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## EPFO SSA Prelims Maha Mock Practice Set (Solutions)

## S1. Ans.(c)

Sol. Refer the last sentence of the second paragraph, "China and India are Israel's biggest defence customers." Also, it is to be noted that the first two statements do not signify any relevance of building international relationship while statement (III) provides the reason.

## S2. Ans.(a)

Sol. Refer the third paragraph of the passage, "During Modi's visit, Netanyahu described the bilateral relations between the two countries as a "marriage made in heaven"." According to the passage, it can be inferred that the statement implies the constructive relationship between the two countries. Hence only statement (I) is correct in context of the passage.

## S3. Ans.(d)

Sol. Refer the last sentence of the third paragraph, "Israel's relationship with both India and China is purely transactional despite the Bharatiya Janata Party's (BJP) claim of ideological affinity with the ruling rightwing Likud Party led by Netanyahu." Hence sentence (d) is not true in context of the passage.

## S4. Ans.(e)

Sol. Read the last paragraph of the passage carefully, all three statements are clearly indicated there to explain why Palestine is getting isolated from all the corners including their own people of the country. Hence (e) is the correct option.

## S5. Ans.(e)

Sol. None of the given statements is mentioned in the passage. All statements though belong to the same topic have not found any explanation in the given passage. Hence none of them forms the part of the passage. Option (e) is the correct choice.

## S6. Ans.(a)

Sol. Fervent means having or displaying a passionate intensity. Zealous means having or showing zeal. Hence both are similar in meanings.
Feeble means lacking strength of character.
Apathetic means showing or feeling no interest, enthusiasm, or concern.

## S7. Ans.(d)

Sol. Patron means a person who gives financial or other support to a person, organization, or cause. Philanthropist means a person who seeks to promote the welfare of others, especially by the generous donation of money to good causes. Hence both are similar in meanings. Primacy means the fact of being pre-eminent or most important.
Exemplar means a person or thing serving as a typical example or appropriate model.

## S8. Ans. (b)

Sol. Whim means a sudden desire or change of mind, especially one that is unusual or unexplained. Crotchet means a perverse or unfounded belief or notion. Hence both are almost similar in meanings.
Sovereign means possessing supreme or ultimate power.
Despotic means of or typical of a despot; tyrannical.
Imperious means arrogant and domineering.

## S9. Ans. (e)

Sol. Opprobrium means harsh criticism or censure. Eulogize means praise highly in speech or writing. Hence both are opposite in meanings.
Ignominy means public shame or disgrace.
Tarnish means make or become less valuable or respected.
Quibble means argue or raise objections about a trivial matter.

## S10. Ans.(c)

Sol. Affinity means a similarity of characteristics suggesting a relationship, especially a resemblance in structure between animals, plants, or languages. Dissimilitude means dissimilarity or diversity. Hence both are opposite in meanings.
Restraint means a measure or condition that keeps someone or something under control.
Kinship means a sharing of characteristics or origins.
Tenderness means gentleness and kindness; kindliness.

## S11. Ans.(b)

Sol. "for the ongoing" is the correct phrase to make the sentence grammatically correct. Read the first part of the sentence carefully, it clearly indicates that simulation exercise is conducted "for" and not "of" the ongoing military drills. Similarly the use of preposition "in", "at" or "to" is inappropriate in this case. Hence (b) is the correct choice.

## S12. Ans.(c)

Sol. "aimed at defusing the standoff around" is the correct phrase to make the sentence grammatically correct. It is to be noted that the sentence is in Past Tense. Hence only option (c) is in correct grammar structure to replace the bold part of the sentence.

## S13. Ans.(a)

Sol. "on account of improved economic ties" is the correct phrase to make the sentence grammatically correct as the phrase "on account of" is the correct usage which means because of. Read the sentence carefully, the reason behind this growth in trade between two countries is because of improved economic ties and strong business opportunities. Hence only option (a) is in correct grammar structure to ally the sentence.

## S14. Ans.(e)

Sol. The sentence is grammatically correct. It is to be noted that the later part of the sentence talks about the removal of measures that were taken in the past. Hence the use of phrase "it had undertaken to protect" is appropriate in context of the correct grammar syntax. Hence the sentence doesn't require any correction.

## S15. Ans.(b)

Sol. "would also be empowered to issue" is the correct phrase to make the sentence grammatically correct. The use of "will" is avoided as there is lack of certainty in the given clause. Other options are not in accordance with the correct grammar structure. Hence (b) is the correct option.

## S16. Ans.(b)

Sol. "for all judges following a shooting incident" is the correct phrase to make the sentence grammatically correct. "tighter security for all judges" makes the correct syntax. Moreover the use of 'after' and 'following' together is superfluous. Hence only option (b) is correct among the given options.

## S17. Ans.(d)

Sol. "stimulates the secretion" is the correct phrase to make the sentence grammatically correct. It is to be noted that the sentence is in Simple Present Tense. Hence the use of "stimulates" is appropriate in context of the correct grammar structure for the given sentence. Hence (d) is the correct option.

## S18. Ans.(e)

Sol. The given sentence is grammatically correct.

## S19. Ans.(c)

Sol. "are to be paid" is the correct phrase to make the sentence grammatically correct. It is to be noted that the sentence is in Passive form. Hence (c) is the correct option.

## S20. Ans.(a)

Sol. "has been rising steadily" is the correct phrase to make the sentence grammatically correct. It is to be noted that the sentence is in Present Perfect Continuous Tense. So "has been rising" is the correct usage. Hence only option (a) is correct in context of the structure of the sentence.

## S21. Ans.(b)

Sol. "confrontation" is the correct word replacement as it means a hostile or argumentative situation or meeting between opposing parties.

## S22. Ans.(a)

Sol. "barely" is the correct word replacement as it means only just; almost not.

## S23. Ans.(d)

Sol. "back off" is the correct word replacement as it means draw back from action or confrontation.

## S24. Ans.(e)

Sol. "encampments" is the correct word in context of its usage in the sentence. Hence it doesn't require any correction.

## S25. Ans.(c)

Sol. "tempted" is the correct word replacement as it means have an urge or inclination to do something.

## S26. Ans.(d)

Sol. "punitive" is the correct word replacement as it means inflicting or intended as punishment.

## S27. Ans.(b)

Sol. "bitter" is the correct word replacement as it means feeling or showing anger, hurt, or resentment because of bad experiences or a sense of unjust treatment.

## S28. Ans.(a)

Sol. "brewing" is the correct word replacement as it meAns.(of an unwelcome event or situation) begin to develop.

## S29. Ans.(c)

Sol. "humiliating" is the correct word replacement as it means make (someone) feel ashamed and foolish by injuring their dignity and pride.

## S30. Ans.(e)

Sol. "bellicose" is the correct word in context of its usage in the sentence as it means demonstrating aggression and willingness to fight.

## S31. Ans.(b)

Sol.
From the given statements, two persons sit between R and T.P sits $2^{\text {nd }}$ to the right of T. Here, we get two possibilities i.e. Case 1 and Case 2. B faces the person who sits $2^{\text {nd }}$ to the left of Q .

## Case 1



Row 1


Row 2


Row 1


From the given statements, A sits $2^{\text {nd }}$ to the left of D.More than one person sits between C and E, who doesn't face Q. Here, Case 1 is ruled out.

So, the final arrangement will be: -

Row 2


Row 1


Case 2


## S32. Ans.(c)

Sol. From the given statements, two persons sit between $R$ and T.P sits $2^{\text {nd }}$ to the right of T. Here, we get two possibilities i.e. Case 1 and Case 2. B faces the person who sits $2^{\text {nd }}$ to the left of Q .

Case 1

Row 2


Row 1


Row 2
Case 2


Row 1


From the given statements, $A$ sits $2^{\text {nd }}$ to the left of D.More than one person sits between $C$ and $E$, who doesn't face Q. Here, Case 1 is ruled out.
So, the final arrangement will be: -

Row 2


Row 1


## S33. Ans.(a)

Sol. From the given statements, two persons sit between R and T.P sits $2^{\text {nd }}$ to the right of T. Here, we get two possibilities i.e. Case 1 and Case 2. B faces the person who sits $2^{\text {nd }}$ to the left of Q .

## Case 1

Row 2


Row 1


Case 2

Row 2


Row 1


From the given statements, $A$ sits $2^{\text {nd }}$ to the left of $D$.More than one person sits between C and E , who doesn't face Q. Here, Case 1 is ruled out.
So, the final arrangement will be: -
Row 2


Row 1


S34. Ans.(e)
Sol. From the given statements, two persons sit between R and T.P sits $2^{\text {nd }}$ to the right of T. Here, we get two possibilities i.e. Case 1 and Case 2. B faces the person who sits $2^{\text {nd }}$ to the left of Q .

Case 1
Row 2


Row 1


Row 2


Row 1


From the given statements, $A$ sits $2^{\text {nd }}$ to the left of $D$. More than one person sits between C and E , who doesn't face Q. Here, Case 1 is ruled out.
So, the final arrangement will be: -
Row 2


Row 1


## S35. Ans.(e)

Sol. From the given statements, two persons sit between R and T.P sits $2^{\text {nd }}$ to the right of T. Here, we get two possibilities i.e. Case 1 and Case 2. B faces the person who sits $2^{\text {nd }}$ to the left of Q .

Case 1

Row 2


Row 1


Case 2

Row 2


Row 1


From the given statements, $A$ sits $2^{\text {nd }}$ to the left of $D$. More than one person sits between $C$ and $E$, who doesn't face Q. Here, Case 1 is ruled out.
So, the final arrangement will be: -

Row 2


Row 1


S36. Ans.(b)
Sol. (\&M*) and (\%U\&)
S37. Ans.(a)
S38. Ans. (a)
S39. Ans.(b)
S40. Ans.(a)

## S41. Ans.(c)

Sol. From the given statements, two persons are sitting between J and $0 . Q$ sits $3^{\text {rd }}$ to the right of 0 . L sits immediate left of P.P doesn't sit at corner. Here, we get two possibilities i.e. Case 1 and Case 2.

Case 1


Case 2


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So, the final arrangement will be: -


## S42. Ans.(b)

Sol. From the given statements, two persons are sitting between J and O. Q sits $3^{\text {rd }}$ to the right of 0 . L sits immediate left of P.P doesn't sit at corner. Here, we get two possibilities i.e. Case 1 and Case 2.


Case 2


From the given statements, two persons sit between N and K , who sits immediate right of M.L doesn't sit opposite to J. Here, Case 2 is ruled out. So, the final arrangement will be: -


## S43. Ans.(d)

Sol. From the given statements, two persons are sitting between J and O. Q sits $3^{\text {rd }}$ to the right of 0 . L sits immediate left of P.P doesn't sit at corner. Here, we get two possibilities i.e. Case 1 and Case 2.


From the given statements, two persons sit between N and K , who sits immediate right of M.L doesn't sit opposite to J. Here, Case 2 is ruled out.
So, the final arrangement will be: -


S44. Ans. (e)
Sol. From the given statements, two persons are sitting between J and $0 . Q$ sits $3^{\text {rd }}$ to the right of $0 . L$ sits immediate left of P.P doesn't sit at corner. Here, we get two possibilities i.e. Case 1 and Case 2.


Case 2


From the given statements, two persons sit between N and K , who sits immediate right of M.L doesn't sit opposite to J. Here, Case 2 is ruled out.
So, the final arrangement will be: -


S45. Ans.(d)
Sol. From the given statements, two persons are sitting between J and O. Q sits $3^{\text {rd }}$ to the right of 0 . L sits immediate left of P.P doesn't sit at corner. Here, we get two possibilities i.e. Case 1 and Case 2.

Case 1


Case 2


From the given statements, two persons sit between N and K , who sits immediate right of M. L doesn't sit opposite to J. Here, Case 2 is ruled out.
So, the final arrangement will be: -


S46. Ans.(c)
Sol.


## S47. Ans.(b)

Sol.


## S48. Ans.(d)

Sol.


S49. Ans.(d)
Sol.


## S50. Ans.(c)

Sol.
236514789
123456789

## S51. Ans.(b)

Sol. From the given statements, three boxes are placed between B and F. Box which have $W$ is placed just above B. There are as many boxes are placed between A and D as between A and E.C is placed just above the box which have X and just below the box which have Y. Here, we get two possibilities i.e. Case 1 and Case 2.

| Case |  | Case |  |
| :---: | :---: | :---: | :---: |
| 1 |  | 2 |  |
| Box | Items | Box | Items |
| D | W | E | W |
| B |  | B |  |
| A | Y | A | Y |
| C |  | C |  |
| E | X | D | X |
| F |  | F |  |

From the given statements, box which have U is placed above E and box which have V is placed below E . Here, Case 2 is ruled out. C is placed below the box which have Z .
So, the final arrangement will be: -

| Box | Items |
| :---: | :---: |
| D | W |
| B | Z |
| A | Y |
| C | U |
| E | X |
| F | V |



## S52. Ans.(e)

Sol. From the given statements, three boxes are placed between B and F. Box which have W is placed just above B. There are as many boxes are placed between $A$ and $D$ as between $A$ and $E$. $C$ is placed just above the box which have X and just below the box which have Y. Here, we get two possibilities i.e. Case 1 and Case 2.

| Case |  | Case |  |
| :---: | :---: | :---: | :---: |
| 1 |  | 2 |  |
| Box | Items | Box | Items |
| D | W | E | W |
| B |  | B |  |
| A | Y | A | Y |
| C |  | C |  |
| E | X | D | X |
| F |  | F |  |

From the given statements, box which have $U$ is placed above $E$ and box which have $V$ is placed below $E$. Here, Case 2 is ruled out. C is placed below the box which have Z .
So, the final arrangement will be: -

| Box | Items |
| :---: | :---: |
| D | W |
| B | Z |
| A | Y |
| C | U |
| E | X |
| F | V |

## S53. Ans.(d)

Sol. From the given statements, three boxes are placed between B and F. Box which have $W$ is placed just above B.There are as many boxes are placed between $A$ and $D$ as between $A$ and E.C is placed just above the box which have X and just below the box which have Y. Here, we get two possibilities i.e. Case 1 and Case 2.

| Case |  | Case |  |
| :---: | :---: | :---: | :---: |
| 1 |  | 2 |  |
| Box | Items | Box | Items |
| D | W | E | W |
| B |  | B |  |
| A | Y | A | Y |
| C |  | C |  |
| E | X | D | X |
| F |  | F |  |

From the given statements, box which have $U$ is placed above $E$ and box which have $V$ is placed below $E$. Here, Case 2 is ruled out. C is placed below the box which have Z .
So, the final arrangement will be: -

| Box | Items |
| :---: | :---: |
| D | W |
| B | Z |
| A | Y |
| C | U |
| E | X |
| F | V |

## S54. Ans.(c)

Sol. From the given statements, three boxes are placed between B and F. Box which have $W$ is placed just above B. There are as many boxes are placed between $A$ and $D$ as between $A$ and E.C is placed just above the box which have X and just below the box which have Y. Here, we get two possibilities i.e. Case 1 and Case 2.

| Case |  | Case |  |
| :---: | :---: | :---: | :---: |
| 1 |  | 2 |  |
| Box | Items | Box | Items |
| D | W | E | W |
| B |  | B |  |
| A | Y | A | Y |
| C |  | C |  |
| E | X | D | X |
| F |  | F |  |

From the given statements, box which have $U$ is placed above $E$ and box which have $V$ is placed below $E$. Here, Case 2 is ruled out. C is placed below the box which have Z .
So, the final arrangement will be: -

| Box | Items |
| :---: | :---: |
| D | W |
| B | Z |
| A | Y |
| C | U |
| E | X |
| F | V |

## S55. Ans.(b)

Sol. From the given statements, three boxes are placed between B and F. Box which have W is placed just above B. There are as many boxes are placed between $A$ and $D$ as between $A$ and E.C is placed just above the box which have X and just below the box which have Y. Here, we get two possibilities i.e. Case 1 and Case 2.

| Case |  | Case |  |
| :---: | :---: | :---: | :---: |
| 1 |  | 2 |  |
| Box | Items | Box | Items |
| D | W | E | W |
| B |  | B |  |
| A | Y | A | Y |
| C |  | C |  |
| E | X | D | X |
| F |  | F |  |

From the given statements, box which have $U$ is placed above $E$ and box which have $V$ is placed below $E$. Here, Case 2 is ruled out. C is placed below the box which have Z .
So, the final arrangement will be: -

| Box | Items |
| :---: | :---: |
| D | W |
| B | Z |
| A | Y |
| C | U |
| E | X |
| F | V |

S56. Ans.(b)
Sol.


S57. Ans.(a)
Sol.


S58. Ans.(c)
Sol.


## S59. Ans.(e)

Sol. By combining I \& II, E is youngest person.
B $>\mathrm{C}>\mathrm{F}>\mathrm{D}>\mathrm{E}$

## S60. Ans.(a)

Sol. By I, Q sits immediate right of $U$.


S61. Ans.(b)
Sol. From the given statements, three persons have joining between R and T and both doesn't have joining in the month which have 31 days. Here, we get two possibilities i.e. Case 1 and Case 2.

| Months | Case <br> 1 | Case 2 |
| :---: | :---: | :---: |
| January |  |  |
| February | R | T |
| March |  |  |
| April |  |  |
| May |  |  |
| June | T | R |
| July |  |  |

From the given statements, $U$ have joining before $Q$ and after $V$. $P$ have joining just before $T$ and just after U. Here, Case 2 is ruled out. $S$ have joining after $R$.

So, the final arrangement will be: -

| Months | Persons |
| :---: | :---: |
| January | V |
| February | R |
| March | S |
| April | U |
| May | P |
| June | T |
| July | Q |

## S62. Ans.(c)

Sol. From the given statements, three persons have joining between R and T and both doesn't have joining in the month which have 31 days. Here, we get two possibilities i.e. Case 1 and Case 2.

| Months | Case <br> 1 | Case 2 |
| :---: | :---: | :---: |
| January |  |  |
| February | R | T |
| March |  |  |
| April |  |  |
| May |  |  |
| June | T | R |
| July |  |  |

From the given statements, $U$ have joining before $Q$ and after V. $P$ have joining just before $T$ and just after U. Here, Case 2 is ruled out. $S$ have joining after R.

So, the final arrangement will be: -

| Months | Persons |
| :---: | :---: |
| January | V |
| February | R |
| March | S |
| April | U |
| May | P |
| June | T |
| July | Q |

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| Months | Case <br> 1 | Case 2 |
| :---: | :---: | :---: |
| January |  |  |
| February | R | T |
| March |  |  |
| April |  |  |
| May |  |  |
| June | T | R |
| July |  |  |

From the given statements, $U$ have joining before $Q$ and after $V$. $P$ have joining just before $T$ and just after U. Here, Case 2 is ruled out. S have joining after R.

So, the final arrangement will be: -

| Months | Persons |
| :---: | :---: |
| January | V |
| February | R |
| March | S |
| April | U |
| May | P |
| June | T |
| July | Q |

## S64. Ans.(d)

Sol. From the given statements, three persons have joining between R and T and both doesn't have joining in the month which have 31 days. Here, we get two possibilities i.e. Case 1 and Case 2.

| Months | Case <br> 1 | Case 2 |
| :---: | :---: | :---: |
| January |  |  |
| February | R | T |
| March |  |  |
| April |  |  |
| May |  |  |
| June | T | R |
| July |  |  |

From the given statements, $U$ have joining before $Q$ and after $V$. $P$ have joining just before $T$ and just after U. Here, Case 2 is ruled out. $S$ have joining after $R$.

So, the final arrangement will be: -

| Months | Persons |
| :---: | :---: |
| January | V |
| February | R |
| March | S |
| April | U |
| May | P |
| June | T |
| July | Q |

## S65. Ans.(c)

Sol. From the given statements, three persons have joining between R and T and both doesn't have joining in the month which have 31 days. Here, we get two possibilities i.e. Case 1 and Case 2.

| Months | Case <br> 1 | Case 2 |
| :---: | :---: | :---: |
| January |  |  |
| February | R | T |
| March |  |  |
| April |  |  |
| May |  |  |
| June | T | R |
| July |  |  |

From the given statements, $U$ have joining before $Q$ and after $V$. $P$ have joining just before $T$ and just after U. Here, Case 2 is ruled out. S have joining after R.

So, the final arrangement will be: -

| Months | Persons |
| :---: | :---: |
| January | V |
| February | R |
| March | S |
| April | U |
| May | P |
| June | T |
| July | Q |

S66. Ans.(b)
Sol. Increase in production of Car A $=18,000 \times \frac{1}{9}=2,000$
IncreaseinproductionofCarD $=12,000 \times \frac{1}{12}=1,000$
Total increase $=2,000+1,000=3,000$ cars
Desired percentage $=\frac{3,000}{80,000} \times 100=3.75 \%$
S67. Ans.(d)
Sol.
Number of cars A,C and E manufactured in 2013=75,000-20,000-10,000
$=45,000$
A:C:E $=2 x: 3 x: 4 x$
$9 x=45,000$
$x=5,000$
Number of cars manufactured in 2013
$\mathrm{A}=2 \times 5,000=10,000$
C $=3 \times 5,000=15,000$
$B=10,000$
Average $=\frac{10,000+15,000+10,000}{3}=11,666.67$

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## S68. Ans.(a)

Sol. Car produced by $(A+B)$ in $2011=20,000+15,000=35,000$
Car produced by $(A+B)$ in $2015=22,000+18,000=40,000$
percentage change $=\frac{40,000-35,000}{40,000} \times 100$
$=\frac{5,000}{40,000} \times 100=12.5 \%$

## S69. Ans.(e)

## Sol.

Number of cars A ,C and E manufactured in 2013=75,000-30,000
$=45,000$
A:C:E $=4 x: 3 x: 2 x$
Total $=9 x=45,000$
$x=5,000$
$\mathrm{A}=4 \times 5,000=20,000$
$C=3 \times 5,000=15,000$
$\mathrm{E}=2 \times 5,000=10,000$
Total Cars manufacture $\mathrm{A}=92,000$
Total Cars manufacture $B=86,000$
Total Cars manufacture $C=85,000$
Total Cars manufacture $D=87,000$
Total Cars manufacture $\mathrm{E}=73,000$
$2^{\text {nd }}$ highest $D=87,000$

## S70. Ans.(c)

Sol. Total cars in $2013=75,000$
Total cars B \& D in $2013=30,000$
percentage change $=\frac{75,000-30,000}{30,000} \times 100=150 \%$

## S71. Ans.(d)

## Sol.

Priya's one day work $=\frac{1}{2 \times 10}=\frac{1}{20}$
Pooja's one day work $=\frac{1}{3 \times 10}=\frac{1}{30}$
2 day work of Priya and Pooja
$=\frac{1}{20}+\frac{1}{30}=\frac{3+2}{60}=\frac{5}{60}$
$=12$ days.
So, Pooja and Priya will take 24 days if they work alternatively.

## S72. Ans.(b)

Sol.
${ }^{n} \mathrm{C}_{2}=210$
$\frac{n \times(n-1)}{2}=210$
$\Rightarrow n(n-1)=420 \Rightarrow 21 \times 20$
$\Rightarrow n=21$

## S73. Ans.(a)

Sol.
Ram's cost price $=$ M. R.P. $\times \frac{80}{100}$
Ramesh C.P. $=$ M. R.P. $\times \frac{80}{100} \times \frac{90}{100}$
Ranjan C.P. $=$ M.R.P. $\times \frac{80}{100} \times \frac{90}{100} \times \frac{120}{100}=1,29,600$
$\Rightarrow$ M.R.P. $=$ Rs. $1,50,000$

## S74. Ans.(d)

Sol.
$\frac{\mathrm{P} \times 8 \times 3}{100}=600$
$\Rightarrow P=2500$
$C I=2500\left[1+\frac{8}{100}\right]^{3}-2500$
$\mathrm{CI}=649.28$
S75. Ans.(c)
Sol. Corrected Average $=\frac{25 \times 34-86+36}{25}=32 \mathrm{~kg}$

## S76. Ans.(b)

## Sol.

$\frac{30}{S_{B}-S_{S}}+\frac{44}{S_{B}+S_{S}}=10$
$\frac{40}{S_{B}-S_{S}}+\frac{55}{\left(S_{B}+S_{S}\right)}=13$
Take $\frac{1}{S_{B}-S_{S}}=a, \frac{1}{S_{B}+S_{S}}=b$
$30 a+44 b=10$
$40 a+55 b=13$
On solving (i) and (ii)
$\mathrm{S}_{\mathrm{B}}=8 \mathrm{~km} / \mathrm{hr}$

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Validity : 12 Months

## S77. Ans.(e)

## Sol.

Let wine and water are $=5 x: x$
Now, $\frac{5 x}{x+5}=\frac{5}{2} \Rightarrow 10 x=5 x+25$
$x=5$

| $\Rightarrow$ | $25: 5$ | $25: 10$ |
| :---: | :---: | :---: |
|  | Before mixture | After mixture |

Quantity of wine $=25 \ell$

## S78. Ans.(c)

## Sol.

Let, total property $=x$

$$
\text { Elder son's share }=\frac{4}{9} x
$$

Younger son's share $=\frac{5}{9} x \times 20 \%$
$=\frac{1}{9} x$
Daughter's share $=x-\frac{4}{9}-\frac{1}{9} x$
$=\frac{9 x-5 x}{9}=\frac{4 x}{9}$
Given, $\frac{4 x}{9}=5200$
$\Rightarrow x=11,700$
Younger's son $=\frac{11,700}{9}=$ Rs. 1,300

## S79. Ans.(b)

Sol.
Perimeter $=$ Distance covered in 8 min
$=\left[\frac{12000}{60} \times 8\right]=1600 \mathrm{~m}$
Let length $=3 x$ ' m '
Breadth $=2 x^{\prime} \mathrm{m}^{\prime}$
Then, $2(3 x+2 x)=1600$
$x=160$
Length $=480 \mathrm{~m}$, Breadth $=320 \mathrm{~m}$
Area $=$ Length $\times$ Breadth $=480 \times 320=153,600 \mathrm{~m}^{2}$

## S80. Ans.(a)

Sol.
L.C.M. of 9, 12, 16 and $30=720$

So, required number $=\mathrm{LCM}+3=723$.

## S81. Ans.(d)

Sol. $4734-3454+1236-1116=$ ?
? $=1400$

S82. Ans.(d)
Sol.
$\frac{33 \times 2800}{550}+122.45+9.45=$ ?
$=299.9 \simeq 300$

## S83. Ans.(a)

Sol.
$\sqrt{4500} \times(5.98)^{2}$
$\simeq 67 \times 36=2412 \simeq 2410$

## S84. Ans.(c)

Sol.
$(2)^{?+2}=\frac{512}{32} \times \frac{64}{128} \times 8$
$=\frac{2^{9} \times 2^{6} \times 2^{3}}{2^{5} \times 2^{7}}=2^{9+6+3-5-7}$
$=2^{6}$
$?+2=6 \Rightarrow ?=4$

S85. Ans.(b)
Sol.
$\frac{1600}{25}=? \div[625 \div(125 \times 40)]$
$\frac{1600}{25} \times \frac{625}{125 \times 40}=$ ?
? $=8$

## S86. Ans.(b)

Sol.
Average investment on Banking and defence
$=\frac{135+200}{2}=\frac{335}{2}$ crore

Average investment on Insurance, Railway \& Development
$=\frac{170+120+140}{3}=\frac{430}{3}$ crore
Desired Ratio $=\frac{\frac{335}{2}}{\frac{430}{3}}=\frac{335}{2} \times \frac{3}{430}$
$=\frac{201}{172}$

## S87. Ans.(e)

Sol.
Desired $\%=\frac{135}{120} \times 100$
$=112.5 \%$

## S88. Ans.(d)

Sol.
InvestmentonFood\&Grainin $\%=\frac{235}{1000}=23.5 \%$
InCentralAngle $=23.5 \times \frac{18}{5}=84.6^{\circ}$

## S89. Ans.(a)

## Sol.

IncreaseinRailway $=120 \times \frac{15}{100}=18$ Crore
Increaseindefence $=200 \times \frac{25}{100}=50$ Crore
Total Increase $=68 \mathrm{Cr}$.
Desired $\%=\frac{68}{1000} \times 100=6.8 \%$ increase

## S90. Ans.(b)

Sol.
ReductiononDefencesector $=200 \times \frac{20}{100}=40$ Crore
Railway and Insurance sector ratio $=5 x: 3 x$
Total $=8 x=40 \Rightarrow x=5$
Increase in Insurance sector $=3 \times 5=15$ Crore
Effect on insurance sector $=\frac{15}{170} \times 100 \approx 8.8 \%$ increase

## S91. Ans.(a)

Sol.
I. $2 x^{2}-10 \sqrt{3} x+36=0$
$2 x^{2}-6 \sqrt{3} x-4 \sqrt{3} x+36=0$
$2 x(x-3 \sqrt{3})-4 \sqrt{3}(x-3 \sqrt{3})=0$
$(2 x-4 \sqrt{3})(x-3 \sqrt{3})=0$
$\Rightarrow x=3 \sqrt{3}, x=2 \sqrt{3}$
II. $4 y^{2}-2 \sqrt{2} y-24=0$

$$
4 y^{2}-8 \sqrt{2} y+6 \sqrt{2} y-24=0
$$

$$
4 y[y-2 \sqrt{2}]+6 \sqrt{2}[y-2 \sqrt{2}]=0
$$

$\Rightarrow y=2 \sqrt{2}, \quad y=\frac{-6 \sqrt{2}}{4}=\frac{-3}{2} \sqrt{2}$
$x>y$

## S92. Ans.(e)

## Sol.

I. $x^{2}-19 x+60=0$
$x^{2}-15 x-4 x+60=0$
$x(x-15)-4(x-15)=0$
$(x-4)(x-15)=0$
$x=4,15$
II. $y^{2}-17 y-60=0$
$y^{2}-20 y+3 y-60=0$
$y(y-20)+3(y-20)=0$
$(y-20)(y+3)=0$
$y=20,-3$
No relation can be established

## S93. Ans.(d)

Sol.

$$
\begin{aligned}
& \text { I. } 3 x^{2}-27 x+42=0 \\
& 3 x^{2}-21 x-6 x+42=0 \\
& 3 x(x-7)-6(x-7)=0 \\
& (x-7)(3 x-6)=0 \\
& x=7,2 \\
& \text { II. } 2 y^{2}-32 y+126=0 \\
& 2 y^{2}-18 y-14 y+126=0 \\
& 2 y(y-9)-14(y-9)=0 \\
& (y-9)(2 y-14)=0 \\
& y=9,7 \\
& y \geq x
\end{aligned}
$$

## S94. Ans.(c)

Sol.

$$
\begin{aligned}
& \text { I. } 4 x^{2}+32 x+63=0 \\
& \quad 4 x^{2}+18 x+14 x+63=0 \\
& \quad 2 x(2 x+9)+7(2 x+9)=0 \\
& \quad(2 x+7)(2 x+9)=0 \\
& x=\frac{-7}{2}, \frac{-9}{2}
\end{aligned}
$$

II. $5 y^{2}+5 y-30=0$
$5 y^{2}+15 y-10 y-30=0$
$5 y(y+3)-10(y+3)=0$
$(y+3)(5 y-10)=0$
$y=-3,+2$
$\mathrm{y}>\mathrm{x}$

## S95. Ans.(a)

Sol.

$$
\begin{aligned}
& x=\sqrt[3]{3375} \\
& =+15 \\
& y^{\frac{3}{2}}-\frac{196}{y^{\frac{1}{2}}}=0 \\
& \quad y^{2}-196=0 \\
& y^{2}=196 \Rightarrow y= \pm 14 \\
& x>y
\end{aligned}
$$

S96. Ans.(c)
Sol.


## S97. Ans.(c)

Sol.


S98. Ans.(d)
Sol.


## S99. Ans.(c)

Sol.


## S100. Ans.(e)

Sol.



