relationship similar to that expressed in the pair given in the question.

11. *INDUSTRIOUS: ASSIDUOUS*
    (A) Affluent: Impoverished (B) Fortuitous: Fortunate
    (C) Impecunious: Poor (D) Impartial: Biased

12. *DISBAND: ARMY*
    (A) Convene: Assembly (B) Muster: Platoon
    (C) Dissolve: Corporation (D) Abandon: Navy

13. *VIBRATION: SOUND*
    (A) Gravity: Pull (B) Watercolor: Paint
    (C) Accident: Death (D) Worm: Reptile

14. *FIRE: ASHES::*
    (A) Event: Memories (B) Accident: Delay
    (C) Wood: Splinters (D) Water: Waves

15. *LOYALTY: TRAITOR::*
    (A) Truthfulness: Liar (B) Longevity: Corne
    (C) Hope: Optimist (D) Understanding: Sage

16. *ENERVATE: STRENGTHEN*
    (A) Aver: Attribute (B) Divert: Turn
    (C) Apprise: Appraise (D) Stultify: Enliven

17. *LAUREL: VICTOR*
    (A) Chevrons: Army (B) Oscar: Movie Star
    (C) Power: Glory (D) Blue Ribbon: Cooking

18. *TEAMMATE: ADVERSARY::*
    (A) Felon: Criminal (B) Enemy: Associate
    (C) Pacifier: Agitator (D) Friend: Foe

19. *HACKNEYED: ORIGINAL::*

(A) Mature: Juvenile (B) Withdrawn: Reserved
(C) Evasive: Elusive (D) Derivative: Traditional

20. *SALVAGE: TREASURE*

(A) Settle: Argument (B) Incorporate: Company
(C) Send: Correspondence (D) Rescue: Victim

Read the following passage carefully and answer the question given at its end:

Something is radically wrong with the entire structure of human relationship that makes man delight in killing man, whether it be in the name of civilization or religion or anything else. Two wrongs do not make a right, hatred must beget hatred. It is this fundamental truth that women have got to bring home to the people in their respective countries. no peace treaties can avail that have revenge as their basis and self righteous arrogance and hypocrisy in the-so called victors. But women are the natural preservers of life.

21. ***Which of the following expresses most accurately the idea contained in the opening sentence of the passage?***

(A) Man destroying another man is a painful practice.
(B) A social structure that permits people to kill each other for religion is inherently rotten.
(C) It is strange that one religion encourages its followers to kill the followers of another religion.
(D) It is wrong on man's part to derive pleasure out of killing others for any motive whatsoever.

22. ***The expression "Two wrongs do not make a right' means that:***

(A) A wrong action in retaliation does not mend matters.
(B) Hatred destroys the person who perpetrates it.
(C) A tit for tat policy aggravates hatred.
(D) Even repeated assertions of a wrong statement do not make it right.

23. ***Which of the following statements is not implied in the passage?***

(A) It is human tendency to kill others professing different religion.
(B) It is the duty of women to foster peace and harmony amongst their countrymen.
(C) Peace treaties among nations tend to establish peace in the world.
(D) If you hate someone, he is bound to respond with the same feeling.

24. ***Which word is opposite in meaning to 'preserver' as used in the passage?***

(A) Enemy (B) Destroyer
(C) Rival (D) Belligerent

25. ***Which of the following would sum up most suitably the central idea of the passage?***

(A) The role of women in the world of hatred and violence
(B) Man's instinct of destroying others
(C) Hatred leads to further hatred
(D) The significance of peace treaties

ANSWERS

1.	(B)	2.	(C)	3.	(D)	4.	(B)	5.	(B)
6.	(D)	7.	(B)	8.	(B)	9.	(B)	10.	(B)
11.	(C)	12.	(C)	13.	(A)	14.	(D)	15.	(A)
16.	(D)	17.	(B)	18.	(D)	19.	(A)	20.	(D)
21.	(D)	22.	(A)	23.	(C)	24.	(B)	25.	(A)

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GRE - GAT TEST 2

Quantitative Section	No. of Questions = 20

Q1. If p and q are two non-zero numbers and if $69(p + q) = (69 + p)q$, then which of the following must be true?

(A) $p = 69$ (B) $p + q = pq$

(C) $p < 1$ (D) $q = 69$

Q2. The Ravi Town is divided into p divisions. Each division has c cricket team, and each cricket team has x players. How many players are there in the entire town?

(A) pcx (B) $p + c + x$

(C) $\frac{pc}{x}$ (D) $\frac{px}{c}$

Q3. What is the value of x if $2^{10} \times 8^2 = 4^2 \times 2^x$?

(A) 2 (B) 8

(C) 10 (D) 12

Q4. A bag contains 35 cards, on each of which different integers from 1 to 35 are written. Hamza chooses a card randomly. He wins if the number on the card he chooses is a multiple of 3 or 7. What is the probability that Hamza to win?

(A) $\frac{2}{5}$ (B) $\frac{1}{2}$

(C) $\frac{1}{7}$ (D) $\frac{3}{7}$

Q5. Which of the following cannot be expressed as the sum of two or more consecutive positive integers?

(A) 24 (B) 26

(C) 32 (D) 19

Q6. An international conference has a total of x delegates from y countries. If each country is represented by the same number of delegates, how many delegates does each country has?

(A) $\frac{x}{y}$ (B) $\frac{y}{x}$

(C) xy^2 (D) yx^2

Q7. For how many positive numbers x is it true that

$$x \times x \times x = x + x + x$$

(A) 1 (B) 2

(C) 0 (D) 3

Q8. The lengths of the sides of a triangle are represented by $p + 3$, $2p - 3$ and $3p - 5$. If the perimeter of the triangle is 25, what is the length of the shortest side?

(A) 7 (B) 12

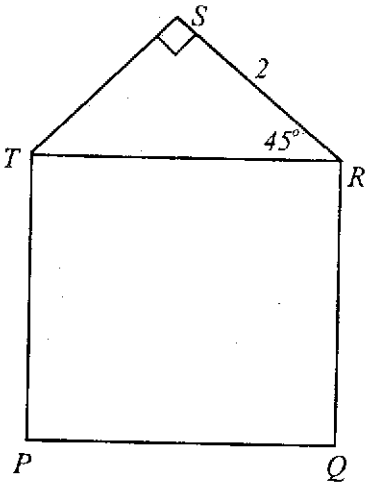
(C) 5 (D) 3

Q9. Fatima is now 5 times as old as Maryium, but after 6 years from now she will be 3 times as old as she will be then. How old is Maryium now?

(A) 25 (B) 18

(C) 12 (D) 30

Q10. What is the perimeter of pentagon $PQRST$, in the figure given below? Where $PQRS$ is



a square and *RST* is a right triangle?

(A) $2+2\sqrt{2}$ (B) $8+12\sqrt{2}$
(C) $4+6\sqrt{2}$ (D) $4+\sqrt{2}$

Q11. If $4-(4-m)=4$, then $m=$

(A) 4 (B) 8
(C) -4 (D) 12

Q12. Munir purchased some shares of stock at $20 per share. Three months later the stock was worth $40 per share. What was the percentage increase in the value of Munir's shares?

(A) 50% (B) 100%
(C) 200% (D) 400%

Q13. If $a^4=10$, then $a^6=?$

(A) 100 (B) 10000
(C) $10\sqrt{10}$ (D) $100\sqrt{10}$

Q14. If $5x=15$, then $3x=$

(A) 15 (B) 18
(C) 12 (D) 9

Q15. If $4x=144$, then $\frac{x}{4}=$

(A) 36 (B) 9
(C) 16 (D) 12

Q16. The following chart shows the value of an investment in January of each year from 2000 to 2005. In which year the percent increase in the value of the investment is the greatest?

Year	Values of Investment
2000	$175
2001	$275
2002	$475
2003	$775
2004	$1225
2005	$1825

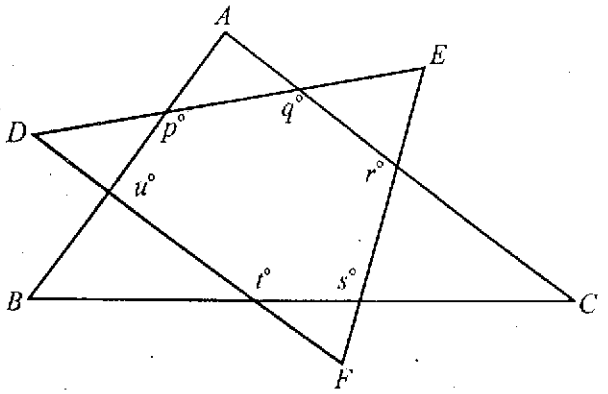
(A) 2001 (B) 2002
(C) 2003 (D) 2005

Q17. **The average (Arithmetic Mean) of two numbers is m. If one of the number is 12, what is the other?**

(A) $m - 6$ **(B)** $2m - 6$

(C) $m - 12$ **(D)** $2(m - 6)$

Q18.



In the figure above, what is the value of $p + q + r + s + t + u$?

(A) 380 **(B)** 180

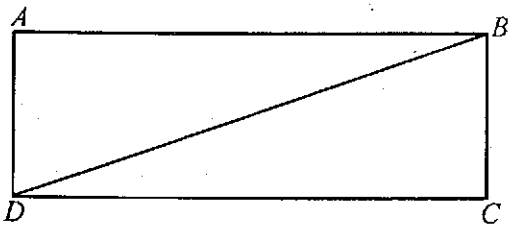
(C) 720 **(D)** 1260

Q19. **If $x\left(\frac{3}{7}\right) = \left(\frac{3}{7}\right)y$, then $\frac{x}{y}$ =**

(A) 1 **(B)** $\frac{3}{7}$

(C) $\frac{7}{3}$ **(D)** $\frac{4}{3}$

Q20. **If the perimeter of the rectangle $ABCD$ is 16, what is the perimeter of ΔBCD?**



(A) 7 **(B)** 8

(C) $8\sqrt{2}$

(D) It is not possible to determine from the given information.

Explanatory Answers

Q1. (D) $69(p + q) = 69p + 69q$ (By distributive law)

$(69 + p)q = 69q + pq$ (//)

Then $69p + 69q = 69q + pq$

$\Rightarrow$ $69p = pq$

$\Rightarrow$ $q = 69$ (Dividing both sides by p)

Q2. (A) Since, Ravi Town is divided into p divisions and each division has C team. So, there are pc teams in Ravi Town. Now, because there are x players in each team, thus, there are $pc \times x = pcx$ players in Ravi Town.

Q3. $2^{10} \times 8^2 = 4^2 \times 2^x$

$\Rightarrow 2^{10} \times (2^3)^2 = (2^2)^2 \times 2^x$

$\Rightarrow 2^{10} \times 2^6 = 2^4 \times 2^x$

$\Rightarrow 2^{10+6} = 2^4 \times 2^x$

$\Rightarrow \frac{2^{16}}{2^4} = 2^x$

$\Rightarrow 2^{16} \times 2^{-4} = 2^x$

$\Rightarrow 2^{16-4} = 2^x$

$\Rightarrow 2^{12} = 2^x$

$\Rightarrow x = 12$

Q4. (D) Let E_1 be the event that the outcome is multiple of 3, then

$E_1 = \{3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33\}$

$\Rightarrow n(E_1) = 11$

Let E_2 be the event that outcome is multiple of 7, then

$E_2 = \{7, 14, 21, 28, 35\}$

$n(E_2) = 5$

Now $E_1 \cup E_2 = \{3,6,7,9,12,14,15,18,21,24,27,28,30,33,35\}$

$\Rightarrow n(E_1 \cup E_2) = 15$

$P(E_1 \cup E_2) = \frac{15}{35}$

$= \frac{3}{7}$

Q5. (C) Any odd number can be expressed as the sum of two consecutive integers:

$19 = 9 + 10$, $23 = 11 + 12$, $24 = 7 + 8 + 9$

$26 = 5 + 6 + 7 + 8$

So eliminate *A, B, D* and *E*

Thus the answer is 32.

Q6. (A) Dividing the number of delegates by the number of countries, we have

$$\frac{x}{y}$$

Q7. (A) The given equation can be written as $x^3 = 3x$. Since x is positive, dividing each side of the equation by x, we have

$$x^2 = 3 \Rightarrow x = \pm\sqrt{3}$$

But x is positive, so there is only 1 positive integer that satisfies this equation.

Q8. Since the perimeter of the triangle is 19,

$p + 3 + 2p - 3 + 3p - 5 = 19$

$6p - 5 = 19$

$\Rightarrow 6p = 19 + 5$

$\Rightarrow 6p = 24$

$\Rightarrow \boxed{p = 4}$

Now, substitute the value of p in the given sides, we get

$4 + 3 = 7$, $2(4) - 3 = 5$, $3(4) - 5 = 7$

Hence the shortest side is 5.

Q9. (D) Let x be the age of Maryium, then

Now the age of Fatima is 5x.

Six years before "now" age of Maryium was $x + 6$ and age of Fatima was $5x + 6$. Then

$$5x + 6 = 3(x + 6)$$
$$\Rightarrow 5x + 6 = 3x + 18$$
$$\Rightarrow 5x - 3x = 18 - 6$$
$$\Rightarrow 2x = 12$$
$$\Rightarrow x = 6$$

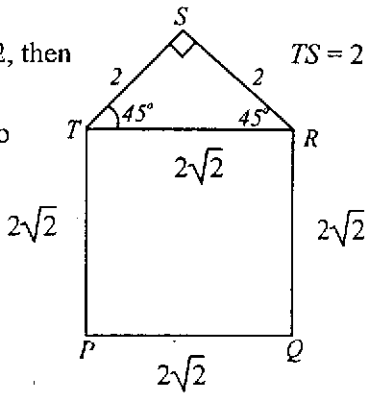
Thus, age of Maryium is $5(6) = 30$ years.

Q10.(C) In the given figure RST is a $45 - 45 - 90$ triangle, thus if one side is 2, then and $RT = 2\sqrt{2}$.

Since all sides of a square have equal length and $PQRT$ is a square, so its all sides are also equals to $2\sqrt{2}$.

Now perimeter of the pentagon $PQRST$ is given by

$$2\sqrt{2} + 2\sqrt{2} + 2 + 2 + 2\sqrt{2} = 4 + 6\sqrt{2}$$
$$= 2(2 + 3\sqrt{2})$$



Q11.(A) $4 - (4 - m) = 4$

$$\Rightarrow 4 - 4 + m = 4$$
$$\Rightarrow m = 4$$

Q12.(B) Increment in the share's $= 40 - 20 = 20\$$

Percentage increment $= \frac{20}{20} \times 100$

$$= 100\%$$

Q13.(C) $a^4 = 10$

$$\Rightarrow (a^2)^2 = 10 \Rightarrow \sqrt{(a^2)^2} = \sqrt{10}$$
$$\Rightarrow a^2 = \sqrt{10}$$

Now $a^6 = a^4 \times a^2 = 10 \times \sqrt{10}$

$$\Rightarrow a^6 = 10\sqrt{10}$$

Q14.(D) Given that $5x = 15$

$$\Rightarrow \frac{5x}{5} = \frac{15}{5} \Rightarrow x = 3$$
$$\Rightarrow 3x = 3 \times 3$$
$$\Rightarrow 3x = 9$$

Q15.(B) $4x = 144$

$$\Rightarrow x = \frac{144}{4} \Rightarrow x = 36$$

Now $\frac{x}{4} = \frac{36}{4} \Rightarrow \frac{x}{4} = 9$

Q16.(B) %age increase in a quantity

$$= \frac{\text{increment}}{\text{original}} \times 100$$

Now, we check the %age increment given in the table

In 2001, %age increase $= \frac{275 - 175}{175} \times 100$

$$= \frac{100}{175} \times 100 = 57.12$$

In 2002, %age increase $= \frac{475 - 275}{275} \times 100$

$$= \frac{200}{275} \times 100 = 72.73$$

In 2003, %age increase $= \frac{775 - 475}{475} \times 100$

$$= \frac{300}{475} \times 100 = 63.15$$

In 2004, %age increase $= \frac{1225 - 775}{775} \times 100$

$$= \frac{450}{775} \times 100 = 58.06$$

In 2005, %age increase $= \frac{1825 - 1225}{1225} \times 100$

$$= \frac{600}{1225} \times 100 = 48.98$$

Q17.(D) Let the other number be y, then by given condition

$$m = \frac{12 + y}{2} \quad \Rightarrow \quad 2m = 12 + y$$

$$\Rightarrow 2m - 12 = y$$

$$\Rightarrow \quad y = 2(m - 6)$$

Q18.(C) The interior side of the shape (star) is a six-sided figure (hexagon).
Now the sum of the angles of six-sided figure is $(n - 2)180$

$\Rightarrow (6 - 2)180$

$\Rightarrow 4(180) = 720$

Q19.(A) $x\left(\frac{3}{7}\right) = \left(\frac{3}{7}\right)y$

$\Rightarrow x = y$ (Dividing both sides by $\frac{3}{7}$)

$\Rightarrow \frac{x}{y} = 1$

Q20. Since, we cannot find the value of BD from the given information. Therefore, we cannot find the area of ΔBCD.

II. Analytical Section	No. of Questions = 20

For questions 1 to 4

A builder will build five houses in New Housing Scheme on a street that currently has no houses. The builder will select from seven different models of houses — *L, M, N, O, P, Q* and *R*. The Development Authority has placed the following restrictions on the builder: No model can be selected for more than one house. Either model *O* must be select or model *R* must be selected, but both cannot be selected. If model *Q* is selected, then model *N* cannot be selected. If model *M* is selected, then model *O* cannot be selected.

Q1. If model *M* is one of the models selected for the street, then which of the following models must also be selected?

(A) L (B) O
(C) P (D) Q
(E) R

Q2. If *L*, *M* and *P* are three of the models selected for the street, then which of the following must be the other two models selected?

(A) N and O (B) N and Q
(C) N and R (D) O and Q
(E) Q and R

Q3. Which of the following is an acceptable combination of models that can be selected for the street?

(A) *L, M, N, P, Q* (B) *L, M, P, Q, R*
(C) *L, N, P, Q, R* (D) *M, N, O, P, Q*
(E) *N, O, P, Q, R*

Q4. The model *R* is one model not selected for the street, then the other model NOT selected must be which of the following?

(A) *L* (B) *M*
(C) *N* (D) *O*
(E) *P*

For questions 5 to 7

An English speaking class in a college has a circular table with eleven seats around it. Five girls (Fatima, Maryam, Iram, Sana and Amna) and five boys (Bilal, Najam, Hamza, Osama, Javed) are seated around the table. None of the girls are seated in a seat adjacent to another girl. Fatima sits between Bilal and Najam, and next to each of them Javed does not sit next to Osama.

Q5. Which of the following is a possible seating order around the table?

(A) Empty seat, Bilal, Fatima, Najam, Maryam, Iram, Hamza, Osama, Amna, Javed and Sana
(B) Empty seat, Bilal, Fatima, Najam, Maryam, Javed, Amna, Sana, Osama, Iram, Hamza
(C) Empty seat, Bilal, Fatima, Najam, Sana, Javed, Amna, Osama, Iram, Hamza, Maryam
(D) Empty seat, Sana, Bilal, Fatima, Najam, Maryam, Javed, Osama, Amna, Hamza, Iram
(E) Empty seat, Iram, Bilal, Fatima, Najam, Maryam, Javed, Amna, Osama, Sana, Hamza

Q6. If Javed leaves his seat and occupies the empty seat, his new seating position would be between:

(A) Bilal and Fatima (B) Iram and Najam
(C) Fatima and Najam (D) Osama and Maryam
(E) Amna and Maryam

Q7. If Maryam, Hamza, Iram, Javed and Najam are seated in that order, which of the following is a correct completion of the seating order after Najam?

(A) Fatima, Bilal, Sana, Osama, Amna, empty seats
(B) Fatima, Bilal, Osama, Sana, empty seat, Amna
(C) Bilal, Amna, Fatima, Osama, Sana, empty seats
(D) Fatima, Bilal, Amna, Osama, empty seats, Sana
(E) Fatima, Bilal, Sana, empty seats, Amna, Osama

For questions 8 to 12

The accounts staff of the Mark corporation presently consists of three book-keepers (X, *Y* and Z) and five Data Entry Operators (*M, N, O, P* and Q). Management is planning to open a new office in another city sending three Data Entry Operators and two book-keepers from the present staff. To do so they plan to separate certain individuals who do not function well together. The following guidelines were established to set up the new office:

(i) Book-keepers *X* and *Z* are constantly finding faults with one another therefore should not be sent together to the new office.

(ii) Z and *N* function well alone but not as a team. They should be separated.

(iii) M and *P* have not been on speaking terms for many months. They should not go together.

(iv) Since *M* and *O* have been competing for a promotion, they should not be in one team. Based on the above information, find the correct answers to the following questions:

Q8. If *Y* insists on staying back then how many combinations are possible?

(A) 3 (B) 2

(C) 1 (D) None

Q9. If *X* is to be moved as one of the book-keepers, which of the following CANNOT be a possible working unit?

(A) XYMNQ (B) XYNOQ

(C) XYMPQ (D) XYNPQ

Q10. If *Z* is sent to the new office then which member of the staff CANNOT be sent?

(A) N (B) Y

(C) O (D) P

Q11. If *M* is sent to the new office then which of the following is a possible team?

(A) XYMNP (B) YZMOQ

(C) YZMNQ (D) XYMNQ

Q12. If both *Z* and *O* are moved to the new office, how many combinations are possible?

(A) 1 (B) 4

(C) 3 (D) 2

Direction: For questions 13 to 16

Each of the following problems has a question and two statements which are labeled 1 and 2. Use the data given in 1 and 2 together with other information given in the statement, and find a correct answer by using basic mathematics and everyday facts.

Q13. How many bulbs does Munir have?

1. **He bought two boxes each containing 12 bulbs.**
2. **He lent three bulbs to Khalid.**

(A) Statement 1. ALONE is sufficient but 2. ALONE is not sufficient to answer this question.

(B) Statement 2. ALONE is sufficient but 1. ALONE is not sufficient to answer this question.

(C) Statements 1 and 2. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements 1 and 2. COMBINED are not sufficient to answer the question and additional information is needed to find the correct answer.

Q14. If $M > N$ and $O > P$, then, $M + O > N + P$. Is $S > T$?

1. $S + A > T + B$
2. $A > B$

(A) Statement 1. ALONE is sufficient but 2. ALONE is not sufficient to answer this question.

(B) Statement 2. ALONE is sufficient but 1. ALONE is not sufficient to answer this question.

(C) Statements 1 and 2. COMBINED are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements 1 and 2. COMBINED are not sufficient to answer the question and additional information is needed to find the correct answer.

Q15. In Lahore Zoo, there are 37 deer. How many small black deer are there?

1. **12 of deer are small.**
2. **There are 20 black deer in the Zoo.**

(A) Statement 1. ALONE is sufficient but 2. ALONE is not sufficient to answer this question.

(B) Statement 2. ALONE is sufficient but 1. ALONE is not sufficient to answer this question.

(C) Statements 1 and 2. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements 1 and 2. COMBINED are not sufficient to answer the question and additional information is needed to find the correct answer.

Q16. Can there be more than 150 pictures in a 30-page book?

1. **There is at least two pictures in each page.**
2. **There are no more than 4 pictures in any page.**

(A) Statement 1. ALONE is sufficient but 2. ALONE is not sufficient to answer this question.

(B) Statement 2. ALONE is sufficient but 1. ALONE is not sufficient to answer this question.

(C) Statements 1 and 2. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements 1 and 2. COMBINED are not sufficient to answer the question and additional information is needed to find the correct answer.

Explanatory Answers

Solution 1 to 4

From the given paragraph, we write the following main points:

1. A builder will build five houses on a street that currently has no house on it.
2. There are 7 different models of houses *L, M, N, O, P, Q* and R.
3. The builder will select five different models from *L, M, N, O, P, Q* and R.
4. No model can be selected for more than one house.
5. Either model *O* must be selected or model *R* must be selected, but both cannot be selected.
6. If model *Q* is selected, then model *N* must also be selected.
7. If *M* is selected, then model *O* cannot be selected.

Q1. (E) If model *M* is selected, then builder should ignore *O*. We see from above point 5 that, either *O* must be selected or model *R* must be selected, but both cannot be selected. So, if builder cannot select *O*, he would select *R*. Hence the correct answer is choice E.

Q2. (C) If models *L*, M, and *P* have already been selected, then model *O* cannot be selected because *O* will not be selected if *M* has already selected. Since, *O* will not be selected, therefore *R* will be surely selected. Hence, the fourth model is *R*. Now, fifth model will be selected from *N* and Q. Here, we suggest *N* as a fifth model, because if the builder choose *Q* as a model, then model *N* must also be chosen, and there will be only five models must be selected. Hence the correct answer is choice C.

Q3. (C) Take choice "A", *L, M, N, P, Q*. This choice is not acceptable, because, either model *O* must be selected or model *R* must be selected. In this choice, any of them (O or R) is not present. Take choice

"B", *L*, M, *P*, *Q*, *R*. According to the given condition, if model *Q* is selected, then model *N* must also be selected. In this choice, *Q* is without N. Hence, this choice is also not acceptable. Take choice "C", *L*, N, *P*, *Q*, *R*. Since, this choice satisfies all the conditions.

Hence, the correct answer is choice C.

Q4. (B) If, the model *R* is one model not selected, then model *O* must be selected, because by the given condition, either model *O* must be selected or model *R* must be selected. Now in this case *O* must be selected, but *M* cannot be selected, because, according to the given restriction, if *M* is selected, then model *O* cannot be selected. Hence, the correct answer is choice B.

Solution 5 to 7

We simplify the given problem in the following points:

1. There are eleven seats around a circular table.
2. There are five girls (Fatima, Maryam, Iram, Sana and Amna) who will be seated.
   For convenience, we denote them by F, M, I, S and A.
3. There are five boys (Bilal, Najam, Hamza, Osama and Javed) who will be seated.
   For convenience, we denote them by *B*, N, H, *O* and J.
4. None of the girls are seated in a seat adjacent to another girl.
5. Fatima sits between Bilal and Najam, and next to each of them Javed does not sit next to Osama.

Q5. (E) Take choice, "A". The choice is not acceptable because in this choice, Maryam sits adjacent to another girl Iram. But by the given restriction none of the girls are seated in a seat adjacent to another girl. In choice "B", since Amna sits adjacent to Sana, so this choice is also not acceptable. Clearly, the choice "E" is the only choice that satisfies all the condition. Hence, the correct answer is choice E.

Q6. (E) The correct order of seating is

Empty, Iram, Bilal, Fatima, Najam, Maryam, Javed, Amna, Osama, Sana, Hamza.

If Javed leaves his seat empty then the above setting becomes Iram, Bilal, Fatima, Najam, Maryam, Empty, Amna, Osama, Sana, Hamza.

Clearly more setting is required between Maryam and Amna, because none of the girls are seated in a seat adjacent to another girl. Hence the correct answer is choice E.

Q7. (A) If Maryam, Hamza, Iram, Javed and Najam are seated in that order, the correct completion of the seating order is

Fatima, Bilal, Sana, Osama, Amna, empty seat.

Hence, the correct answer is choice A.

Solution 8 to 12

Brief points from the given paragraph are given below:

1. Accounts staff of Mark Corporation consists of three book-keepers (X, *Y* and Z) and five data entry operators (*M*, *N*, *O*, *P* and Q).
2. Management sending three Data entry operators and two book-keepers from the present staff to new office located to another city.
3. Book-keepers *X* and *Z* should not be sent together to the new office.
4. Z and *N* should be separated.
5. M and *P* should not go together.
6. M and *O* should not be in one team.

Q8. (D) Since, book-keepers *X* and *Z* are constantly finding faults with one another, therefore they should not be sent together to the new office. But the management has decided to sent two book-keepers, now, if *Y* insists on staying back, then there would not be another combination of two book-keepers except *X* and Z. Hence the correct answer is choice D.

Q9. (C) Since *M* and *P* have not been on speaking terms for many months, so they should not go together. Hence, choice "C" cannot be a possible working unit.

Q10.(A) If *Z* is sent to the new office, then *X* should not be sent and *Y* should be sent to the new office. Now, if *Z* is sent to new office, then *N* should not sent. Hence the correct answer is choice A.

Q11.(D) If *M* is sent to the office, then we analyze the given options as:

Choice "A", XYMNP, this choice is not acceptable because *M* and *P* cannot be sent together.

Choice "B", YZMOQ, this choice is also not acceptable, because *M* and *O* should not be in one team.

Choice "C", YZMNQ, because *Z* and *N* should be separated, therefore, this choice is also not acceptable.

Choice "D", XYMNQ, since this combination satisfies all the conditions, so this choice is acceptable. Hence, the correct answer is choice "D".

Q12.(A) If *Z* and *O* both are moved to the new office, then *M* should not be included in the team because *M* and *O* should not be in one team, also *N* should not be included in the team because *Z* and *N* should be separated. Therefore, only one combination YZOPQ, is possible, if *Z* and *O* both are moved to the new office. Hence, the correct answer is choice A.

Q13.(C) Take 1 statement, Munir bought two boxes each containing 12 bulbs, so

Munir initially has $12 \times 2 = 24$ bulbs

Now, take 2 statement, he lent three bulbs to Khalid, combining the two statements we find that Munir has 21 $(24 - 3 = 21)$ bulbs. So, statements 1 and 2 TOGETHER are sufficient to answer the question but neither of them alone is sufficient. Hence, the correct choice is choice C.

Q14.(C) If $M > N$ and $O > P$, then $M + O > N + P$

$S > T = ?$

Statement (1), $S + A > T + B$

Statement (2), $A > B$

We analyze the given problem, by supposing values of the variables involved in this problem

Let $S = 7$ and $T = 6$, then

and Let $A = 4$and $B = 3$, then

clearly, $S > T$ and $A > B$, but

$S + A > T + B$

$7 + 4 > 6 + 3$

$11 > 9$

Hence, statements 1 and 2. TOGETHER are sufficient to answer the question but NEITHER of them alone is sufficient. Hence, the correct answer is choice C.

Q15.(D) Total deer in the Zoo = 37

Small deer = 12

Black deer = 20

Small black deer = ?

Since, a small deer may be black or not black, and a black deer may be small or not small, so we cannot find the exact answer from the given two statements, 1 and 2. Hence, the correct answer is choice D.

Q16.(B) Since, there are no more than 4 pictures in any page, so there are maximum $30 \times 4 = 120$ pictures in the 30 pages book. Thus, statement (2) ALONE is sufficient but (1) ALONE is not sufficient to answer the question.

III. Verbal Section	No. of Questions = 25
Select the correct answer for each question and blacken the corresponding circle in the answer sheet.	

Instructions (1-10): In this part of test, you have 10 MCQs about English. Each sentence below has one or two blanks, each blank shows that something has been omitted. Choose the correct answer from the four answer choices given with each question, numbered *(A), (B), (C), (D)*.

1. *He couldn't decide whether to read or study, he was _____.*

(A) Betwixt and between (B) For and against
(C) Pulled down (D) Over and out

2. *Why are you still sleeping? You'll be late. _____ of bed now.*

(A) Out (B) Get out
(C) Get up (D) Up and out

3. *You have to wait _____ Thursday.*

(A) Since (B) From
(C) By (D) Until

4. *All the children went down _____ measles.*

(A) With (B) From
(C) Due to (D) Without

5. *Ants live in colonies based on _____; each member contributes to the good of all by actively working with others in performing necessary tasks.*

(A) Heredity (B) Individualism
(C) Cooperation (D) Reasoning

6. *A recent study indicates that the crime rate in the United States remains _____ and that one in three households _____ some form of major crime in any year.*

(A) Incredible, Witnesses
(B) Astronomical, Experiences
(C) Simultaneous, Perpetrates
(D) Defeated, Prosecutes

7. *We got _____ the train _____ Rawalpindi.*

(A) On; In (B) Into; At
(C) Into; In (D) In; At

8. *On the top of Mount Everest, I did not feel anything _____; I rather felt a great _____ to God.*

(A) Sinful; Love (B) Superstitious; Similarity
(C) Superhuman; Closeness (D) Strange; Nearness

9. *A _____ is a _____.*

(A) Norm, Standard (B) Criterion, Mistake
(C) Discipline, School (D) Doctrine, Follower

10. *You should _____ this paragraph in order to make your essay more _____.*

(A) Delete, Succinct (B) Enlarge, Redundant
(C) Remove, Discursive (D) Revise, Abstruse

Instructions (11-20): Each question below consists of a related pair of words or phrases, followed by four lettered pairs of words or phrases numbered *(A), (B), (C), (D)*. Choose the lettered pair that best expresses a relationship similar to that expressed in the pair given in the question.

11. *SILO: CORN*

(A) Mill: Grain (B) Reservoir: Water
(C) Acre: Wheat (D) Paddy: Rice

12. *GAGGLE: GEESE*

(A) Coop: Chickens (B) Muzzle: Dogs
(C) Gill: Fish (D) Swarm: Bees

13. *OBSTRUCTION: BUOY::*

(A) Construction: Building (B) Boy: Girl
(C) Danger: Red Light (D) Iceberg: Titanic

14. *MARATHON: STAMINA::*

(A) Hurdle: Perseverance (B) Sprint: Celerity
(C) Relay: Independence (D) Ramble: Directness

15. *INTEREST: FASCINATE*

(A) Vex: Enrage (B) Vindicate: Condemn
(C) Regret: Rue (D) Appall: Bother

16. *HORNS: BULL::*

(A) Hoofs: Horse (B) Wings: Eagle
(C) Mane: Lion (D) Antlers: Stge

17. *TOSS: HURL::*

(A) Speak: Shout (B) Sense: Flourish
(C) Prepare: Emit (D) Consider: Formulate

18. *SHALE: GEOLOGIST::*

(A) Catacombs: Estomologist (B) Reef: Astrologer
(C) Obelisk: Fireman (D) Aster: Botanist

19. *PERMEATE: REFUEL*

(A) Truculent: Merciful (B) Sadden: Pitiful
(C) Evaporate: Mournful (D) Penetrate: Sorrowful

20. *MUMBLE: SPEAK::*

(A) Adorn: Denude (B) Convert: Preach
(C) Plagiarize: Write (D) Delimit: Expand

Read the following passages carefully and answer the questions given at its end:

Passage: Each nation has its own peculiar character which distinguishes it from others. But the people of the world have more points in which they are all like each other than points in which they are different. One type of person that is common in every country is the one who always tries to do as little as he possibly can and to get as much in return as he can. His opposite, the man who is in the habit of doing more than is strictly necessary and is ready to accept what is offered in return, is rare everywhere. Both these types are usually unconscious of their character. The man who avoids effort is always talking about his rights, he appears to think that society owes him a pleasant easy life. The man who is always doing more than his sheer talks of duties feels that the individual is in

debt to society, and not society to the individual. As a result of their view, neither of these men thinks that he behaves at all strangely.

21. *What type of person is common in every nation?*

(A) A person who want to do little and get more

(B) A person who want to do more and get little

(C) Each person is different

(D) There is no such type of person that is common in every country

22. *A man who talks about his rights:*

(A) Avoids meeting other people

(B) Avoids hard work

(C) Knows his duties well

(D) Believes in hard work

23. *Which one of the following thinks that the individual is in debt to society?*

(A) A person who talks of his rights only

(B) A person who is always doing more than his sheer talks of duties

(C) Every citizen of the country

(D) A person who talks of his duties only

Passage: A man who has no sense of history, Hitler declared is like a man who has no ears or eyes. He himself claimed to have had a passionate interest in history since his school days and he displayed considerable familiarity with the course of European history. His conversation was studied with historical reference and historical parallels. More than that Hitler's whole cast of thought was historical and his sense of mission was derived from his sense of history. Like his contemporary Spengler, Hitler was fascinated by the rise and fall of civilizations. He was himself born at a critical moment in European history when the liberal bourgeois world of nineteenth century was disintegrating. What would take its place? The future lay with the 'Jew-Bolshevik' ideology of the masses unless Europe could be saved by the Nazi racist ideology of the elite.

24. *Who has no ears or eyes?*

(A) A man having sense of history

(B) A man who has no sense of history

(C) A man who has extra knowledge

(D) A man having passionate interest in history

25. *Hitler displayed familiarity with:*

(A) Scientific facts **(B)** American history

(C) European history **(D)** None of these

ANSWERS

1.	(A)	2.	(D)	3.	(D)	4.	(A)	5.	(C)
6.	(D)	7.	(B)	8.	(D)	9.	(A)	10.	(A)
11.	(B)	12.	(D)	13.	(C)	14.	(B)	15.	(A)
16.	(D)	17.	(A)	18.	(D)	19.	(D)	20.	(C)
21.	(A)	22.	(B)	23.	(C)	24.	(B)	25.	(C)

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GRE - GAT TEST 3

I. Quantitative Section	No. of Questions = 20

Q1. If n is a multiple of 5 and $m = 5n$, which of the following will be the value of $n + m$?

I. 60 II. 100 III. 150

(A) I only (B) II only

(C) I and II only (D) I and III only

Q2. If the sum of the edges of a cube is 48 inches, the volume of the cube in inches is:

(A) 4096 cubic inches (B) 512 cubic inches

(C) 64 cubic inches (D) 1728 cubic inches

Q3. The two numbers, whose sum is –3 and product is –40, are:

(A) 15, –2 (B) 8, 5

(C) –8, 5 (D) –8, –5

Q4. If $n + 3 = n \times 3$, then $n =$

(A) 1 (B) $\frac{1}{2}$

(C) $1\frac{1}{2}$ (D) None of these

Q5. The integral part of logarithm is called:

(A) Characteristic (B) Mantissa

(C) Real (D) Imaginary

Q6. Which of the following expression has the greatest value?

(A) $3 \times 3 \div 3 + 3$ (B) $3 \div 3 + 3 + 3$

(C) $3 \times 3 - 3 \times 3$ (D) $3 \div 3 + 3 \times 3$

Q7. On the x-axis, the y-coordinate is:

(A) 1 (B) 0

(C) –1 (D) ∞

Q8. If scales are bought at 35 rupees per dozen and sold at 3 scales for 10 rupees, the total profits on $5\frac{1}{2}$ dozen is:

(A) 35 rupees (B) 23.5 rupees

(C) 26.5 rupees (D) 27.5 rupees

Q9. If x books cost \$3 each and y books cost \$7 each, then the average (arithmetic mean) cost, in dollars per book, is equal to:

(A) $\frac{3x + 7y}{10}$ (B) $\frac{x + y}{10}$

(C) $\frac{3x + 7y}{x + y}$ (D) $\frac{10}{x + y}$

Q10. If $y < 2$ and $2x - 3y = 0$, which of the following must be true?

(A) $x > -3$ (B) $x < 2$

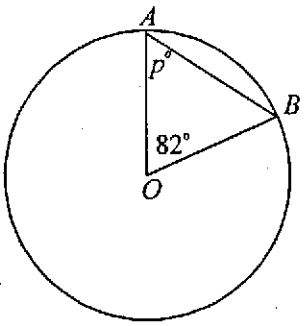
(C) $x = 3$ (D) $x < 3$

Q11. **The angles of a pentagon are in the ratio 1:2:3:5:9. The smallest angle is:**

(A) 72° (B) 45°

(C) 54° (D) 27°

Q12. **In the following figure, what is the value of p?**



(A) 49 (B) 42

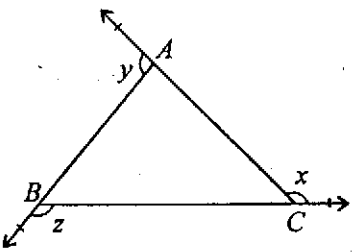
(C) 52 (D) 78

Q13. **The number of cubic inches in one cubic foot is:**

(A) 144 cubic inches (B) 1728 cubic inches

(C) 1000 cubic inches (D) 27 cubic inches

Q14. **In the following figure, the sides of a triangle are produced. The sum of the exterior angles *i.e.*, $\angle x + \angle y + \angle z =$**



(A) 180° (B) 360°

(C) 90° (D) 270°

Q15. **In a right triangle, one of the angle is 60°. The side opposite to the angle is:**

(A) $\frac{1}{2}$ × hypotenuse (B) $\frac{1}{\sqrt{2}}$ × hypotenuse

(C) $\frac{2}{3}$ × hypotenuse (D) $\frac{\sqrt{3}}{2}$ × hypotenuse

Q16. **The number of degrees through which the hour hand of a clock moves in 2 hours and 12 minutes is:**

(A) 72° (B) 66°

(C) 60° (D) 13°

Q17. **The height of a cylinder is 4 times its circumference, what is the volume of the cylinder in terms of its circumference, C?**

(A) $\frac{C^3}{2\pi}$ (B) $\frac{2\pi}{C^3}$

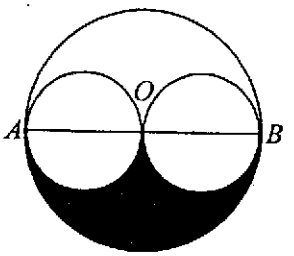
(C) $\frac{2C^3}{\pi}$ (D) $\frac{\pi}{2C^2}$

Q18. **What is the area of the circle which is inscribed in an equilateral triangle of side 24 cm?**

(A) 24π cm^2 (B) 36π cm^2

(C) 48π cm^2 (D) 18π cm^2

Q19. In the following figure, the larger circle with radius 4 cms is touched internally by two smaller circles that also touch each other externally at the centre *O* of the larger circle. The area of the shaded region is:



(A) 4π (B) 7π

(C) 12π (D) 16π

Q20. The number of common tangents that can be drawn to two given circles at the most:

(A) one (B) two

(C) three (D) four

Explanatory Answers

Q1. (D) Since n is the multiple 5, *i.e.*,

$n = 5, 10, 15, 20, 25.....$

Now $m = 5n \Rightarrow m = 25, 50, 75, 100,.....$

Now $m + n = (5 + 25), (10 + 50), (15 + 75), (20 + 100), (25 + 125),.....$

$= 30, (60), 80, 120, (150)$

Hence the correct answer is choice D.

Q2. (C) As we know, a cube is a rectangular solid in which length, width and height are equal. Note that, length, width and height are the edges of the cube. Let e be the edge of the cube, then according to given condition:

Since a cube has 12 edges, $12e = 48 \Rightarrow e = \frac{48}{12}$

$\Rightarrow e = 4$ inches

Now, the volume of a cube $= e^3 = (4)^3 = 64$.

Q3. (C) The product of two numbers could be negative only if one of them is negative and the other is positive

Now, $40 = 2 \times 2 \times 2 \times 5$

$= 8 \times 5$

If we take 8, –ive and 5 as positive then, $-8 \times 5 = 40$ and $-8 + 5 = -3$

Hence the required numbers are –8 and 5, and the correct answer is choice C.

Q4. (A) Given that $n + 3 = n \times 3$, we substitute the numbers in the options

When, $n = 1 \Rightarrow 1 + 3 \neq 1 \times 4, \Rightarrow 4 \neq 3$

When, $n = \frac{1}{2} \Rightarrow \frac{1}{2} + 3 \neq \frac{1}{2} \times 3, \Rightarrow 3.5 \neq 1.5$

When, $n = 1.5 \Rightarrow 1.5 + 3 = 1.5 \times 3 \Rightarrow 4.5 = 4.5$

Hence the correct answer is choice A.

Q5. (A) The common logarithms consists of two parts, the integral part is known as characteristic and the decimal part is known as Mantissa. Hence the correct answer is choice A.

Q6. (D) We solve expressions given in the options

$3 \times 3 \div 3 + 3 = 9 \div 6 = 1.5$

$3 \div 3 + 3 + 3 = 1 + 6 = 7$

$3 \times 3 - 3 \times 3 = 9 - 9 = 0$

$3 \div 3 + 3 \times 3 = 1 + 9 = 10$

Hence the correct answer is choice D.

Q7. (B) On the x-axis the y-coordinate are always zero. Hence the correct answer is choice B.

Q8. (D) We solve it by unitary method

12 scales costs = Rs. 35

1 scale cost $= \frac{35}{12}$

Now, 3 scales are sold = Rs. 10

1 scale will sold $= \frac{10}{3}$

Profit in one scale $= \frac{10}{3} - \frac{35}{12}$

$= \frac{5}{12}$

Profit of 66 scales ($5\frac{1}{2}$ dozen) $= \frac{5}{12} \times 66$

$= \frac{55}{2} = 27\frac{1}{2}$

Hence the correct answer is choice D.

Q9. (C) The total number of books is $x + y$, and their total cost is $3x + 7y$ dollars. Therefore, the average cost per book is

$$\frac{3x + 7y}{x + y} \text{ dollars.}$$

Thus, the best answer is choice C.

Q10.(D) It follows from $2x - 3y = 0$ that $y = \frac{2}{3}x$

So $y < 2 \Rightarrow \frac{2}{3}x < 2 \Rightarrow 2x < 6$

$\Rightarrow x < 3$

Hence the best answer is choice D.

Note that choices A and B may be true.

But the exact and best choice is D.

Q11.(D) Sum of all angles of a pentagon = $[(2 \times 5 - 4) \times 90]$

$= (6 \times 90) = 540$

Let the angle be x, $2x$, $3x$, $5x$ and $9x$. Then

$x + 2x + 3x + 5x + 9x = 540$

$\Rightarrow \quad 20x = 540 \Rightarrow x = 27^\circ$

Q12.(A) In triangle AOB, since two of the sides are radii of the circles, and all the radius of a circle are equal, so the triangle is isosceles. Hence the unmarked angle is also p.

$180 = 82 + x + x \quad \Rightarrow 2x + 82 = 180$

$\Rightarrow 2x = 180 - 82 = 98$

$\Rightarrow x = \frac{98}{2} = 49$

Hence the correct answer is choice A.

Q13.(B) Volume of a cube $= e^3$

If $e = 1$ foot, then volume $= (1)^3$

As (e = 1 feet = 12 inches), volume = $(12 \text{ inches})^3$

= 1728 cubic inches

Hence the correct answer is choice B.

Q14.(B) Since every exterior angle is equal to the sum of opposite interior angles, so

$\angle x = \angle A + \angle B$, $\angle y = \angle B + \angle C$

and $\angle z = \angle A + \angle C$

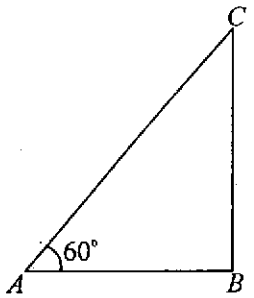
$\therefore \quad \angle x + \angle y + \angle z = 2(\angle A + \angle B + \angle C)$

$= 2(180)$

$= 360^\circ$

Hence the correct answer is choice B.

Q15.(D) Let ABC be a triangle in which $\angle A$ is 60°.



In ΔABC, $\frac{BC}{AC} = \sin 60^\circ$

$\Rightarrow \quad BC = (AC) \times \sin 60^\circ$

$\Rightarrow \quad BC = (\text{hypotenuse}) \times \frac{\sqrt{3}}{2}$

Hence the correct answer is choice D.

Q16.(B) The complete revolution of an hour hand subtends an angle of 360°. Since 360° is divided into 12 equal parts as an hour, thus each hour hand is $\frac{360}{12} = 30^\circ$ with minute hand. If we divide 30° into 5 parts we get 12 minute rotation hour hand, *i.e.*, $\frac{30}{5} = 6$. Hence the angle of the hour hand at 2 hour and 12 minute is

$30 \times 2 + 6 \quad = (60 + 6)^\circ$

$= 66^\circ$

Q17.(C) Volume of a cylinder = V $= \pi r^2 h$

According to given condition, $h = 4C$,

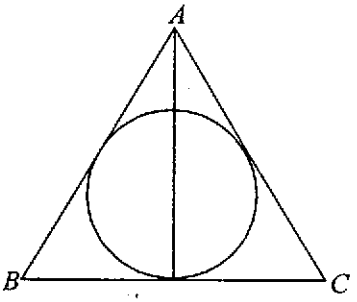
$\because C = 2\pi r \quad \Rightarrow \quad r = \frac{C}{2\pi}$

$$\text{Now } V = \pi\left(\frac{C}{2\pi}\right)^2 (4C)$$

$$\Rightarrow V = \frac{2C^3}{\pi}$$

Hence the correct answer is choice C.

Q18.(C) Here, we draw a figure



$$\frac{1}{2} \times 24 \times h = \frac{\sqrt{3}}{4} \times 24 \times 24$$

$$\Rightarrow \frac{h}{2} = \frac{\sqrt{3}}{4} \times 24$$

$$\Rightarrow \boxed{h = 12\sqrt{3}}$$

$\therefore$ $3r = 12\sqrt{3}$ or $\boxed{r = 4\sqrt{3}}$

$\therefore$ Area of the circle $= \pi r^2$

$$= \pi(4\sqrt{3})^2 = \pi(16(3))$$

$$= 48\pi$$

Hence the correct answer is choice C.

Q19.(B) Since the two smaller circles touch internally at the centre of the larger circle, they have equal radius; the diameter of each being 2 cm and radius of each is 1 cm.

Required Area = (Area of semi-circle with radius 4 cm) – (Area of semi-circle with radius 1 cm)

$$= \frac{1}{2} \times \pi \times (4)^2 - 2 \times \frac{1}{2} \times \pi \times (1)^2$$

$$= 8\pi - \pi$$

$$= 7\pi$$

Q20.(B) At the most two common tangents can be drawn to two circles.

II. Analytical Section	**No. of Questions = 20**

For questions 1 to 2

A city map representing roads *M, N, O, P, Q* and *R*. Link roads cannot have the same colour in the map. The roads link to each other are as under:

Each *M, N, P* and *Q* has link to *O*.

P has a link to Q.

Each of *M* and *N* has a link to R.

Q1. Which of the following roads can be the same colour as *O* on the map?

(A) N **(B)** P

(C) Q **(D)** R

Q2. Which of the following is a pair of roads that can be the same colour?

(A) M and N (B) N and O
(C) O and P (D) P and Q

Questions 3 to 8 depend on the following passage

A Government College sports president wishes to select four members of a sports-wing committee as special representatives to meet the requirements of college's sports activities.

The committee consists of eight members four of which (K, *L*, *M* and N) are sports teachers whereas the other four (*P*, *Q*, *R* and S) are students.

The president can select any four of the eight committee members as long as the following rules are observed:

The four representatives must consist of exactly two sports teachers and two students.

Either *K* or *L* must be one of the representatives but *K* and *L* both cannot be the representatives. If *P* is a representative then *M* must also be a representative.

If *R* is a representative then *L* cannot be a representative.

Q3. If *R* is a representative but *M* is not a representative then the whole group can be determined if it were also true that:

(A) K is a representative (B) N is a representative
(C) P is a representative (D) S is not a representative

Q4. If *P* is a representative then which of the following CANNOT be a representative?

(A) M (B) N
(C) Q (D) R

Q5. If *L* is a representative then which of the following can be the other three representatives?

(A) K, *Q* and S (B) M, *N* and P
(C) M, *P* and Q (D) N, *P* and S

Q6. If neither *Q* nor S is a representative then which of the following is a pair of teachers representatives?

(A) *K* and *L* (B) *K* and *M*
(C) *K* and *N* (D) *L* and *M*

Q7. If *L*, *N* and *Q* are representatives then which of the following must also be a representative?

(A) *M* (B) *P*
(C) *R* (D) *S*

Q8. If *K* and *N* are representatives then which of the following is not a representative?

(A) *Q* (B) *R*
(C) *P* (D) None

Two statements, labeled (1) and (2), follow each of the following given questions. The statements contain certain information. In the question you do not actually have to compute an answer, rather than you have to decide whether the information given in the statements (1) and (2) is sufficient to find a correct answer by using basic mathematics and everyday fact?

Q9. What day of the week is today?

1. **Today is December 25.**
2. **Amjad left Pakistan on Monday.**

(A) Statement 1. ALONE is sufficient but 2. ALONE is not sufficient to answer this question.
(B) Statement 2. ALONE is sufficient but 1. ALONE is not sufficient to answer this question.

(C) Statements 1 and 2. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements 1 and 2. COMBINED are not sufficient to answer the question and additional information is needed to find the correct answer.

Q10. Can any of the four rivers be more than 200 meters wide?

1. **The narrowest of the four rivers is 140 meters wide.**
2. **Average width of the four rivers is 200 meters.**

(A) Statement 1. ALONE is sufficient but 2. ALONE is not sufficient to answer this question.

(B) Statement 2. ALONE is sufficient but 1. ALONE is not sufficient to answer this question.

(C) Statements 1 and 2. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements 1 and 2. COMBINED are not sufficient to answer the question and additional information is needed to find the correct answer.

Q11. If it is raining then there must be clouds. Are there clouds?

1. **Today is Saturday. It is not raining.**
2. **It rained Friday.**

(A) Statement 1. ALONE is sufficient but 2. ALONE is not sufficient to answer this question.

(B) Statement 2. ALONE is sufficient but 1. ALONE is not sufficient to answer this question.

(C) Statements 1 and 2. TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

(D) Statements 1 and 2. COMBINED are not sufficient to answer the question and additional information is needed to find the correct answer.

For questions 12 to 13

There are seven cages next to each other in a zoo. The following is known about the cages. Each cage has only one animal, which is either a lion or a monkey. There is a lion in each of the first and last cages. The cage in the middle has a monkey. No two adjacent cages have monkeys in them. The monkey's cage in the middle has two lion cages on either side. Each of the other monkey cages are between and next to two lion cages.

Q12. How many cages have lions in them?

(A) 3
(B) 2
(C) 4
(D) 6
(E) 5

Q13. The monkey cage in the middle must have:

(A) No other monkey cage to its left.
(B) No lion cage on its right.
(C) A lion cage to its left and to its right.
(D) Other monkey cages next to it.
(E) No lion cage to its left.

For questions 14 to 16

Seven children — *M, N, O, P, Q, X* and *Y* are eligible to enter a drawing contest. From these seven, two teams must be formed, a blue team and a yellow team, each team consisting of exactly three of the children. No child can be selected for more than one team. Team selection is subject to the following restrictions: If *P* is on the blue team, *O* must be selected for the yellow team. If *M* is on the blue team, *Q*, if selected must be on the yellow team. *Q* cannot be on the same team as *X*. *N* cannot be on the same team as *O*.

Q14. Which of the following can be the three members of the blue team?

(A) M, *N* and O
(B) M, *Q* and Y
(C) N, *O* and Y
(D) O, *P* and Q
(E) *P*, *Q* and Y

Q15. If *P* and *M* are both on the blue team, the yellow team can consist of which of the following?

(A) N, *O* and Q **(B)** N, *X* and Y
(C) O, *Q* and X **(D)** O, *Q* and Y
(E) Q, *X* and Y

Q16. If *P* is on the blue team, which of the following if selected, must also be on the blue team?

(A) M **(B)** N
(C) Q **(D)** X
(E) Y

Explanatory Answers

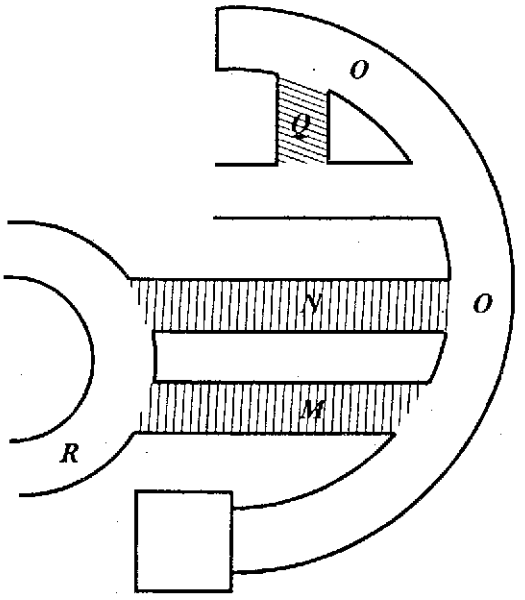
Solution 1 to 2

Here, first of all we decompose the given problem in the shape of important points.

1. A city map representing roads, *M, N, O, P, Q* and R.
2. Link roads cannot have the same colour on the map.
3. Each *M, N, P* and *Q* has link to *O.*
4. P has a link to Q.
5. Each of *M* and *N* has a link to R.

Q1. (D) Since, link roads cannot have the same colour on the map. Now, according to the given condition, each, *M, N, P* and *Q* has link to *O.* As *R* has no link to *O,* so its colour should be same as *O.* Hence, the correct answer is choice D.

Q2. (A) We draw the following estimated sketch of the roads on the map:



From above diagram, clearly roads *M* and *N* have no link each other. Hence, *M* and *N* should have the same colour. So, the correct answer is choice A.

Solution 3 to 8:

The important conclusions from the given problem are given below:

1. Sports committee consists of eight members.
2. There are four (K, *L, M* and N) sports teachers and four (*P, Q, R* and S) students in the committee.
3. President can select any four of the eight committee members.
4. The four representatives must consist of exactly two sports teachers and two students.
5. Either *K* or *L* must be one of the representatives but *K* and *L* both cannot be representatives.

6. If *P* is representative, then *M* must also be a representative.
7. If *R* is a representative then *L* cannot be a representative.

Q3. (D) Take choice "A", which says, *K* is a representative. We analyze the given statement, according to this statement, if *R* is representative, but *M* is not representative. If *K* is representative, then *R* combine K. Since *M* is not representative, so according to above point 6, *P* will also not representative. This situation is given in the following table "✓" indicates the representation and "×" represents "not representation".

✓	×	×	
K	L	M	N
×		✓	
P	Q	R	S

From above table, we find two groups, *i.e.*, KNRQ, KNRS. Thus we cannot find a single group. So, choice "A" is not correct choice. Now, if we accept choice "B", then the possible outcomes are given in the following table.

	×	×	✓
K	L	M	N
×		✓	
P	Q	R	S

It is clear from above table, that if we accept choice "B" then whole group cannot be determined. Now, take choice, "C", according to this choice, the following table formed.

	×	×	
K	L	M	N
✓		✓	
P	Q	R	S

It cannot be acceptable, because if *P* is accepted then *M* will also be accepted. But in the given statement *M* is not representative.

Lastly, we prepare the table according to the choice "D"

	×	×	
K	L	M	N
×		✓	×
P	Q	R	S

Thus a whole group KNQR can be determined. Hence, the correct answer is choice D.

Q4. (B) If *P* is representative then *M* must also be representative. Thus, choice "A" is not acceptable. The correct choice is choice "B".

Q5. (C) If "L" is a representative, then choice "A" is not acceptable, because *K* and *L* both cannot be representative. Choice *B* is also not acceptable, because there will three teachers (L, M, N) be joined in one group. The choice *C* is acceptable.

Q6. (B) If neither *Q* nor S is a representative, then choice "A" cannot be accepted, because *K* and *L* both cannot be representative. The choice "B" is acceptable. Hence the correct answer is choice B.

Q7. (D) If K, *N* and *Q* are representative, then choice "A" is not true choice, because if *M* join with K, *N* and Q, then the teacher representatives become three, but the four representative must consist of two teachers. Now, take choice, *B*, if we accept this choice then the group of representative is K, N, *P*, *Q*. But, according to the given condition, if *P* is representative then *M* must also be a representative. Here, *P* is without M, so this choice is also rejected. Now, if we accept choice "C" then the group of representative is K, N, *Q*, *R*, which is also not acceptable. If we accept choice "D", then the group of

representative becomes K, N, *Q*, S, which is a acceptable representative group. Hence, the correct answer is choice D.

Q8. (C) If *K* and *N* are representative, then, clearly, choice "A", which is "Q" is not acceptable. The second choice *R* is also not acceptable, because if *R* is a representative, then *L* cannot be a representative. Here *R* is with *K* not with L. So *R* may be form a representative group. Hence this choice is also not acceptable. The choice "C" is acceptable, because if *P* is representative then *M* must also be a representative. Then the group becomes KNMP. This group is not a representative because in this group there are three teachers (K, *N* and M) which is not according to the given condition. Hence, the correct answer is choice C.

Q9. (D) Since, there is not any link between two statements and statements (1) and (2) COMBINED are not sufficient to answer the question and additional information is needed to find the correct answer. The correct answer is choice D.

Q10.(C) Since, according to statement (1), the narrowest of the four rivers is 140 meters and according to the statement (2), average width of the four rivers is 200 meters. We are asked, can any of four rivers be more than 200 meters. Let we suppose the width of the rivers; $R_1 = 200$, $R_2 = 200$, $R_3 = 200$, $R_4 = 140$ meter.

$$\text{Average} = \frac{200 + 200 + 200 + 140}{4} = 185$$

But according to second statement, the average of four rivers is 200. It is only possible if any one or more rivers have their width more than 200. Hence, statements, (1) and (2) TOGETHER are sufficient to answer the question but NEITHER of them is sufficient ALONE.

Q11.(D) Since, Statements 1 and 2. COMBINED are not sufficient to answer the question and additional information is needed to find the correct answer.

Solution 12–13

We write the important points from the given problem briefly:

1. There are seven cages next to each other in the zoo.
2. Each cage has only one animal.
3. The animal is either a lion or a monkey.
4. There is a lion in the first and last cage.
5. No two adjacent cages have monkeys in them.
6. The monkey's cage in the middle has two lion cages on either side.
7. Each of the other monkey cages are between and next to two lion cages.

From above points we sketch the following diagram.

Lion	Monkey	Lion	Monkey	Lion	Monkey	Lion

1st cage Last cage

Q12.(C) From above diagram, clearly there are four lion cages.

Q13.(C) From above fig., we find two cages of lion to left and right of Monkey's cage.

Solution 14 to 16

Important points deduction from the given problem are given below:

1. Seven children — *M, N, O, P, Q, X* and *Y* are eligible to enter a drawing context.
2. From these seven children, two teams must be formed
   A blue team, a yellow team and each team consisting of exactly three of the children.
3. No child can be selected for more than one team.
4. If *P* is on the blue team, *O* must be selected for the yellow team.
5. If *M* is on the blue team, *Q*, if selected must be on the yellow team.

6. Q cannot be on the same team as *X*.
7. N cannot be on the same team as *O*.

Q14.(E) Take choice "A" that is M, *N* and *O*. This choice is not acceptable because *N* cannot be on the same team as *O*. Take choice "B", that is, *M, Q* and *Y*. This choice is also not acceptable, because *M* and *Q* could not be in the same team. Take choice "C", that is *N, O* and *Y*. Since *N* and *O* cannot be in the same team, so choice "C" also not acceptable. Take choice "D", that is, *O, P* and *Y*. Since *P* and *O* cannot be on the same team, so choice, *D,* also not acceptable. The correct choice is *E,* since it meets all the requirements given in the problem.

Q15.(D) Here, we draw the following table, according to the given condition.

Blue team	Yellow team
P	*O* ✓
M	Q
X	Y
N	

If P, M, *X* and *N* are in blue team, then *O* and *Q* must be in yellow team, *Y* can be either on blue and yellow team, so the yellow team may be *O, Q* and *Y*. Hence, the correct answer is choice D.

Q16.(B) By the given restrictions, if *P* is on the blue team, *O* must be selected for the yellow team. Similarly, if *M* is on the blue team, *Q* must be on the yellow team. The most important point to solve this problem is that, *Q* cannot be on the same team as *X* and *N* cannot be on the same team as *O*. Now, if *P* is on blue team *O* must be on yellow team, so *N* cannot be on the yellow team. Hence, the correct answer is choice B.

III. Verbal Section	**No. of Questions = 25**
Select the correct answer for each question and blacken the corresponding circle in the answer sheet.	

Instructions (1-10): In this part of test, you have 10 MCQs about English. Each sentence below has one or two blanks, each blank shows that something has been omitted. Choose the correct answer from the four answer choices given with each question, numbered *(A), (B), (C), (D).*

1. ***Normally an individual thunderstorm _____ about 45 minutes.***

(A) Lasts **(B)** Ends
(C) Remains **(D)** Continues

2. ***The _____ arguments put forth for not disclosing the facts did not impress anybody.***

(A) Specious **(B)** Intemperate
(C) Spurious **(D)** Convincing

3. ***Modern architecture has discarded the _____ trimming on buildings and emphasises simplicity of life.***

(A) Flamboyant **(B)** Flabbergasting
(C) Gaudy **(D)** Gaunt

4. ***I decided to sell a piece of land when I was offered a more _____ price.***

(A) True **(B)** Realistic
(C) Exact **(D)** Correct

5. ***Because of moon's _____, it has little or no substance.***

(A) Weak **(B)** Dull
(C) Frail **(D)** Unsubstantial

6. ***His habit of spending more than he earned left him in a state of perpetual _____ but he _____ hoping to see a more affluent day.***

(A) Indigence: Persevered In
(B) Confusion: Compromised By
(C) Enervation: Retaliated By

(D) Motion: Responded

7. *Come and stand _____ me _____ my umbrella or you will get quite wet.*
   (A) With: Under (B) By: Beneath
   (C) Beside: Under (D) Near: Below

8. *Hydrogen balloons, which were much _____ than hot-air balloons became very _____.*
   (A) Smaller; Cheap (B) Lighter; Popular
   (C) Cheaper; Fashionable (D) Brighter; Common

9. *Surprisingly enough, it is more difficult to write about the _____ than about the _____ and strange.*
   (A) Specific, Foreign (B) Abstract, Prosaic
   (C) Commonplace, Exotic (D) Simple, Routine

10. *Known for his commitment to numerous worthy causes, the philanthropist deserved _____ for his _____.*
   (A) Recognition: Folly (B) Blame: Hypocrisy
   (C) Reward: Modesty (D) Credit: Altruism

Instructions (11-20): Each question below consists of a related pair of words or phrases, followed by four lettered pairs of words or phrases numbered *(A), (B), (C), (D)*. Choose the lettered pair that best expresses a relationship similar to that expressed in the pair given in the question.

11. *VESSEL: FLEET::*
   (A) Wolf: Pack (B) Forest: Clearning
   (C) Vehicle: Truck (D) Carriage: Horse

12. *BUSTLE: MOVE::*
   (A) Hum: Sing (B) Lope: Run
   (C) Glide: Dance (D) Chatter: Talk

13. *PRECEDENT: JUSTIFICATION::*
   (A) Kindness: Obedience (B) Authority: Sanction
   (C) Usage: Submission (D) Tradition: Novelty

14. *NOTE: SCALE::*
   (A) Conductor: Orchestra (B) Singer: Music
   (C) Musician: Instrument (D) Letter: Alphabet

15. *STUDYING: LEARNING::*
   (A) Running: Jumping (B) Investigating: Discovery
   (C) Reading: Writing (D) Dancing: Swimming

16. *HELMET: HEAD::*
   (A) Pendant: Neck (B) Breastplate: Chest
   (C) Pedal: Foot (D) Knapsack: Back

17. *SOLDIER: REGIMENT*
   (A) Colonel: Martinet (B) Dancer: Balletomane
   (C) Singer: Chorus (D) Trooper: Rifle

18. *RETOUCH: PHOTOGRAPH::*
   (A) Finger: Fabric (B) Hang: Painting
   (C) Compose: Melody (D) Refine: Style

19. *YAWN: BORFDOM::*
   (A) Dream: Sleep (B) Anger: Madness
   (C) Smile: Amusement (D) Face: Expression

20. *BALLAD: SONG::*
   (A) Melody: Rhythm (B) Novel: Chapter
   (C) Portrait: Painting (D) Credit: Movie

Read the following passages carefully and answer the questions given at its end:

Suppression of people's feelings in any form not only provokes mental reaction but also amounts to asking for trouble. It is always hazardous to deny self-expression either to the born rebel or to the cool and satirical critic, for the former will go the whole hog in denouncing the policy of repression while the latter may reserve his right to support the government and may even turn ironical in his approach.

A tolerant government will see to it that it enlists the backing of all sections including the extremists and humorists. England has won a number of friends following the policy of tolerance by granting asylum to staunch opponents of their respective governments. Even from practical point of view, it is safe to allow people to vomit their venom against the government rather than deny their self-expression and incite them to go for pernicious activities.

Even if a government happens to be despotic, it will do well to provide and facilitate opportunities at self-expression. It will be well advised to avoid wasting money on security arrangements and go in for utilizing stipulated sum for facilitating the openings for expression. Hence no government, despotic or otherwise, should persecute people for holding political views contrary to their own.

21. ***It can be inferred that the author favours:***

(A) Suppression **(B)** Despotism

(C) Criticism **(D)** Self-expression

22. ***According to the passage:***

(A) Supporting government is good

(B) Denouncing government is good

(C) Even despotic governments should allow self-expression

(D) Denying self-expression is good

23. **The passage indicates that:**

(A) The government should allow people to go against it

(B) England has developed tolerance towards the opponents of the government

(C) Self-expression incites people towards destructive works

(D) All governments should restrict free expression

24. **Security arrangements to suppress self-expression are:**

(A) Preferable **(B)** Advisable

(C) Not advisable **(D)** None of the above

25. **Which of the following is incorrect ?**

(A) It is dangerous to deny self-expression

(B) A tolerant government wins over extremists and humorists

(C) It is safe to allow self-expression

(D) Government should persecute people for holding political view against it

ANSWERS

1.	(A)	2.	(A)	3.	(C)	4.	(B)	5.	(A)
6.	(A)	7.	(C)	8.	(B)	9.	(C)	10.	(D)
11.	(A)	12.	(D)	13.	(B)	14.	(D)	15.	(B)
16.	(B)	17.	(C)	18.	(D)	19.	(C)	20.	(C)
21.	(D)	22.	(C)	23.	(B)	24.	(C)	25.	(D)

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GRE - GAT TEST 4

Quantitative Section	No. of Questions = 20

Q1. The sum of a number and its reciprocals is thrice the difference of the number and its reciprocal. The number is:

(A) $\pm\sqrt{2}$ (B) $\pm\frac{1}{\sqrt{2}}$

(C) $\pm\frac{1}{\sqrt{3}}$ (D) $\pm\sqrt{3}$

Q2. When the integer k is divided by 17, the quotient is p and the remainder is 5. When k is divided by 23, the quotient is q and the remainder is 14. Which of the following is true?

(A) $23p + 17q = 19$ (B) $14p + 5q = 6$.

(C) $17p - 23q = 9$ (D) $5p - 14q = 6$

Q3. What is the area of a circle whose radius is the diagonal of a square whose area is 9?

(A) 8π (B) 18π

(C) 3π (D) 9π

Q4. The circumference of a circle is $x\pi$ units, and the area of the circle is $y\pi$ square units. If $x = y$, then radius of the circle is:

(A) 1 (B) 2

(C) 3π (D) 2π

Q5. A cylindrical sillo (container for storing grain) has a diameter of 14 inches and a height of 6 inches. Since one gallon equals 231 cubic inches, the capacity of the sillo is approximately:

(A) 4 gallons (B) $1\frac{1}{7}$ gallons

(C) $2\frac{2}{7}$ gallons (D) $2\frac{1}{2}$ gallons

Q6. What is the volume of a cube whose surface area is 294?

(A) 125 (B) 216

(C) 294 (D) 343

Q7. The ratio of boys to girls in a certain classroom was 2 : 3. If boys represented five more than one-third of the class, how many people were in the classroom?

(A) 15 (B) 23

(C) 21 (D) 27

Q8. What is the average of 5^{30}, 5^{60}, 5^{17}, 5^{13} and 5^{90}?

(A) 5^{210} (B) 5^{209}

(C) $5^{29} + 5^{59} + 5^{16} + 5^{12} + 5^{89}$ (D) 5^{205}

Q9. If $p + 1 < 3p + 5$, then:

(A) $p < -2$ (B) $p > -2$

(C) $p = 0$ (D) $p > 2$

Q10. Which of the following numbers cannot be represented by a repeating decimal?

(A) $\frac{23}{7}$ (B) $\frac{13}{3}$

(C) 7 (D) $\sqrt{5}$

Q11. If an equilateral triangle and a square have the same perimeter, what is the ratio of the lengths of the sides of the equilateral triangle to the lengths of the sides of the square?

(A) 3 : 4 (B) 4 : 3
(C) 1 : 2 (D) 1 : 3

Q12. If $\frac{1}{x}+\frac{1}{x}+\frac{1}{x}=12$, then $x=$

(A) $\frac{3}{4}$ (B) $\frac{1}{4}$
(C) $\frac{1}{3}$ (D) $\frac{1}{12}$

Q13. If $a+2b=x$ and $a-2b=y$, which of the following expression is equal to ab?

(A) $\frac{x+y}{2}$ (B) $\frac{x-y}{2}$
(C) $\frac{x^2+y^2}{4}$ (D) $\frac{x^2-y^2}{8}$

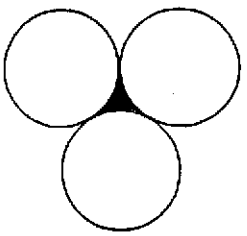
Q14. If the sum of the two integers is 42 and their difference is 22. Then the greater of the two integers is:

(A) 25 (B) 32
(C) 8 (D) 10

Q15. Each of Nazir's buckets has a capacity of 11 gallons, while each of Osama's buckets can hold 8 gallons. How much more water in gallons can 7 of Nazir's buckets held compared to 7 of Osama's buckets?

(A) 7 gallons (B) 9 gallons
(C) 21 gallons (D) 24 gallons

Q16.



In the above figure, three equal circles of radius 3 cm each touch each other, then the area of the shaded portion is:

(A) $\frac{3}{2}(\sqrt{3}-\pi)$ cm^2 (B) $\frac{9}{2}(2\sqrt{3}+\pi)$ cm^2
(C) $\frac{9}{2}(2\sqrt{3}-\pi)$ cm^2 (D) $\frac{\sqrt{3}}{2}(2-\pi)$ cm^2

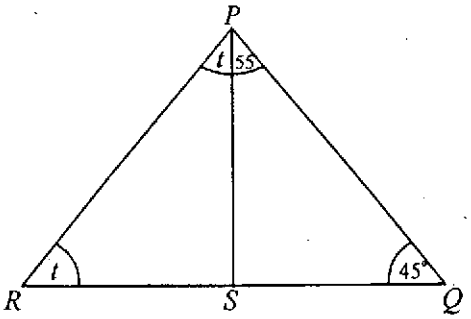
Q17. If two circles touch each other externally at C and AB is a common tangent to the circles. Then $\angle ACB$ is:

(A) greater than 120° (B) greater than 90°
(C) less than 90° (D) equal to 90°

Q18. A train running between two towns arrives at its destination 10 minutes late when it goes 40 miles per hour and 16 minutes late when it goes 30 miles per hour. The distance between two towns is:

(A) 12 (B) 720
(C) $8\frac{1}{2}$ (D) $12\frac{1}{7}$

Q19. What is the value of t in the following figure?



(A) 45 (B) 30
(C) 40 (D) 55

Q20. Two trains 132 meters and 108 meters in length are running towards each other on parallel lines, one at the rate of 32 km per hour and another at 40 km per hour. In what time will they be clear off each other from the moment they meet?

(A) 20 sec (B) 15 sec
(C) 12 sec (D) 29 sec

Explanatory Answers

Q1. (A) Let the number be x. Then, its reciprocal is $\frac{1}{x}$. According to the given condition,

$$x+\frac{1}{x}=3\left(x-\frac{1}{x}\right)$$

$$\Rightarrow \frac{x^2+1}{x}=3\left(\frac{x^2-1}{x}\right)$$

$$\Rightarrow x^2+1=3x^2-3 \quad \Rightarrow 3x^2-x^2=1+3$$

$$\Rightarrow 2x^2=4$$

$$\Rightarrow x^2=2$$

$$\Rightarrow x=\pm\sqrt{2}$$

Hence the correct answer is choice A.

Q2. (C) According to the first condition, $k = 17p + 5$

According to the second condition $k = 23q + 14$

$\Rightarrow 17p + 5 = 23q + 14$

$\Rightarrow 17p - 23q = 9$

Hence the correct answer is choice C.

Q3. (B) Since the area of the square is 9, therefore, each side is 3. Thus the length of the diagonal is $3\sqrt{2}$.

Now the area of the circle whose radius is $3\sqrt{2}$ is

Area $= \pi r^2 \quad \Rightarrow$ Area $= \pi(3\sqrt{2})^2$

$\Rightarrow$ Area $= \pi[9(2)]$

$\Rightarrow$ Area $= 18\pi$

Thus, the best answer is choice B.

Q4. (B) It is given:

Circumference, $C = x\pi$ and

Area, $A = y\pi$

$\because x = y \Rightarrow C = A \Rightarrow 2\pi r = \pi r^2$

$\Rightarrow \quad 2 = r$

Hence, the correct answer is choice B.

Q5. (A) Volume of the cylinder $= \pi r^2 h$

Here, $r = \frac{1}{2}$ diameter $= \frac{1}{2}(14) = 7$ inches

and Height, $h = 6$ inches

$V = \pi(7)^2(6)$

$= \pi(49)(6)$

$= 294 \times \frac{22}{7} = 924$ cubic inches

$\because$ 231 cubic inches = 1 gallon

1 cubic inch $= \frac{1}{231}$ gallon

924 cubic inches $= \frac{1}{231} \times 924$ gallons

$= 4$ gallons

Hence the correct answer is choice A.

Q6. (D) Let e be the each face of the cube, then

$e^2 + e^2 + e^2 + e^2 + e^2 + e^2 = 6e^2 = 294$

$\Rightarrow e^2 = \frac{294}{6} = 49$

$\Rightarrow \quad e = 7$

So each edges are all 7.

Hence the volume is $e^3 = 7^3 = 343$

The correct answer is choice D.

Q7. (A) Let x be the total number of boys in the class and b, be the total boys in the class, then by the given condition

$\frac{2}{5} \times x = b \quad \ldots(i)$

$\frac{1}{3}x = b - 5$

$\Rightarrow \quad \frac{1}{3}x + 5 = b \quad \ldots(ii)$

Substituting the value of b from (ii) in (i), we have

$\frac{2}{3}x = \frac{1}{3}x + 5$

$\Rightarrow \quad \frac{2}{3}x = \frac{x + 15}{3} \Rightarrow 2x = x + 15$

$\Rightarrow \quad \boxed{x = 15}$

The correct answer is choice A.

Q8. (C) $\frac{5^{30} + 5^{60} + 5^{17} + 5^{13} + 5^{90}}{5}$

$= \frac{5^{30}}{5} + \frac{5^{60}}{5} + \frac{5^{17}}{5} + \frac{5^{13}}{5} + \frac{5^{90}}{5}$

$= 5^{29} + 5^{59} + 5^{16} + 5^{12} + 5^{89}$

Hence the correct answer is choice C.

Q9. (B) $p+1 < 3p+5$

$\Rightarrow p+1-p < 3p+5-p$

$\Rightarrow 1 < 2p+5$

$\Rightarrow 1-5 < 2p+5-5$

$\Rightarrow -4 < 2p$

$\Rightarrow \frac{-4}{2} < \frac{2p}{2}$

$\Rightarrow -2 < p$

$\Rightarrow p > -2$

Hence, the correct answer is choice B.

Q10.(D) The square root of any prime number cannot be represented by a repeating decimal. Hence the correct answer is choice D.

Q11.(B) Let s be the side of equilateral triangle and t be the side of the square, then

Perimeter of triangle $= s+s+s = 3s$

Perimeter of square $= t+t+t+t = 4t$

Since the perimeter of the square and the triangle is equal, in other words $3s = 4t$

the two sides must be equal only if $s = 4$ and $t = 3$, hence the ratio between the sides of the equilateral triangle and a square is 4 : 3

Hence the correct answer is choice B.

Q12.(B) $\frac{1}{x}+\frac{1}{x}+\frac{1}{x} = 12$

$\frac{1+1+1}{x} = \frac{12}{1}$

$\Rightarrow \frac{3}{x} = \frac{12}{1} \Rightarrow 12x = 3$

$\Rightarrow x = \frac{3}{12}$

$\Rightarrow \boxed{x = \frac{1}{4}}$

Hence, the best answer is choice B.

Q13.(D) $a+2b = x$ ...(i)

$a-2b = y$ ...(ii)

$2a = x+y$ (Adding (i) and (ii))

$\Rightarrow a = \frac{x+y}{2}$ ...(iii)

Now, subtracting (ii), from (i), we get

$4b = x-y$

$\Rightarrow b = \frac{x-y}{4}$ ...(iv)

Now, multiplying (iii) and (iv), we get

$ab = \left(\frac{x+y}{2}\right)\left(\frac{x-y}{4}\right)$

$\Rightarrow \quad ab = \frac{x^2 - y^2}{8}$

Hence the correct answer is choice D.

Q14.(B) Let the two integers be x and y, then

$x + y = 42 \quad \ldots(i)$

$x - y = 22 \quad \ldots(ii)$

Adding (i) and (ii), we get

$2x = 64$

$\Rightarrow \boxed{x = 32}$

Subtracting (ii) from (i), we get

$2y = 20$

$\Rightarrow \boxed{y = 10}$

Clearly, the greater integer is x having value 32. Hence, the correct answer is choice B.

Q15.(C) Capacity of Nazir's bucket = 11 gallons

7 bucket of Nazir will contain water $= 11 \times 7 = 77$ gallons

Capacity of Osama = 8 gallons

7 buckets of Osama will contain water $= 8 \times 7 = 56$ gallons

The difference $= 77 - 56 = 21$ gallons

Hence the correct answer is choice C.

Q16.(C) Let A, B and C be the centres of the three circles, respectively. The ABC is an equilateral triangle with each side equal to 6 cm

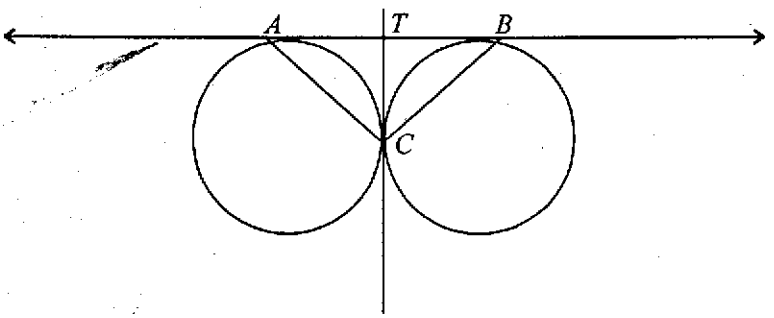
Required area = Area of $\Delta ABC - 3 \times$ area of sector of a circle with $r = 3$ and $\theta = 60^\circ$

$= \left[\frac{\sqrt{3}}{4} \times 36 - 3 \times \pi \times 3^2 \times \frac{60}{360}\right]$

$= \left[9\sqrt{3} - \frac{9\pi}{2}\right] = \frac{9}{2}(2\sqrt{3} - \pi)\text{cm}^2$

The correct answer is choice C.

Q17.(D) Let AB be a common tangent touching the circles at A and B



Let CT be the common tangent at C, meeting AB at T

Then, tangents to a circle from a point outside it being equal, we have

$TA = TC \ \& \ TB = TC$

$\therefore \angle TAC = \angle TCA$ and $\angle TBC = \angle TCF$

So, $\angle ACB = \angle TCA + \angle TCB$

$= \angle TAC + \angle TBC$

$\Rightarrow 2\angle ACB = \angle TAC + \angle TBC + \angle ACB = 180^\circ$

$\Rightarrow \angle ACB = 90^\circ$

Hence the correct answer is choice D.

Q18.(A) Let the required distance be x km with two speeds, the difference of time taken is (16 – 10) 6 minutes

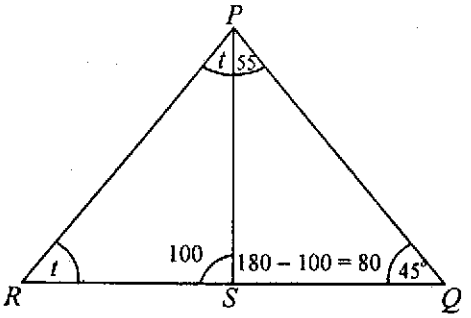
Using the formula

$$\text{Distance} = \frac{\text{Product of two speeds}}{\text{Difference of two speeds}} \times \text{Difference between time arrival}$$

$$= \frac{30 \times 40}{40 - 30} \times \frac{6}{60} = 12 \text{ km}$$

Hence the correct answer is choice A.

Q19.(C) We simplify the figure in the following manner:



$\because$ The sum of the angles of a triangle = 180

$\therefore t + t + 100 = 180 \Rightarrow 2t + 100 = 180$

$\Rightarrow 2t = 80 \Rightarrow \boxed{t = 40}$

Q20. Relative speed of the trains = (32 + 40)km/hour

= 72 km/h

$= \left(72 \times \frac{5}{18}\right)$ m/sec

= 20 m/sec

Time taken by the trains in passing each other

$$= \left[\frac{\text{Sum of lengths}}{\text{Relative speed}}\right]$$

$$= \left(\frac{240}{20}\right) \text{sec} = 12 \text{ sec}$$

Hence the correct answer is choice C.

II. Analytical Section	No. of Questions = 20

For questions 1 to 4

A carrier must deliver mail by making a stop at each of six buildings: S, T, U, V, W and *X*. Mail to be delivered are of two types, ordinary mail and priority mail. The delivery of both types of mail is subject to the following conditions: Regardless of the type of mail to be delivered, mail to W and mail to *X* must be delivered, mail to W and mail to *X* must be delivered before mail to U is delivered. Regardless of the type of mail to be delivered, mail to T and mail to S must be delivered before mail to *X* is delivered. Mail to buildings receiving some priority mail must be delivered, as far as the above conditions permit, before mail to buildings receiving only ordinary mail.

Q1. If S is the only building receiving priority mail, which of the following lists the buildings in an order, from first through sixth, in which they can receive their mail?

(A) *T, S, W, X, V, U* **(B)** *T, S, X, W, U, V*

(C) *S, T, W, U, X, V* (D) *S, W, T, X, V, U*

(E) *V, S, T, W, X, U*

Q2. If T, U and *X* are each receiving priority mail, which of the following lists the buildings in an order, from first through sixth, in which they can receive mail?

(A) *S, T, W, X, V, U* (B) *T, S, V, W, X, U*

(C) *T, S, X, W, U, V* (D) *U, T, X, W, S, V*

(E) *X, T, U, W, S, V*

Q3. If the sequence of buildings to which mail is delivered is V, W, T, S, X, U and if *X* is receiving priority mail, which of the following is a complete and accurate list of buildings that must also be receiving priority mail?

(A) *V, T* (B) *V, W*

(C) *W, T* (D) *W, U*

(E) *V, W, T, S*

Q4. If only one building is to receive priority mail, and as a result, V can be no earlier than fourth in the order of buildings, which of the following must be the building receiving priority mail that day?

(A) *S* (B) *T*

(C) *U* (D) *W*

(E) *X*

Questions 5–9

During 2006, from January through June, the Chairman of Physics Department will be on Sabbath. The Dean of College has asked each of the college six professors in the department — Akhter, Bilal, Chohan, Fraz, Hamid and Noman — to serve as acting chairman during one of these months. The physicists can decide the order in which they will serve, subject only to the following criteria established by the dean.

i. Chohan will serve as chairman in February.

ii. Akhter will serve as chairman before Hamid does.

iii. Bilal and Fraz will serve as chairman in consecutive months.

Q5. Which of the following professors could serve as chairman in January?

(A) Bilal (B) Chohan

(C) Fraz (D) Hamid

(E) Noman

Q6. In how many ways can the schedule be made up if Noman has to serve as Chairman in May?

(A) 1 (B) 3

(C) 6 (D) 4

(E) 2

Q7. If Noman serves in April, all of the following could be true except:

(A) Akhter serves in January (B) Hamid serves in March

(C) Bilal serves in May (D) Bilal serves in June

(E) Hamid serves in June

Q8. If Bilal serves in May, what is the latest month in which Akhter could serve?

(A) March (B) April

(C) January (D) February

(E) June

Q9. Which of the following CANNOT be true?

(A) Akhter and Noman serve in consecutive months
(B) Noman and Hamid serve in consecutive months
(C) Hamid and Fraz serve in consecutive months
(D) Akhter and Chohan serve in consecutive months
(E) Bilal and Chohan serve in consecutive months

Questions 10–14

During practice matches, before a major tournament, in a football ground, one team can practice at a time. There are seven teams — the Argentine, the Brazil, the Senegal, the Dubai, the England, the France and the Germany. The football ground is open seven evenings a week from Monday to Sunday (Sunday being considered the last day of the week), and the allocation of the practice times is governed by the following rules:

(i) On any evening, only one team can play.
(ii) The Argentine must practice on Monday.
(iii) The Dubai practice exactly one day before the France practice.
(iv) The France practice exactly one day before the Germany practice.
(v) The Senegal and the Brazil must practice earlier in the week than the England.

Q10. The latest day in the week that the Brazil can practice is:

(A) Tuesday
(B) Wednesday
(C) Thursday
(D) Friday
(E) Saturday

Q11. If a person went to the football ground on three consecutive evenings, her or she could see which of the following teams in the order listed?

(A) the France, the Germany, the Senegal
(B) the France, the Germany, the Dubai
(C) the Argentine, the Dubai, the Senegal
(D) the Brazil, the Senegal, the France
(E) the Dubai, the England, the France

Q12. On week, the Senegal practiced on Wednesday and the Dubai practiced the next day. That week, the Brazil must have practiced on:

(A) Monday
(B) Tuesday
(C) Friday
(D) Saturday
(E) Sunday

Q13. If the Germany practice on Thursday, the England and the Dubai must practice on which days, respectively?

(A) Sunday and Tuesday
(B) Saturday and Tuesday
(C) Friday and Wednesday
(D) Wednesday and Thursday
(E) Tuesday and Monday

Q14. If the France practice on Saturday, the England must practice on what day?

(A) Tuesday
(B) Wednesday
(C) Thursday
(D) Friday
(E) Sunday

Questions 15 to 17

At a meeting of the Ruling Party, the seven top party leaders, who are all cabinet ministers, are seated on a platform in order of rank the Prime Minister being in the center. The closer a person is to the Prime Minister; the higher is his/her rank. Moreover, a person sitting on the right of the Prime Minister outranks the one sitting equidistant on the left of the Prime Minister. The seven leaders are *L, M, N, O, P, Q* and R.

Q is four places left to the Minister of Agriculture, who is two places to the right of N.
M's neighbours are *L* and the Minister of Agriculture *R* is two places to the left of *O*.
The Minister of Education, Mining and Culture are seated together, in order, from left to right.
The remaining Ministers are these of Social Welfare and Defence.

Q15. The fifth ranking person in the party hierarchy is:

(A) R, the Minister of Mining (B) Q, the Minister of Culture
(C) O, the Prime Minister (D) P, the Minister of Defence

Q16. How many of the seven party leaders outrank the Minister of Education?

(A) 2 (B) 3
(C) 4 (D) 5
(E) 6

Q17. The lowest ranking Minister is:

(A) Minister of Education (B) Minister of Social Welfare
(C) Minister of Mining (D) Minister of Defense
(E) Minister of Culture

Explanatory Answers

Solution 1-4

Here, we illustrate the given problem into important points:

1. A courier must deliver mail by making a stop at each of the six buildings: S, T, U, V, W and *X*.
2. There are two types of mail: Ordinary mail and priority mail.
3. Mail to W and mail to *X* must be delivered before mail to U be delivered.
4. Mail to T and mail to S must be delivered before mail to *X* is delivered.

Q1. (D) If S is the only building receiving priority, mail. Then building S will be the first on priority. Since, mail to W and mail to *X* must be delivered before mail to U is delivered. Then the first four mails in the list are SWXU. Now, according to the point 4 mail T and mail S must be delivered before mail X, so the above list becomes after this condition SWTXVU, which is the correct list.

Q2. (C) Since mail to T and mail to S must be delivered before mail to X, but in this problem T has a priority, so the same elements of the list are T, S, *X* according to point (3) and given priority the list becomes, T, S, X, W, U, V. Hence the correct answer is choice C.

Q3. (B) Clearly V and W is the receiving priority mail. Hence, the correct answer is choice "B".

Q4. (E) If V can be no earlier than fourth in the order, then the receiving priority must be *X*. Because in the list T, S, X, W, U, and V, V replaces with *X*. Hence, the correct answer is choice E.

Solution 5–9

Let *A, B, C,* F, H and *N* represents professors Akhter, Bilal, Chohan, Fraz, Hamid and Noman, respectively. Then, from the given problem, we find the following important points:

1. Chohan will serve as chairman in February.
2. Akhter will serve as chairman before Hamid does. That is A < H.
3. Bilal and Fraz will serve as chairman in consecutive months. That is

$$B << F \text{ and } F << B$$

Q5. (E) Since, Chohan will serve as chairman in February, so Bilal and Fraz could not serve because Bilal and Fraz will serve as chairman in consecutive months. Because, Akhter will serve as chairman before Hamid, now. Hamid could not serve as chairman in February. So Akhter will not serve in January. So, only person Noman is there, which does not violate any of the conditions. Hence, the correct answer is the choice E.

Q6. (E) If Chohan serve as chairman in February, and Noman serves in May, then the possible schedule is given by:

January	February	March	April	May	June
Akhter	Chohan	Bilal	Fraz	Noman	Hamid
Akhter	Chohan	Fraz	Bilal	Noman	Hamid

Hence the correct answer is choice E.

Q7. (E) If Noman serves in April, then the possible schedule is given as:

January	February	March	April	May	June
Akhter	Chohan	Hamid	Noman	Bilal	Fraz
Akhter	Chohan	Hamid	Noman	Fraz	Bilal

From above schedule, it is possible that Akhter can serve as chairman in January, so choice A is not correct choice. It is also clear from above table that Hamid can serve in March, so choice *B* is also not correct choice. Choice, *C* and *D* not correct choices, because Bilal can serve as chiarman both in May and June as shown in the above table. Hence, *C* and *D* are also not correct choices. Only, choice "E" is not possible. Hence the correct answer is choice E.

Q8. (A) If Bilal serve in May, then the possible schedule for Akhter is given as:

January	February	March	April	May	June
January	Chohan	Hamid	Fraz	Bilal	Fraz
Noman	Chohan	Akhter	Hamid	Bilal	Fraz

From above table it is clear that Akhter can serve in January and March. In which, March is the latest month. Hence, the correct choice is choice A.

Q9. (A) The only professors that can serve in January are Akhter and Noman, so one of them must serve in January, and neither in February. So, Akhter and Noman cannot serve as chairman in consecutive months. Hence, the choice A cannot be true. Hence, the correct answer is choice A.

Q10.(B) From the given rules, one of the schedules is given as under:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Argentine	Senegal	Brazil	Dubai	France	Germany	England

Hence, the correct answer is choice B.

Q11.(A) From the following schedule given in the table, we find that the correct answer is choice A.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Argentine	Brazil	Dubai	France	Germany	Senegal	England

Q12.(B) If Senegal practiced on Wednesday and the Dubai practiced the next day, the new schedule is given below:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Argentine	Brazil	Senegal	Dubai	France	Germany	England

So the Brazil will practice on Tuesday. Hence the correct answer is choice B.

Q13.(A) If the Germany practice on Tuesday, then the new schedule may be as:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Argentine	Dubai	France	Germany	Brazil	Senegal	England

From above table, we find that England and Dubai will practice on Sunday and Tuesday respectively. Hence, the correct answer is choice A.

Q14.(C) If the France practice on Saturday, then the new schedule is given by:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Argentine	Brazil	Senegal	England	Dubai	France	Germany

From above schedule, under the given rules, if France practice on Saturday, then England must practice on Thursday. Hence the correct answer is choice C.

Solution 15 to 17

From the given problem, we sorted out the following points:

1. The seven party leaders are, *L, M, N, O, P, Q* and R.
2. Prime Minister is in the center.
3. The closer a person to the Prime Minister; the higher is his/her rank.
4. A person sitting on the right of the Prime Minister outranks the one sitting equidistant on the left of the Prime Minister.
5. Q is four places to the left of the Minister of Agriculture, who is two places to the right of N.
6. M's neighbours are *L* and the Minister of Agriculture.
7. R is two places to the left of *O.*
8. The minister of Education, Mining and Culture are seated together, in order from left to right.
9. The remaining Ministers are those of Social Welfare and Defense.

From above points we draw a following sketch:

Culture	Mining	Education	P.M	Minister of Agriculture	Social Welfare	Defense
Q	R	N	O	P	M	L
4	5	6		1	2	3

Q15.(A) From above table, clearly, the fifth rank of the party person is R, who is the Minister of Mining. Hence, correct answer is choice A.

Q16 (E) Including P.M. there are six party leaders outrank the Minister of Education. It is clear from the table.

Q17.(A) From table, it is clear that Minister of Education has the lowest rank. Hence, the correct answer is choice A.

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III. Verbal Section	No. of Questions = 25
Select the correct answer for each question and blacken the corresponding circle in the answer sheet.	

Instructions (1-10): In this part of test, you have 10 MCQs about English. Each sentence below has one or two blanks, each blank shows that something has been omitted. Choose the correct answer from the four answer choices given with each question, numbered *(A), (B), (C), (D).*

1. ***Viruses are invisible through the _____ microscope; but we know that they are there because we can see the _____ they cause.***

(A) Cheap; Damage (B) Elementary; Harm
(C) Simple; Danger (D) Ordinary; Havoc

2. ***The sea was coming after me as high as a great hill and _____ as a _____ enemy.***

(A) Furious; Charging (B) Dreadful; Advancing
(C) Terrible; Charging (D) Angry; Attacking

3. ***Although its publicity has been _____, the film itself is intelligent, well-acted, handsomely produced and altogether _____.***

(A) Tasteless; Respectable (B) Extensive; Moderate
(C) Sophisticated; Moderate (D) Risqué; Crude

4. ***It takes _____ character to _____ the extremities of the arctic region.***

(A) An unflappable; Sustain (B) A dictatorial; Brook
(C) A Spartan; Negotiate (D) An inimitable; Resist

5. ***As a journalist who works to overturn erroneous convictions, Griffin Nicholson was opposed to the court ruling _____ appeals for inmates who might be _____.***

(A) Barring; Culpable (B) Curbing; Exonerated
(C) Encouraging; Innocent (D) Scrutinizing; Eligible

6. *Their conversation was unsettling, for the gravity of their topic contrasted so oddly with the _____ of their tone.*
(A) Uniqueness (B) Rapidity
(C) Lightness (D) Precision

7. *The driver suddenly applied the brakes when he saw a _____ truck ahead of him.*
(A) Stationary (B) Moving
(C) Static (D) Immobile

8. *Salma is much too _____ to have anything to do with that obnoxious affair.*
(A) Noble (B) Proud
(C) Happy (D) Difficult

9. *Roberto Clement was seen as _____ during his life because of both his selflessness on the baseball field and his humanitarian work in his native Nicaragua.*
(A) An individualist (B) A grandstander
(C) A sybarite (D) An altruist

10. *After passing through a great trauma of her husband's death, she _____ hard to achieve mental relaxation.*
(A) struggled (B) struggling
(C) struggle (D) to struggle

Instructions (11-20): Each question below consists of a related pair of words or phrases, followed by four lettered pairs of words or phrases numbered *(A), (B), (C), (D)*. Choose the lettered pair that best expresses a relationship similar to that expressed in the pair given in the question.

11. *CORPULENCE: STOUT::*
(A) Boldness: Hirsute (B) Erudition: Learned
(C) Gauntness: Beautiful (D) Competence: Strict

12. *INDIGENT: WEALTH::*
(A) Emaciated: Nourishment (B) Aristocratic: Stature
(C) Variegated: Variety (D) Contended: Happiness

13. *RUN: RACE::*
(A) Walk: Pogo stick (B) Swim: Boat
(C) Fly: Kite (D) Sink: Bottle

14. *HOBLE: WALK::*
(A) Gallop: Run (B) Stumble: Fall
(C) Sniff: Smell (D) Stammer: Speak

15. *STATIC: MOVEMENT::*
(A) Humdrum: Excitement (B) Chronic: Timeliness
(C) Ecstatic: Decay (D) Diligent: Industry

16. *STICKLER: INSIST::*
(A) Trickster: Risk (B) Braggart: Boast
(C) Laggard: Outlast (D) Mumbler: Enunciate

17. *CONCERT: MUSIC::*
(A) Performance: Artist (B) Exhibition: Art
(C) Play: Actor (D) Operetta: Singer

18. *INFRACTION: LAW::*
(A) Renovation: Structure (B) Punishment: Crime
(C) Enactment: Amendment (D) Interruption: Continuity

19. *TIRADE: ABUSIVE::*
(A) Diatribe: Familial (B) Satire: Pungent
(C) Panegyric: Laudatory (D) Eulogy: Regretful

20. *REHEARSAL: PERFORMANCE::*
(A) Applause: Audience (B) Engagement: Marriage
(C) Entrapment: Game (D) Antidote: Illness

Read the following passages carefully and answer the questions given at its end:

A duty is an obligation. It is something we owe to others as social beings when we live together. We must let others live with us. May right of living implies my duty to my fellowmen to allow them the same conditions of life. Infact, rights and duties are co-related. What is a right in regard to one is a duty in regard to others. Rights and duties are two sides of the same coin. We should always observe from the stand point of others. Thus they are duties. Moral duty is more effective than the legal. A moral duty is that which is upon the people on moral grounds. It is my moral duty to help the poor because of being a member of the society.

I must try to create these conditions which contribute to the welfare of humanity. Similarly, I owe a duty to my parents–to be obedient and respectful to them. This duty originates from the sense of responsibility which is directly related with our conscience. So this maxim is concerned with a moral duty which a man should owe without the legal bondage.

Sense of duty is paramount for the proper development of civilization in the 20th century. Hypocrisy and diplomacy are quite reverse to the sense of duty. Hypocrisy involves wickedness duty involves sincerity and faithfulness.

21. ***Rights and duties according to the passage are:***
- **(A)** Co-related
- **(B)** Two sides of the same coin
- **(C)** Neither of the above
- **(D)** Both *(A)* and *(B)*

22. ***According to the author, the moral duty is:***
- **(A)** Enjoined upon animals
- **(B)** Helping the rich
- **(C)** More effective than the legal duty
- **(D)** Secondary to the legal duty

23. ***Where does the duty originate from ?***
- **(A)** From responsibility but not from conscience
- **(B)** From responsibility which is related with conscience
- **(C)** From legal bondage
- **(D)** From hypocrisy and diplomacy

24. ***Point out the incorrect statement.***
- **(A)** Hypocrisy and diplomacy do not support the sense of duty
- **(B)** Hypocrisy involves wickedness
- **(C)** Duty involves sincerity
- **(D)** Sense of duty is not important for the development of civilization

25. ***The author:***
- **(A)** Has sense of responsibility
- **(B)** Doesn't have sense of duty
- **(C)** Both *(A)* and *(B)*
- **(D)** Neither *(A)* nor *(B)*

ANSWERS

1.	(D)	2.	(A)	3.	(A)	4.	(C)	5.	(C)
6.	(C)	7.	(A)	8.	(A)	9.	(B)	10.	(A)
11.	(B)	12.	(A)	13.	(C)	14.	(D)	15.	(A)
16.	(B)	17.	(B)	18.	(D)	19.	(D)	20.	(B)
21.	(D)	22.	(C)	23.	(B)	24.	(D)	25.	(A)

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