NPAT Mock Paper: Answers and Solutions

1. Solution:

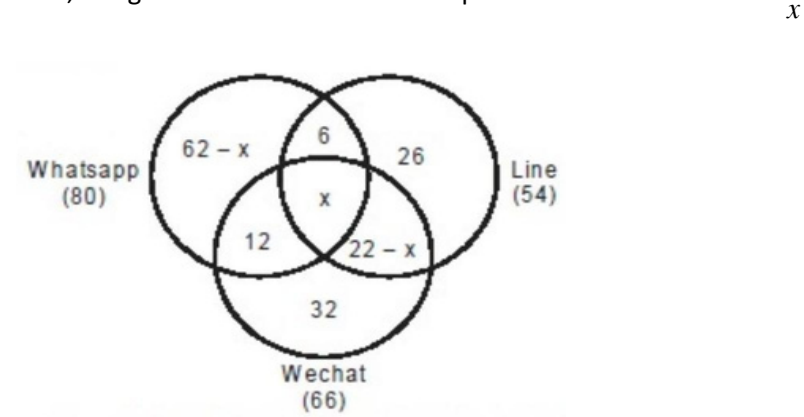Correct Answer: b

P = {2,5,7,8}, Q = {5,6,9,10},R={1,4,9,11} and S = {2,6,10,11},
To find $((P-Q) \cup (R - S)) \cap ((P \cap S) - (Q \cap R))$, P-Q =
{2,7,8} R-S = {1,4,9} $P \cap S$ = {2} $Q \cap R$={9 So, ((P
- Q) $\cup$ (R - S)) = {1, 2, 4, 7, 8,9} and $((P \cap S)-(Q \cap R))$ =
{2} Hence, $((P-Q) \cup (R - S)) \cap ((P \cap S) - (Q \cap R))$ = {2}

2. Solution:

Correct Answer: d

Let the number of students who use all the three applications be .

Now, the given information can be depicted as shown below.

x

Whatsapp (80), Line (54), Wechat (66)

Hence, the number of students in the class $=10 \times 16=160$.
$\therefore 62-x+26+32+12+6+22-x+x+16=10x \Rightarrow x=16$

3. Solution:

Correct Answer: d

4. Solution:
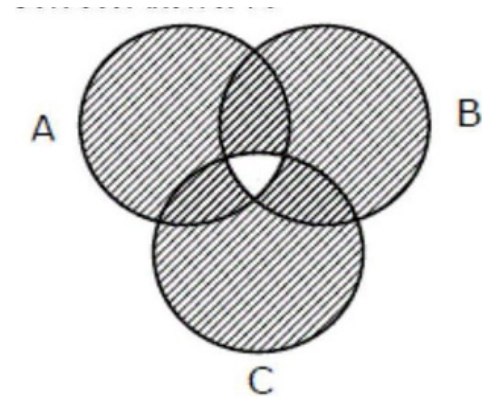
Correct Answer: c

Shaded region represents

So, $\{A-B\cup(B-C)\cup(C-$ {A}'−represents $)\cup(C-A)\}$

$A \cap B \cap C$

5. Solution:

Correct Answer: c

$$\frac{((72\div4)\div9)\times6+34-17}{78\div39+(96\div16)\times19} = \frac{(18\div9)\times6+34-17}{2+114} = \frac{29}{116} = \frac{1}{4}$$

6. Solution:

Correct Answer: d

$$\frac{\frac{28}{3}\times\frac{60}{7}+\frac{77}{8}\times\frac{136}{11}}{\frac{144}{11}\times\frac{22}{3}+\frac{136}{11}\times\frac{99}{8}} = \frac{\frac{80+11}{9}}{\frac{96+15}{3}} = \frac{\frac{19}{9}}{\frac{24}{9}}.$$

7. Solution:

Correct Answer: c

$$\frac{0.3978 \times 0.00385 \times 2.4 \times 0.051}{1.22 \times 0.005460 \times 0.0018} = \frac{3978 \times 385 \times 24 \times 5}{1122 \times 5460 \times 18} = \frac{3978 \times 385}{1122 \times 273 \times 3} = \frac{3978 \times 35}{102 \times 273 \times 3} = \frac{13 \times 35}{273} = \frac{35}{21}$$

$$\therefore 3^5 - 3^2 = 3^3 = 1$$

8. Solution:

Correct Answer: b

$$\sqrt{\frac{0.289 \times 0.064 \times 2.116 \times 1.7424}{0.0256 \times 0.0529 \times 0.036}} \quad 0.0256 \times 0.0529 \times 0.036$$

$$= \frac{17 \times 8 \times 46 \times 132}{16 \times 23 \times 6 \times 10} = 37.4$$

9. Solution:

Correct Answer: c

This is the form of

$$\{(1 - \frac{8}{13})(1 - \frac{8}{13}) - (1 + \frac{8}{13})(1 + \frac{8}{13})\}\{(1 + \frac{8}{13})(1 - \frac{8}{13})\}$$

$$\frac{(a-b)2 - (a+b)2}{(a+b)(a-b)} = \frac{-4ab}{(a+b)(a-b)}$$

The value becomes

$$\frac{-4 \times \frac{8}{13}}{\frac{5}{13} \times \frac{21}{13}} = -\frac{41}{6}\frac{10}{5}$$

10. Solution:

Correct Answer: c

and

$$x3 + \frac{3}{x} = 4 \quad (a3 + b3 \quad \frac{1}{3} = 4a3 \quad b3$$
$$3x + \frac{1}{x} = 4a3 \quad -$$

$$\Rightarrow x^3 + \frac{3}{x} + \frac{1}{x} + 3x = \quad a \Rightarrow x + \quad \frac{1}{x} \quad (3 = 8a3) \Rightarrow x + \frac{1}{x} = 2a \Rightarrow a = \frac{1}{2}(x + \frac{1}{x}) \quad \therefore x3 + \frac{3}{x} = \frac{1}{2}(x + \frac{1}{x})3 + 4b$$

$$83 \quad ( ) \quad ( ) \quad ( ) \quad ( )$$

$$= \frac{1}{4} \times 4 = 1$$

11. Solution:

Correct Answer: d

$$\frac{(\sqrt{3}-\sqrt{2})}{(2\sqrt{3}-3\sqrt{2})} - \sqrt{3}-1.5 = \frac{(\sqrt{3}-\sqrt{2})\times(2\sqrt{3}+3\sqrt{2})}{(2\sqrt{3}-3\sqrt{2})\times(2\sqrt{3}+3\sqrt{2})} - \sqrt{3}-1.5 = \frac{(6+3\sqrt{6}-2\sqrt{6}-6)}{-6} - \sqrt{3}-1.5 = -\frac{1}{6}\sqrt{6} - \sqrt{3}-1.5 = -3.64$$

Now checking the options we get that options A and C are ruled out because they are positive. Option B is negative but greater than -1 thus it too is ruled out.

Hence, the closest option will be (D) i.e. $-(\sqrt{3}+1)$.

12. Solution:

Correct Answer: c

Number of females in the state

Number of married males in the state $= 2,500,000 - 1,60,000 = 90,000$

$= 1,60,000 \times 0.50$

$= 80000$ Number of married females in the state

∴ Number of unmarried females in the state $= 80,000$

∴

$= 90,000 - 80,000 = 10,000$ Percentage of un-married females in the state

∴

$= \frac{10000}{250000} \times 100 = 4\%$

13. Solution:

Correct Answer: a

Let the C.P. of article A and that of B be 20 x and 25 x respectively. Therefore, the selling price of article A will be $28x$.

∴ Selling price of article $B = \frac{6}{7}\times 28x = 24x$

Hence, the loss percentage on article B

$= \frac{25x-24x}{25x} \times 100 = 4\%$

14. Solution:

Correct Answer: c

Given that the sum of the three numbers in AP is 30 and their product is 910 .

or

$\Rightarrow (x-d)+x+(x+d)=30$ One of the numbers is 10 and thus the other two numbers will be 7 and 13 for the product to be 910 . $x=10$

$\Rightarrow$ Hence, largest of them will be 13.

15. Solution:

Correct Answer: a

As the ratio of sum of   terms of three different AP's is given as   .

i.e, $\dfrac{}{n}$ n $\dfrac{}{}$ $n+1:2n+3:5n+7$

i.e, $\dfrac{\frac{n}{2}[2a+(n-1)d]}{\frac{n}{2}[2a+(n-1)d]} \cdot \dfrac{\frac{n}{2}[2a+(n-1)d]}{\frac{n}{2}[2a+(n-1)d]} : \dfrac{\frac{n}{2}[2a+(n-1)d]}{\frac{n}{2}[2a+(n-1)d]} : 2[2a+(n-1)d] : n+1:2n+3:5n+7$

1   1   2   2   3   3

we get the ratio of 10th term of the three series.

On placing

i.e, $n=19$.

$a+9d:a+9d:a+9d::20:41:102$

16. Solution:

Correct Answer: b

$t=ar^{n-1}$ $ar4 = 8(ar) \Rightarrow r3 = 8 \Rightarrow r = 2$ $a + ar2 + ar5 = 11$ $a(1+r2+r5)=11$

Putting   , we get $=111$

$r = 2$ $) = 192$.

$\therefore t=ar6=326$

7

17. Solution:

Correct Answer: c

The roots of   are   and .

$x^2 +50x+400=0$ and $\alpha\beta=400$ α β

$\therefore \alpha+\beta=-50$

The new equation has roots   and   .

Sum of roots $= 3(\alpha+\beta) = 3 \times (-50) = -150$

Product of roots $= 9\alpha\beta = 9 \times 400 = 3600$

Hence, the new equation is

.

$x^2 + 150x + 3600 = 0$

18. Solution:

Correct Answer: b

The quadratic equation

$f(x) = x^2 - 6ax + 2 - 2a + 9a^2 = 0$

will have real roots if

$D = 36a^2 - 4(2 - 2a + 9a^2)$

$\Rightarrow -8(1-a) \geq 0$ or $a \geq 1$

The roots of (1) will exceed 3 if

$-\dfrac{b}{2a} = \dfrac{-6a}{2} = 3a > 3$

$f(3) = 9 - 18a + 2 - 2a + 9a^2 > 0$

and

$\Rightarrow 9a^2 - 20a + 11 > 0 \Rightarrow (9a - 11)(a - 1) > 0 \Rightarrow \left(a - \dfrac{11}{9}\right)(a-1) > 0$

or $a > \dfrac{11}{9}$

$a > 1$

Thus (b), (c) and (d) will hold simultaneosly if a > 11/9.

19. Solution:

Correct Answer: c

a Answer key/Solution

Let Ram's present age be 6 x years and that of Rakesh be 11x years.

Four years ago,

$$\frac{6x-4}{} = \frac{1}{2} \Rightarrow 12x-8=11x-4 \Rightarrow x=8-4=4$$

Rakesh's age after five years

$$\therefore$$

$$=11x+5 \qquad \text{years.}$$

$$=11\times4+5=49$$

20. Solution:

Correct Answer: a

Q. Answer key/Solution

Let the radius of the cone and cylinder be x cm and y cm respectively. Then, height of the cone and cylinder will be y cm and x cm respectively.

Curved surface area of a cone : Curved surface area of a cylinder

$$= \pi x \times \sqrt{x^2 + y^2} : 2\pi y x$$

$$\Rightarrow \sqrt{x^2+y^2} : 2y = 5:6 \Rightarrow (x^2+y^2):y^2 = 25:9 \Rightarrow x:y = 4:3$$

Hence, required ratio $= 2x:(y+8.6=4:3)$

21. Solution:

Correct Answer: d

We know that if each of given data is multiplied by any number k then variance of new data will be k2 times of variance of original data. Therefore,

New variance

$$= 2^2 \times v = 4v$$

22. Solution:

Correct Answer: a

Variance

$$= \frac{1}{20}\sum_{r=1}^{20} r^2 - \left(\frac{1}{20}\sum_{r=1}^{20} r\right)^2$$

$$= \frac{1}{20} \times \frac{20\times21\times41}{6} - \frac{1}{20}\left(\times\frac{20\times21}{2}\right)^2 = \frac{287}{2} - \frac{441}{4} = \frac{133}{4}$$

Standard deviation

$$= \sqrt{\frac{133}{2}}$$

23. Solution:

Correct Answer: c

Since, $\bar{A}$ and A are mutually exclusive events such that

$$\bar{A} \cap B$$

$$A \cup B = (\bar{A} \cap B) \cup A$$

$\Rightarrow P(A \cup B) = P(\bar{A} \cap B) + P(A) \{ \text{Since, } P(A) = 1 - P(\bar{A}) = 1 - 1/3 = 2/3 \}$

$\Rightarrow 5/7 = P(\bar{A} \cap B) + 2/3 \Rightarrow P(\bar{A} \cap B) = 5/7 - 2/3 = 1/21$

Hence, $P(\bar{A} \cap B) = 1/21$.

24. Solution:

Correct Answer: a

On arranging in ascending order, we get

54, 59, 64, 67, 70, 72, 73, 78, 83, 90

n=10 (even number)

. Median $= \frac{\text{Value of } \frac{10}{2}\text{th term} + \text{Value of } \left(\frac{10}{2}+1\right)\text{th term}}{2}$

$= \frac{\text{Value of } 5th \text{ term} + \text{Value of } 6 \text{ th term}}{2} = \frac{70+72}{2} = 71$

25. Solution:

Correct Answer: b

x_i	f_i	$x_i f_i$
19	8	152

25	10	250
31	13	403
37	7	259
43	6	258
49	5	245
	$\sum f = 49$	$\sum xf = 1567$

Mean

$$\therefore \quad = \frac{\sum x f_i i}{\sum f_i} = \frac{1567}{49} = 32$$

26. Solution:

Correct Answer:a

By arranging the given observation is ascending order.

18, 41, 49, 57, 64, 72, 87, 89, 92
(odd)

$\therefore$ Median $= 9$ term $\quad$ term

$\therefore$ Median $= \frac{(n+1)th}{2} = \frac{10}{2} = 5$ th

By substituting given values and the arranging it in ascending order.

$\therefore$ $= 64$

81, 41, 57, 64, 72, 87, 89, 92, 94 $\Rightarrow$ 41, 57, 64, 72, 81, 87, 89, 92, 94

Median   term

$\therefore$ Change in Median $= 81 - 64 = 17$

$\therefore$ ≡ 5   ≡81

27. Solution:

Correct Answer: a

Q. Answer key/Solution

Mode   Median -2 Mean

= 3 Median   Median -8

$\Rightarrow 28 = 3$ Median – Median $\Rightarrow 28 = 3$

= 363 = 12

$\Rightarrow 36 = 3$ $\Rightarrow$

28. Solution:

Correct Answer: a

Let the amount kept at interest be Rs. P. Then,

$$SI = \frac{P \times 8 \times 3}{100} = \frac{24}{10} P \quad \#(i)$$

(ii)

Now, subtracting (i) with (ii), we get $P\{1.259712 - 1\} = 0.259712P...$

$$\left[\left(1 + \frac{8}{100}\right)^3\right]$$

$0.259712P - \frac{24}{100}P = 177.408 \Rightarrow 25.9712P - 24P = 100 \times 177.408 \Rightarrow 1.9712P = 100 \times 177.408$

Rs. 9,000

$\Rightarrow P = 90 \times 100 =$

29. Solution:

Correct Answer: b

Let the marked price of the watch be   .

Cost price for the retailer

x

Selling price of the retailer $= x \times 0.8 \times 0.8 = 0.64x$

Hence, required percentage $= 0.64x \times 1.5 = 0.96x$

less.

$= \frac{x - 0.96x}{x} \times 100 = 4\%$

30. Solution:

Correct Answer: a

Q. Answer key/Solution

A does the work in $\dfrac{63}{3.5}$ =18 days and B does the same work in $\dfrac{75}{2.5}$ =30 days.

Thus, we can assume the total work to be 90 units such that work done by A and B alone in 1 day is 5 units and 3 units respectively.

Hence, required time $\dfrac{90}{5+3}$ and required amount

$$= \dfrac{90}{(5+3)} \times (3.5 + 2.5) = \text{Rs. } 67.5 .$$

31. Solution:

Correct Answer: d

The given series increases as

$$+12+14+16+18+20+22; +2,+4,+6,+8+10$$

12th term of the series $=1+(+2,+4,+6,+8+10+12+14+16+18+20+22)=133$.

32. Solution:

Correct Answer: a

$$g(x) = 3\sqrt{(8x4)^{\frac{1}{3}}} \quad \circ$$

Hence, $f(x) = (8x4)^{\frac{1}{3}}$ $f \circ g(x) = f(g(x)) = 8(8x4)^{\frac{1}{3}} = 8 \times 2x \therefore fog(64) = 8 \times 2(64)^{\frac{4}{3}} = 8 \times 2 \times 44 = 2^9$

$$\log_2(fog(x)) = \log 2^{39} = 39$$

33. Solution:

Correct Answer: b

First find the composition function f og

$(f \circ g)(x) = f(2\sqrt{3x-5}+7)$

$= \dfrac{(2\sqrt{3x-5}+7-7)^3}{2} + 5 = \dfrac{(2\sqrt{3x-5})^3}{2} + 5 = \dfrac{8(x-5)}{2} + 5 = 4x - 15$

The inverse of $\quad$ is given by; $\quad$.

Therefore, $\quad f \circ g \qquad (f \circ g)^{-1}(x) = \dfrac{x+15}{4}$

$(f \circ g)^{-1}(5) = \dfrac{5+15}{4}$

34. Solution:

Correct Answer: b

Q. Answer key/Solution

$\dfrac{y}{1} = \dfrac{1-x}{1+x} \implies \dfrac{1-y}{1+y} = \dfrac{1+x-(1-x)}{1+x+(1-x)} = \dfrac{2x}{2} = x$

35. Solution:

Correct Answer:b

Q. Answer key/Solution

Let the cost of an apple, a banana and a guava be ₹a, ₹b and ₹g respectively.

According to given question,

$3a+4b+7g=86 \qquad 6a+7b+13g=164$

Subtracting (ii) from (i), we get

$3a+3b+6g=78$

or $a+b+2g=26$

Adding (i) and (iii), we get

$4a+5b+9g=112$

Therefore, cost of 5 bananas, 4 apples and 9 guavas is ₹112.

36. Solution:

Correct Answer: a
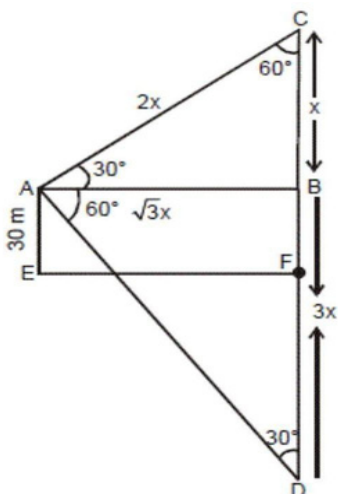
In the figure given above EF is the water level.

Now, if in right triangle ABC , angle $\quad$ °, angle $\quad$ °and angle $\quad$ °then ratio of the sides

$$A=30 \qquad B=90 \qquad C=60$$

$AB: BC: CA=$ Simlarly, it will be applied in $\quad$.

$3:1:2$ $GF=FD$
Since; $\qquad\qquad\qquad \triangle ABD$

and thus the required height $\qquad\qquad$.

$$\Rightarrow BF=x=30 \; m \qquad\qquad =2x=60 \; m$$

37. Solution:

Correct Answer: d

$sin 2\theta+cos 2\theta+sin 2\theta=3 sin\theta cos\theta \Rightarrow sin 2\theta+cos 2\theta-2 sin\theta cos\theta=sin\theta cos\theta-sin 2\theta \Rightarrow (cos\theta-sin\theta)2-sin$
Thus, either $cos\theta-sin\theta=0$ or $cos\theta-$

$2 sin\theta=0$

Hence, $tan\theta=1$ or 2 .

But, $tan\theta$ cannot be 2 in the given range.

Hence, $\qquad\qquad \sqrt{2}$ and the required value will be 2 .

38. Solution:
$sin\theta+cos\theta=$

Correct Answer: d

Given that: $\quad$ ° $\quad$ ° $\quad$ ° $\quad$ °

$$\left(1 + sec 22 + cot 68 \right)\left(1-cos 22 + tan 68 \right)$$

$\Rightarrow (1 + cosec\ 68° + cot\ 68° \frac{1}{sec\ 68°} + tan\ 68°)$

$\Rightarrow (1 + sin\ 68° + cos\ 68°)(sin\ 68° + cos\ 68° - 1) \times \frac{1}{cos\ 68°}$

$\Rightarrow \frac{[(sin\ 68° + cos\ 68°)^2 - 1]}{sin\ 68° cos\ 68°} = 2$

39. Solution:

Correct Answer: a

$xsin\theta - ycos\theta = \sqrt{x^2+y^2} \Rightarrow \sqrt{\frac{x}{x^2+y^2}} sin\theta - \sqrt{\frac{y}{x^2+y^2}} cos\theta = 1$

and

$\Rightarrow sin\theta = \sqrt{\frac{x}{x^2+y^2}} \quad cos\theta = -\sqrt{\frac{y}{x^2+y^2}}$

Now,

$\frac{sin^2\theta}{a^2} + \frac{cos^2\theta}{b^2} = 1$

$\Rightarrow \frac{\frac{x^2}{x^2+y^2}}{a^2} + \frac{\frac{y^2}{x^2+y^2}}{b^2} = 1$

$\Rightarrow \frac{x^2}{a^2} + \frac{y^2}{b^2} = x^2+y^2.$

40. Solution:

Correct Answer: d

$cosec\ 2\theta = \frac{8xy}{(2x+y)^2} \geq 1 \Rightarrow 8xy \geq (2x+y)^2 \Rightarrow 4x^2+y^2+4xy-8xy \leq 0 \Rightarrow 4x^2+y^2-4xy \leq 0 \Rightarrow (2x-y)^2 \leq 0\ Bu$

41. Solution:

Correct Answer: d

No details about her birth certificate is given.

42. Solution:

Correct Answer: a

All necessary conditions fulfilled.

43. Solution:

Correct Answer: a

All necessary conditions fulfilled.

44. Solution:

Correct Answer: c

Her case would be referred to school principal as she fulfills condition (f).

45. Solution:

Correct Answer: d

46. Solution:

Correct Answer: d

The given information can be shown as:

Person from left	B	F/G	D	E	G/F	C	A	T North
Subject	Commerce	Chemistry	Maths	Physics	Medicine	History	Arts	

Month of birth	March/May	April	May/March	July	June	February	January	

47. Solution:

Correct Answer: a

Aryan's sister's father's father is his/her grandfather and his/her grandfather's only son is his/her father.

Aryan's father's wife is his/her mother. Hence, the lady is the mother of Aryan.

48. Solution:

Correct Answer: d

Both the given conclusions are superfluous.

49. Solution:

Correct Answer: d

Both the conclusions are invalid.

50. Solution:

Correct Answer: a

Q. Answer key/Solution

Only the first conclusion is valid.

51. Solution:

Correct Answer: d

Both the assumptions are valid in the light of the given statement.

52. Solution:

Correct Answer: a

Q. Answer key/Solution

From statement I: No information is given about a. Hence, statement (I) alone is not sufficient.

From statement II: Let the values of and   be   and   respectively.

The percentage $\dfrac{(5x-3x)}{3x} \times 100 = 66.66\%$ $5x$ $3x$

Hence, statement II alone is sufficient.

Hence, statement II alone is sufficient.

53. Solution:

Correct Answer: c Information given in either of the statements is alone not sufficient. From statements I and II: On combining the information given in the two statements, it can be concluded that R is standing at extreme left position. Hence, both the statements together are sufficient.

54. Solution:

Correct Answer: d
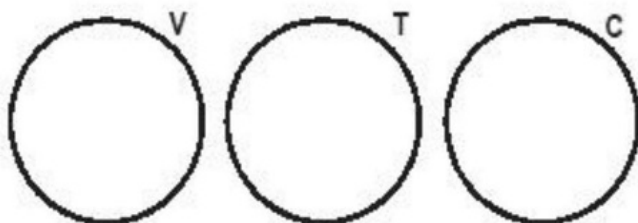
Fig (a)
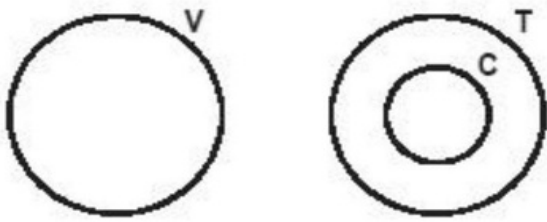
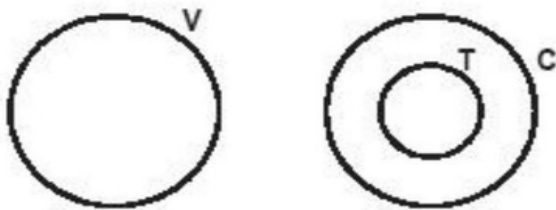Fig (b)

Fig (c)

55. Solution:

Correct Answer: C

is sister of , who is brother of .

$P \times Q + R \rightarrow P$. Q R

So, P.

Directions (Q. 55 and 56): Read the following information carefully and answer the questions given below.

means   is the son of is

$P \div$ means P the sister of

Q means P the brother of Q

$P \times$ means P is the mother of Q

Q P Q

56. Solution:

$P +$

Q

Correct Answer: c

$P -$

Q

is sister of R, who is mother of V, who is brother of S

$T \times R - V + S \Rightarrow T$ is mother of R , who is son of V , who is sister of S

$T - R \div V \times S \Rightarrow T$ is mother of R, who is brother of V, who is son of

$T - R + V \div S \Rightarrow T$ is son of R, who is mother of V, who is brother of S

Option (3) states that is husband of .

S

$T \div R \times V + S \Rightarrow T_S$

57. Solution:

Correct Answer: c

can be rewritten as:

$6 \div 4 + 3 \times 8 - 2$

$= 6 \times 4 \div 3 - 8 + 2 = 6 \times \dfrac{4}{3} - 8 + 2 = 8 - 8 + 2 = 2$

58. Solution:

Correct Answer: c

59. Solution:

Correct Answer:d

The shaded region moves clockwise inside the fixed triangle on upper left corner. The other triangle moves by $90°$ clockwise and number of lines inside increase by one in each step.

60. Solution:

Correct Answer: d

Each side in bended inwards in anticlockwise manner one by one. The circular dot appear on the sides one after another in anticlockwise manner.

61. Solution:

Correct Answer: b

Q. Answer key/Solution

The elements of figure (A) move in a specific pattern to figure (B). The only figure satisfying the given condition is option (b).

62. Solution:

Correct Answer: a

Q. Answer key/Solution

Using the information given in the question, we can calculate the number of participants fullifing a particular attribute

SMARTNESS - b, d, e, f, g, h, i, l, n, o, x, q, t, w, y, p, z

EDUCATION - j, i, f, h, g, t, n, o, p, z, y, q, s

PRESENTATION - t, g, l, m, u, v, s, r, n, o, p, z

APPEARENCE - j, i, k, w, h, f, g, n, o, l, m, e

QUICK-WITTED - a, c, b, d, e, f, h, g, t, y

63. Solution:

Correct Answer: c

Using the information given in the question, we can calculate

the number of participants fullfiling a particular attribute

SMARTNESS - b, d, e, f, g, h, i, l, n, o, x, q, t, w, y, p, z

EDUCATION - j, i, f, h, g, t, n, o, p, z, y, q, s

PRESENTATION - t, g, l, m, u, v, s, r, n, o, p, z

APPEARENCE - j, i, k, w, h, f, g, n, o, l, m, e

QUICK-WITTED - a, c, b, d, e, f, h, g, t, y

64. Solution:

Correct Answer: c

The given information can be shown as:

Person from left	B	F/G	D	E	G/F	C	A	T North
Subject	Commerce	Chemistry	Maths	Physics	Medicine	History	Arts	
Month of birth	March/May	April	May/March	July	June	February	January	

65. Solution:

Correct Answer: c

The two possible cases are:

Day	Monday	Tuesday	Wednesday	Thursday
Case I	Hockey	Ludo	Cricket	Chess
Case II	Hockey	Ludo	Chess	Cricket

Hence, Ludo was played on Tuesday.

66. Solution:

Correct Answer: b

From left, D will be at the 4 th position and E will be at the 2 nd position. Now, A is not at any of the extreme ends, therefore, he has to be at the 3rd position from left. Also, C is at the extreme right end. So, the correct order is BEADC.

67. Solution:

Correct Answer:b

The question statement is whether braindrain is better than brain in the drain. Brain in the drain implies that if one stays here in India, he/she will be rendered useless. The 'Yes' argument is weak because according to this, talent and hard work is not recognised in India which is not true. It is a well-known fact that, where there is a will, there is a way. So, a person who has will, initiative or drive can make it big anywhere in the world, is true. Therefore, the 'No' argument is strong.
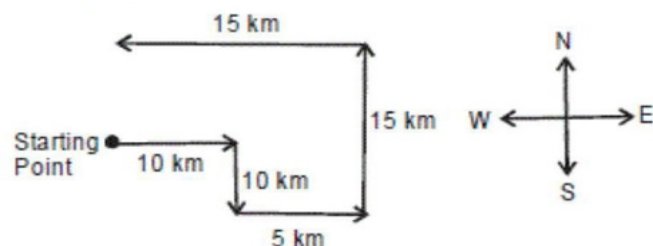
68. Solution:

Correct Answer: a

From statement II, we conclude that rank of Sonal is 6.
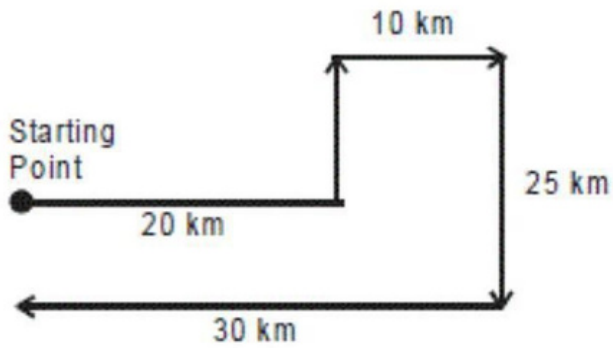
69. Solution:

Correct Answer:b

From Statement I:

Required distance   From Statement II:

$\therefore$ $= 5\ km$

∴ Required distance

Hence, both the statements alone are sufficient to answer the question. =5 *km*

70. Solution:

Correct Answer: b

From statement I:

目　　回

753
53 9 B #　　★

∴ The code for ' 7 ' is *.

J

4 2 7 *A* ★

2 1 4 ⟶ J @ A

∴ The code for ' 7 ' is *.

71. Solution:

Correct Answer: b

Units sold by P in country

$$\frac{\text{Units sold by P in country A}}{\text{Units sold by R in country C}} = \frac{20}{100} \times 50000 = 10000$$

$$= \frac{40}{100} \times 80000 = 32000$$

Hence, required sum = 32000 + 10000 = 42000 units.

72. Solution:

Correct Answer: a

Required ratio

$$= \frac{\text{Sales of P in country A}}{\text{Sales of P in country B}}$$

$$= \frac{\frac{20}{100} \times 5000}{\frac{25}{100} \times 0} = \frac{20 \times 5}{25 \times 7} = \frac{4}{7}.$$

73. Solution:

Correct Answer: b

Increased sales of P in country A

$$= 121 \frac{20}{100} \times 50000 \times 100 = 12100 \text{ units}$$

Increased sales of Q in country A

$$= 117 \frac{25}{100} \times 50000 \times 100 = 14625 \text{ units}$$

Difference between the sales

$$= 2525$$

74. Solution:

Correct Answer: a

P's sales in country units.

S's sales in country $B = \frac{25}{100} \times 70000 = 17500$ units.

T's sales in country $C = \frac{15}{100} \times 80000 = 12000$ units.

R's sales in country $A = \frac{20}{100} \times 50000 = 10000$ units.

$$B = \frac{30}{100} \times 70000 = 21000$$

When arranged in descending order, the sales which comes at the second number is P's sales in country B.

75. Solution:

Correct Answer: a

Average product in Gujarat

$$= \frac{1130+967+890+1025+1141}{5} = \frac{5153}{5} = 1030.6$$

76. Solution:

Correct Answer: c

Q. Answer key/Solution

It was maximum in 1998-99 and that was

$$\frac{1113}{15539} \times 100 = 7.16\%$$

77. Solution:

Correct Answer: b

Simple annual growth rate

$$= \frac{(18200-16451)}{16451 \times 4} \times 100 = \frac{1749 \times 100}{16451 \times 4} = 2.65\%$$

78. Solution:

Correct Answer: a

The total value of sales   crores.

$$= 30,00,000 \times 1875 = 562.5$$

79. Solution:

Correct Answer: c

The required percentage   .

$$= \frac{25-10}{10} \times 100 = 150$$

80. Solution:

Correct Answer: b

Q. Answer key/Solution

The required percentage   .

$$= \frac{45-35}{45} \times 100 \approx 22$$

81. Solution:

Correct Answer: a

Q. Answer key/Solution

Light cannot pass through an opaque substance.Similarly, air cannot pass
through a hermetic object.

82. Solution:

Correct Answer: a

Beat around the bush means to discuss a matter without coming to the point.

83. Solution:

Correct Answer:b

The correct phrase is 'people heard a strange noise'.

84. Solution:

Correct Answer: b

Bag and baggage means with all one's belongings.

85. Solution:

Correct Answer: b

The correct spelling of the word is 'plague'.

87. Solution:

Correct Answer: d

The correct spelling of the word is 'insidious'. Therefore, option (d) is correct.

88. Solution:

Correct Answer: a

Q. Answer key/Solution

Absurd means wildly unreasonable, illogical, or inappropriate.

89. Solution:

Correct Answer: b

Q. Answer key/Solution

Only 'imminent' is the appropriate answer.

90. Solution:

Correct Answer: a

1QS is a mandatory sequence.

91. Solution:

Correct Answer: d

SP is a mandatory pair.

92. Solution:

Correct Answer: c

'Prettiest' denotes the superlative degree of adjective, which is used when more than two things are compared.

93. Solution:

Correct Answer: d

The sentence is correct in its given form.

94. Solution:

Correct Answer: c

Inside, which means an inner part of something, is the most appropriate answer since the passage suggests that all the four people are sitting in the van.

95. Solution:

Correct Answer:b

Since the prisoners adhered to her, they stood up obediently or submissively.
'Submediant' is the sixth tone of a major or minor scale.

96. Solution:

Correct Answer: a

Q. Answer key/Solution

Options (c) and (d) are logically incorrect as Priya and Saini are prisoners and it would be illogical to check one of them and not check the other. Exact is grammatically incorrect as the correct phrase should have been 'done exactly the same.... The correct word is 'same.

97. Solution:

Correct Answer: c

Since the extract is in past tense, 'had' is the answer.

98. Solution:

Correct Answer: d 'Surreptitiously' is the correct answer. It means done, made or acquired by stealth. It is clear from the passage that Radhika didn't want to take any chances with the prisoners and hence, it can be inferred that Radhika didn't want Priya to know about the tracing microchip.

99. Solution:

Correct Answer: d

Since Henry repaired clocks and watches of his friends and neighbours, this remark must have been made to show that even the clocks were aware of the magic in his hands and shuddered at the prospect of being taken apart and mended by Henry.

100. Solution:

Correct Answer: a

Since after meeting the driver, Henry wondered about how he would produce such a machine and so, his attitude can be called inquisitive.

101. Solution:

Correct Answer: b

In the passage, it has been clearly mentioned that Clara decided to be with Henry even when she knew that Henry's first love would be engines and she would have to support him in sharing his vision.

102. Solution:

Correct Answer: c

It was the confidence that Henry got after reading about Dr. Otto and how he had designed a gasoline engine and realized that even he could design something like that.

103. Solution:

Correct Answer: b

Q. Answer key/Solution

Refer to these lines from the passage - "Parental expectations have a distinct slant. Rarely ever do they provide for the natural proclivities of the progeny." Hence, option (b) is the correct answer.

104. Solution:

Correct Answer: c

The fact that everyone is attacking the panel at the same time indicates that it is a determined and combined effort. 'Concerted' aptly fits in the first blank.
'Discredit' means to damage the reputation. So, it suitably fits in the second blank. This makes option (c) correct. 'Contrive' means to plan with cleverness or ingenuity. Option (b) is negated as 'commend' is inappropriate in the second blank. People will not attack the panel to praise the panel. Option (d) is incorrect as a campaign cannot be 'fortuitous'. 'Fortuitous' means fortunate.

105. Solution:

Correct Answer: c

'Postulate' means to demand or claim, even to assert. 'Gamble' on is to take a risk. 'Conduits' are pipes or tubes for conveying water or other fluid.
'Avenues' are a means of access or attainment and this fits the second blank best. The answer is (c).

106. Solution:

Correct Answer: a
'Condone' means to overlook, forgive, or disregard (an offense) without protest or censure and 'condemn' means to express strong disapproval of. So, option (a) is correct.

107. Solution:

Correct Answer: a

'Delirious' means to be in an excited state. Therefore, its correct antonym is option (a) - 'Composed'.

108. Solution:

Correct Answer: c

Q. Answer key/Solution

In sentence A, article 'the' before 'rightfully' is not required. In sentence B, 'utterances' is plural, so a plural verb should be used. In sentence C, 'retained' should be replaced with 'retain'. In sentence D, 'partial' is not the correct word to be used.

109. Solution:

Correct Answer: a
Q. Answer key/Solution

Sentence   is incorrect. Use of 'any other people' is incorrect in the given context.

110. SoBution:

Correct Answer:b

Q. Answer key/Solution

Sentence B is incorrect as 'needs to doing' is a grammatically incorrect usage.
Correct usage should be 'needs to be'.

111. Solution:

Correct Answer:b

'Headway' means 'progress', 'breakthrough' or 'advance'. So, the inappropriate word here is 'mistake' which is not connected to these four words.

112. Solution:

Correct Answer: d

a Answer key/Solution

'Obsequious' means who listens to others and follows others. 'Servile', 'sycophant' and 'observant' also mean the same. So, most inappropriate word is 'stubborn' which is the opposite of 'obsequious'.

113. Solution:

Correct Answer: c

'Percolate' means to reach the lower levels slowly and steadily so it is synonymous with 'filter,' 'permeate' and 'trickle'. Hence, an inappropriate replacement of the word would be 'egress' which means to exit.

114. Solution:

Correct Answer: b

The answer is clearly mentioned in the second paragraph where the author says - "Unprepossessing, ugly, vain, flippant, obscene...even dishonest at times, Voltaire was a man with faults of his time..." Hence, option (b) is the correct answer.

115. Solution:

Correct Answer: d

Q. Answer key/Solution

Option (d) has been mentioned in the fifth paragraph of the passage - "He helped to make the powder with which Mirabeau...the Old Regime."

116. Solution:

Correct Answer: c

Q. Answer key/Solution

The answer is given clearly in the fifth paragraph. Refer to the third sentence of that paragraph - "To name Voltaire...is to characterize the entire eighteenth century." Hence, the correct answer is option (c).

117. Solution:

Correct Answer:b

Since the author has not given his personal opinion about Voltaire, the tone is not critical. He has not praised Voltaire and so, option (c) is also ruled out. At the same time, he does not show arrogance or dislike about Voltaire and so, option (d) is also wrong. He analysed Voltaire, his works and his qualities and thus, the correct answer is option (b).

118. Solution:

Correct Answer: a

'at first' is the correct expression. 'The Greek poetry of Homer was' is the correct expression according to the subject verb agreement rule. 'which' is correct in this case. Hence, option (a) is the correct sentence.

119. Solution:

Correct Answer: b

There must be a definite article 'the' before 'number'. 'it's' is a contraction of it is. 'its' is correct in this case. 'literally countless' is the correct phrase to be used. Hence, option (b) is the correct sentence.

120. Solution:

Correct Answer: c

'were elected each year' is the correct phrase according to the subject verb agreement rule. Also, the definite article 'the' is necessary before 'most powerful officials'. Therefore, option (c) is the correct answer.