S1. Ans.(b)
Sol. Option (a) mentions concerns regarding "foreign investments", which is not talked about in the passage and thus cannot be establish as true. Option (c) talks about growing unemployment, which, again, isn't one of the topics of concern in the passage.
The statement given by option (b) is correct and for justification, we refer to the first paragraph of the passage, which states how RBI changed its policies to control inflation in view of the growing global uncertainties.
Thus, option (b) is the correct answer.

S2. Ans.(e)
Sol. Both, option (a) and option (c), stand correct with regard to the passage.
The first paragraph mentions how the intention of RBI through these newly-drafted policies is to keep the Consumer Price Inflation in check. This makes option (a) correct.
The paragraph also mentions how the policies are intended to counter global risks. This makes option (b) correct.
Referring to the last lines of the second paragraph, "But the continuing war has necessitated urgent steps. The RBI has thus responded to the charge that it is behind the curve on inflation," we see that RBI's policy changes came after it was blamed for the increasing rate of inflation. Because the former of these statements talks about "urgent steps", we understand that RBI was blamed for inaction, and as a result it introduced the change its policies. Thus, option (c) is correct too.
As all the statements are correct, the answer is option (e).

S3. Ans.(b)
Sol. Option (b) gives the most appropriate summary of the intention of RBI's new policies. Moreover, only option (b) is true among all the options. Thus, we mark it as the correct answer.

S4. Ans.(b)
Sol. The third paragraph specifically states that "It is generally agreed that the WPI has a lagged effect on the CPI." This shows that WPI has an effect on CPI eventually. Thus, as option (b) directly contradicts the fact in the passage, it is the correct answer.

S5. Ans.(e)
Sol. Since it is mentioned that RBI intended to adopt an accommodative stance, but hasn't been able to do that because of the war, option (e) becomes correct. All other options are incorrect.

S6. Ans.(d)
Sol. Option (c) most accurately summarises the intention of the author of the passage. Thus, it is the correct answer. The author begins with how RBI's new policies are to benefit. He then mentions the details of what these policies entail and how beneficial they are. He discusses the state of economy in India and the world, and ends with how more action is required on the issue.

S7. Ans.(b)
Sol. gradual – taking place or progressing slowly or by degrees
measured – having a slow, regular rhythm
intermediate – coming between two things in time, place, character, etc
restrained – characterized by reserve or moderation; unemotional or dispassionate
uniform – remaining the same in all cases and at all times; unchanging in form or character
calculated – done with full awareness of the likely consequences

S8. Ans.(a)
Sol. deleterious – causing harm or damage
inimical – tending to obstruct or harm
torpid – mentally or physically inactive; lethargic
sinistral – of or on the left side or the left hand
abject – experienced or present to the maximum degree
mortifying – causing great embarrassment or shame

S9. Ans.(b)
Sol. The correct rearrangement of the sentences making grammatical and contextual sense would be EBADC.
Statement E serves as the best introduction to the passage, as it speaks of a discovery, the discovery being the subsequent topic of interest. Statement B further explains the discovery. Statement A goes into detail about the discovery of methane releases. Statement D goes into detail further of statement A. Statement C gives a fact on the basis of all the established facts about the methane releases from the coal mine. Statement F talks about a Mr. Wight who is not introduced properly in the passage yet. Thus, statement F is eliminated. The correct sequence will be EBADC.

S10. Ans.(c)
Sol. The correct rearrangement of the sentences making grammatical and contextual sense would be EBADC.
Statement E serves as the best introduction to the passage, as it speaks of a discovery, the discovery being the subsequent topic of interest. Statement B further explains the discovery. Statement A goes into detail about the discovery of methane releases. Statement D goes into detail further of statement A. Statement C gives a fact on the basis of all the established facts about the methane releases from the coal mine. Statement F talks about a Mr. Wight who is not introduced properly in the passage yet. Thus, statement F is eliminated. The correct sequence will be EBADC.

S11. Ans.(e)
Sol. Option (e) is correct as all the sentences contain at least one error, and these errors are addressed below with the correct forms of the sentences.
The Union Cabinet recently approved the auction of airwaves **capable of** offering fifth generation telecom services.
To be "capable" means to have attributes (such as physical or mental power) required for performance or accomplishment. "Of" is the only conjunction used after "capable" when it is a subject of a phrase (in this case, when the capability is mentioned).
"Indian health policymakers **need** to be very strategic and pragmatic in the use of a third COVID-19 vaccine shot."
A singular verb is required in place of "needs", thus, "need" is to be substituted at its place.
"The frequent leak of examination papers has been a major problem with regard to **recruitment to** government jobs."
The context requires the recruitment **of** candidates **to** government jobs. Thus, only "recruitment to" is correct for the context of the sentence.
"The government will ensure that the visitors to the new market, as well as **its** traders, get a unique and quality experience."
Singular "its" has to be used instead of plural "their" as the subject is singular.

S12. Ans.(a)
Sol. Option (a) gives the only sentence free of any errors. All other sentences contain at least one error, and these errors are addressed below with the correct forms of the sentences.
"The recent geopolitical events transpiring around the world in practically all regions **have** made the global security climate more unstable."

As "events" is the object of the sentence and its plural, "have" should be used instead of "has".
"The commanders have proved inept in devising plans and **taking** appropriate decisions in battlefield conditions against a determined enemy."
In accordance with the rules of parallelism, we use the same tense in phrases connected with conjunctions. Thus "taken" decisions makes the sentence grammatically incorrect.
"The central bank is ramping up its drive to tighten credit and slow growth **with** inflation having reached a four-decade high rate of 8.6%."
with – in relation to
while – whereas (indicating a contrast)
The difference in usage makes "with" the correct choice. Also, "while" requires an auxiliary verb like "has" and not "having", which is in present continuous tense.

S13. Ans.(a)
Sol. Option (a) gives the only sentence free of any errors. All other sentences contain at least one error, and these errors are addressed below with the correct forms of the sentences.
"Block printing first **came** to Europe as a method for printing on cloth, where it was common by 1300."
The context talks about a time period in the past (specifically, around 1300 A.D.). Thus, "came" should be used and not "comes", which is in the past perfect tense.
"After the 1918-20 flu pandemic, the influenza virus continued to be **in circulation** and present even today."
"On circulation" does not make grammatical sense, and thus makes the sentence correct. "In circulation" is the right phrase which means "going or passing from person to person or place to place".
"A strong political opposition is usually needed to help keep the ruling dispensation **in check**."
"In check" does not make grammatical sense, and thus makes the sentence correct. "In check" is the right phrase which means "to slow or bring to a stop".

S14. Ans.(c)
Sol. In this context, the champion of the arena can only be tested on his bravery or cowardice among the following adjectives. Thus, option (c) is correct.

S15. Ans.(b)
Sol. The supervisor would only want the productivity to be sufficient and would only be concerned about that factor. Moreover, productivity can only have words from option (b) as adjectives. Thus, option (b) is the correct option.

S16. Ans.(c)
Sol. Vision can only be hampered by the quality of darkness or brightness. Thus, option (c) is the right answer.

S17. Ans.(d)
Sol. Since the context requires the guest's questions to be about the bridge's dimensions, the only option that can be correct is option (d).

S18. Ans.(d)
Sol. "Although" is the only option that joins the two sentences to make the resulting sentence grammatically correct and contextually coherent. For reference, the usage/definitions of some of the options are given below.
however - serves as a conjunctive adverb that connects two independent clauses
although - to introduce a subordinate clause which contains a statement which makes the main clause of the sentence seem surprising or unexpected
as if/as though - to talk about an imaginary situation or a situation that may not be true but that is likely or possible
even as - at the very same time as

S19. Ans.(a)
Sol. "While" is the only option that joins the two sentences to make the resulting sentence grammatically correct and contextually coherent. For reference, the usage/definitions of some of the options are given below.
with regard to – signals a reference to the subject of a sentence
therefore – for that reason; consequently
however – used to introduce a statement that contrasts with or seems to contradict something that has been said previously
whenceforth – from which place, time, or point forth; forth from which; onward from which

S20. Ans.(b)
Sol. "Of which" is the only option that joins the two sentences to make the resulting sentence grammatically correct and contextually coherent.

S21. Ans.(e)
Sol. All of the above given options are correct in regard to the advantages of adopting a vegetarian diet. Thus, option (e) is the correct answer. (c)
For reference, note the lines in the second paragraph which state "Vegetarian diets may help in weight loss and long-term weight control and are associated with longevity. Diets containing animal products are generally higher in

fat and calorific value while plant foods are low in energy and are nutrient dense." This proves that options (a) and (b) are correct.
Also refer to the last lines in the first paragraph which state, "Such diets also lower the risk of hypertension and type 2 diabetes mellitus. Diets low in fibre and in which chicken and meat are the principal ingredients can dramatically increase the incidence of colorectal cancers." The quoted text proves the validity of options (c) and (d) as answers to the question.

S22. Ans.(d)
Sol. For justification, refer to "Well-planned vegetarian diets are suitable for individuals during all stages of the life-cycle and for athletes." Only the most restrictive vegan diets can perhaps cause nutritional concerns and compromise on calcium, iron, zinc, vitamin B12 and sometimes even protein." These statements corroborate the truths of statements given by options (b) and (c). Option (a) is wrong as it actually contradicts the point of the passage. Thus, option (d) is the answer.

S23. Ans.(e)
Sol. For justification, refer to the third paragraph of the passage. All the given statements are correct. Thus, option (e) is the answer.

S24. Ans.(a)
Sol. For justification, refer to the beginning of the last paragraph, which states, "Vegetarian meals need not be boring or limiting. Whip up a variety of recipes from plant foods and feast on them."
Options (b) and (c) address the first statement's limiting aspect of vegetarianism, while option (a) addresses the boring aspect of vegetarianism. Thus, only option (a) is correct.

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S25. Ans.(d)
Sol. "Benefit" will most properly complete the sentence while making it grammatically correct in itself and contextually coherent with the passage. Thus, option (d) is the correct answer.
subsist – maintain or support oneself, especially at a minimal level
catalyse – cause (an action or process) to begin

S26. Ans.(a)
Sol. adequate – satisfactory or acceptable in quality or quantity
ample – enough or more than enough; plentiful
restrictive – imposing restrictions on someone's activities or freedom
cooperative – involving mutual assistance in working towards a common goal
exuberant – full of energy, excitement, and cheerfulness
vivacious – attractively lively and animated

S27. Ans.(d)
Sol. beneficial – resulting in good; favourable or advantageous
detrimental – tending to cause harm
fragile – (of an object) easily broken or damaged
jittery – nervous or unable to relax
grotesque – comically or repulsively ugly or distorted
quaint – attractively unusual or old-fashioned

S28. Ans.(a)
Sol. Get a second wind - Have more energy after having been tired
The idiom can only be related to by statement (ii). Thus option (a) is the correct choice.

S29. Ans.(b)
Sol. Like two peas in a pod - They're always together
Only statement (iii) accurately represents the idiom. Thus option (b) is the correct choice.

S30. Ans.(b)
Sol. Once bitten, twice shy - You're more cautious when you've been hurt before
The idiom is only represented well by statements (i) and (iii). Thus, option (b) is the correct choice.

Solutions (31-35):

Subject	Time
Physics	9:30-10:00
Maths	10:30-11:30
Hindi	12:00-12:30
Social study	1:00-1:30
English	2:00-3:00
Chemistry	3:30-4:00
Biology	4:30-5:30

S31. Ans.(c)
S32. Ans.(a)
S33. Ans.(c)
S34. Ans.(a)
S35. Ans.(b)

Solutions (36-40):
Logic for each step:
Step I: All the consonants with in the words are changed with their second succeeding letter and the vowels remain same.
Step II: All the words are arranged according to dictionary order from the left end.
Step III: Letters within the word are arranged in alphabetical order.
Step IV: Sum of the place value of first and last letter within the word is taken.
Step V: The sum of the digits within the numbers is arranged in ascending order from the left end.
Input: helofkpestfumaphseub   lmodu   karlx
Step I: jenoh   mreuv   huoarjueudnoofumatnz
Step II: huoar   jenoh   jueudmatnz   mreuv   noofu
Step III: ahoru   ehjno   dejuu   amntzemruvfnoou
Step IV: 22   20   25   27   27   27
Step V: 2   4   7   9   9   9

S36. Ans.(b)
S37. Ans.(e)
S38. Ans.(c)
S39. Ans.(b)
S40. Ans.(d)

S41. Ans.(b)
Sol. "Fallout" means adverse effect. we need to find the option which shows the adverse results after new policy approved by Delhi Government. Option (b) is the right answer as it clearly states defy by opposition.

S42. Ans.(d)
Sol. Nothing is discussed about favour of central government in above passage. Option (II) can be assumed as government has reduced the minimum age from 25 to 21 and it is obvious to increase the revenue of state. Revenue comparison of Delhi with other states has not been discussed in the above statement.

Solutions (43-47):

Floors	Flat 1	Flat 2	Flat 3
3	A (Iran)	I(Korea)	C(Japan)
2	H(USA)	E(Oman)	G(UK)
1	D(Russia)	F(Malta)	B(UAE)

S43. Ans.(b)
S44. Ans.(e)
S45. Ans.(c)
S46. Ans.(a)
S47. Ans.(d)

Solutions (48-51):
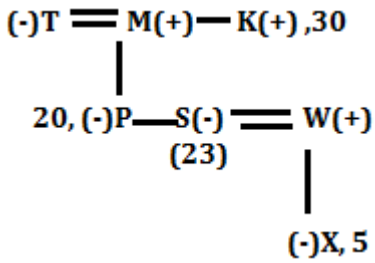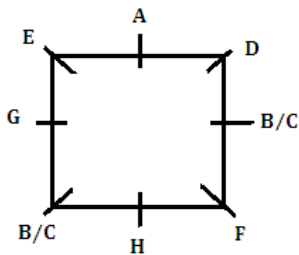

S48. Ans.(b)
S49. Ans.(d)
S50. Ans.(e)
S51. Ans.(c)

S52. Ans.(d)
Sol. Data in all the statement I, II and III together are necessary to answer the question.

Days	Persons
Tuesday	R/Q
Wednesday	U
Thursday	P
Friday	S
Saturday	R/Q
Sunday	V
Monday	T

S53. Ans.(c)
Sol. Data in statement I and statement III together are sufficient to answer the question.

S54. Ans.(d)
Sol. Data in all the statements I, II and III together are necessary to answer the question.
U>Q>S>R>P>T/V>V/T

S55. Ans.(a)
Only 1st Statement diminishes the advisory by Health Ministry as healthy food has been suggested. Guests are attending wedding, but they are following all norms and wearing masks. Trade Unions are also following guidelines. Yoga is good for health. Wearing mask has been advised but its black marketing is not the inference in given statement.

S56. Ans.(e)
Only I can be assumed as case is in Supreme Court regarding OTT represented by Solicitor General and if something is creating problem or result of it is not good then only Government is presenting this case in Supreme Court. There is nothing mentioned and discussed about any producer or director, so II cannot be assumed. (III) is a suggested course of action, it is not an assumption.
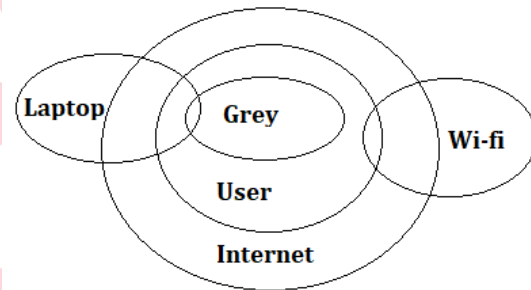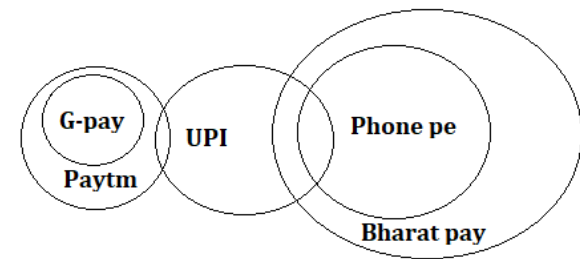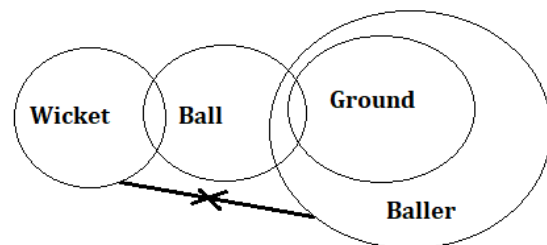
S57. Ans.(e)
Sol.
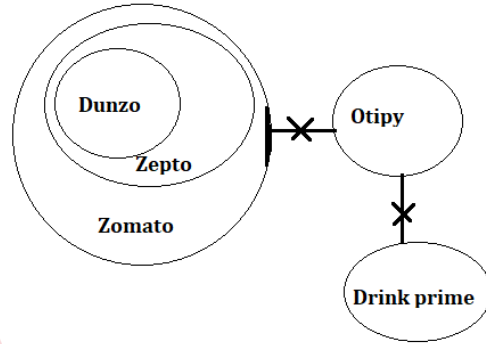
S58. Ans.(d)
Sol.

S59. Ans.(b)
Sol.

S60. Ans.(d)
Sol.

Solutions (61-65):

Years	Ages	Persons
1985	36	C
1991	30	E
1995	26	A/D
1998	23	H
2002	19	B
2010	11	D/A
2015	6	F
2018	3	G

S61. Ans.(a)
S62. Ans.(b)
S63. Ans.(c)
S64. Ans.(d)

S65. Ans.(e)
Sol. Except B, all other person ages are multiple of 3

Solutions (66-68):
Logic:

Sum of the place value of 1st and 2nd letter of the word

MATRIX → 14 R C — Opposite letter of the last letter

Opposite of the vowel which has highest place value in the word
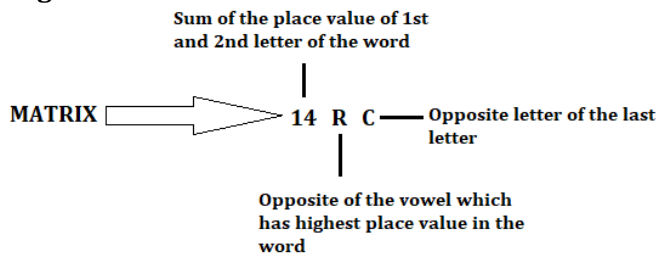
S66. Ans.(b)
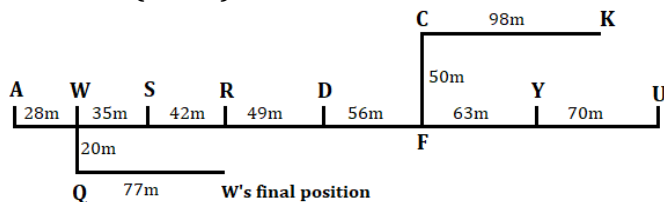**Sol.** The code for "Public Health" is "37FX 13VS"

S67. Ans.(a)
Sol. The code "9RR 28VI" is coded for - Delhi weather

S68. Ans.(c)
Sol. The code for "German language" is - 12VM 13FV

Solutions (69-73):

S69. Ans.(b)
Sol. 20+77+50+98 = 245m

S70. Ans.(a)
Sol. point C is in North-east with respect to point Q

S71. Ans.(c)
Sol. The total distance between S and the one who sits immediate right of D = 147m

S72. Ans.(e)
Sol. Only U sits at one of the extreme ends

S73. Ans.(e)
Sol. All the given statements are true

S74. Ans.(c)
Sol. Option (a) is supporting the concept discussed in above statement. Importance of study material with audio and video is discussed above but in option (c) it is said wastage of time. Option (d) will not be right answer because the concept which is discussed is importance of teaching with help of video and audio both. Cinema is just example which is taken. So, option (d) is not the right answer.

S75. Ans.(b)
Sol. Nothing is mentioned about the cause of excess body fat. Option (a) is not the right answer. And it is mentioned in the statement, it is spreading in adults and children. Nowhere mentioned about treatment of obesity. It is mentioned obesity increases health problems but nowhere mentioned that it increases the risk of only heart and kidney diseases.
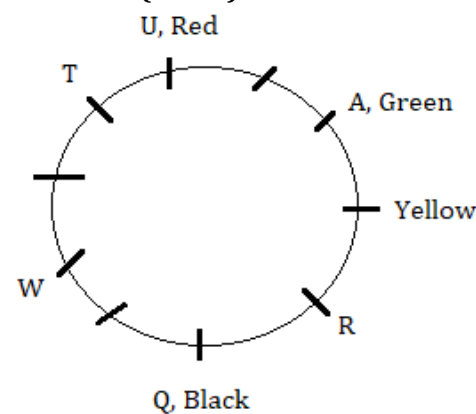
S76. Ans.(e)
Sol. Both the Statement I and II are effects of some common causes. And cause is increasing case of covid 19. Central government has been trying to increase medical infrastructure. And players have withdrawn their name due to fear.

S77. Ans.(b)
Sol. M#8

Solutions (78-82):

S78. Ans.(e)
Sol. Unknown person sits 8th to the right of T

S79. Ans.(a)
Sol. W faces to the one who likes green colour

S80. Ans.(d)
Sol. 10 persons sit around the table

S81. Ans.(c)
Sol. In option (c) both persons sit near to each other while in other options first person sits 2nd to the left of 2nd person

S82. Ans.(a)
Sol. If T and Q interchanged their position then, six persons sit between Q and A when counted to the right of Q

S83. Ans.(d)
Sol. Both the Statements I and II are effects of independent causes. Bihar has good result may be due to students have studied well or due to education system get improved in Bihar.
Transport facility has been improved may be due to good governance.

Solutions (84-85):
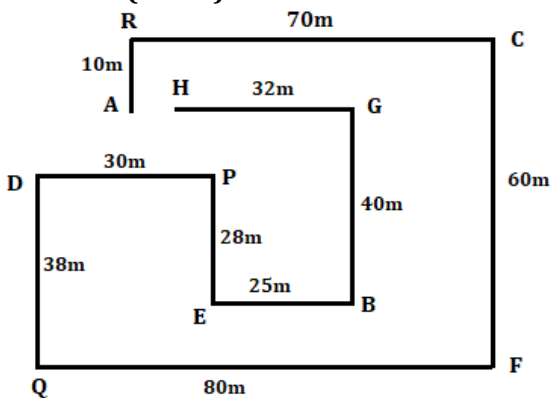
S84. Ans.(d)
Sol. Point P is in South-east of point A

S85. Ans.(b)
Sol. Except option (b), first point is in north-west of second point

Solutions (86-90):

Shelves	Boxes	Items
8	P	Book
7	S	Marker
6	V	Pen
5	Q	Bottle
4	T	Toffees
3	W	Pencil
2	R	Clothes
1	U	Utensils

S86. Ans.(d)
S87. Ans.(b)
S88. Ans.(c)
S89. Ans.(b)
S90. Ans.(a)

S91. Ans.(d)
Sol. We know, lateral surface area of cube = $4a^2$
And, lateral surface area of cylinder = $2\pi rh$
Here a = x and r = x, h = 2x
ATQ-
$4x^2 + 420 = 2 \times \frac{22}{7} \times x \times 2x$
$420 = 4x^2 \left(\frac{22}{7} - 1\right)$
$105 = x^2 \times \frac{15}{7}$
x = 7 cm
So, radius of circle = (7+3) = 10 cm
Required area $= \frac{22}{7} \times 10 \times 10 = 314.28 \approx 314$ cm^2

S92. Ans.(a)
Sol. Let cost price of the article = 100a
So, mark price of the article = $100a \times 1.45 = 145a$
Given, selling price of the article = 750 Rs.
Also given, profit percentage of shopkeeper on the article is 25%
So, selling price of the article = $100a \times \frac{125}{100} = 125a$
125a = 750
a = 6 Rs.
Marked price = $145 \times 6 = 870$ Rs.
Required discount percentage $= \frac{870-750}{870} \times 100 = \frac{400}{29}$%

S93. Ans.(a)
Sol. Total milk in vessel B $= 156 \times \frac{10}{13} = 120$ liters
Total water in vessel B = 156 – 120 = 36 liters
Total water in vessel C = (12+36+12) = 60 liters
Total milk in vessel C = (80+120) = 200 liters
Required percentage $= \frac{60}{(200+60)} \times 100 = \frac{300}{13}$%

S94. Ans.(e)
Sol. Given, $6X^3 = 3090 - \sqrt{324}$)
$6X^3 = 3090 - 18$
$6X^3 = 3072$
$X^3 = 512$
X = 8
So, Profit share of P = $400 \times 8 = 3200$ Rs.
And profit share of Q = 6800 – 3200 = 3600 Rs.
Let investment of Q = a Rs.
So, investment of P = (a+2000) Rs.
ATQ –
$\frac{(a+2000) \times 8}{a \times 12} = \frac{3200}{3600}$
3a + 6000 = 4a
a = 6000 Rs.

S95. Ans.(c)

Sol. Equivalent rate of interest for two years at 10% p.a. on compound interest

$= (10+10+\frac{10\times10}{100})\% = 21\%$

Total amount received by man from scheme A = 6500 $\times \frac{121}{100} = 7865$ Rs.

Required interest $= 7865 \times \frac{21}{100} = 1651.65 \approx 1652\ Rs.$

Solutions (96-97):

Let monthly income of B = 500a

So, monthly income of A = 500a $\times \frac{160}{100} = 800a$

Total amount spends on EMI by A or B

$= 500a \times \frac{20}{100} = 100a$

Total amount spends by A on house rent = 100an

And let total amount spends by B on house rent = 100b

S96. Ans.(b)

Sol. Total amount spends by A on EMI and house rent = $800a \times \frac{50}{100} = 400a$

Total amount spends by A on house rent = 400a – 100a = 300a

100an = 300a

n = 3

Also given, total amount pays by B for EMI = Rs. 15000

So, 100a = 15000

a = 150 Rs.

Total income of A = 800 × 150 = 120000 Rs.

Saving of A = $120000 \times \frac{50}{100} = 60000\ Rs.$

S97. Ans.(a)

Sol. ATQ –

100an – 100b = 5000

an – b = 50 -------- (i)

Also give, 100an – 100a = 3000

an – a = 30 -------- (ii)

And, 100b = $\frac{100a}{3}$

b = $\frac{a}{3}$ ------ (iii)

Putting value of b in (i) we get

an $- \frac{a}{3} = 50$ ------- (iv)

From (ii) and (iv) we get

a = 30

So, monthly income of A = 30 × 800 = 24000 Rs.

Solutions (98-102): Form pie chart, p + q

= 360 – (75.6 + 90 + 64.4) = 130

Given, p + 25 = degree of company Q

So, p + 25 = 90

p = 65

And, q = 130 – 65 = 65

Let total number of bookshelves manufactured by all five companies = 100n

$100n \times \frac{65}{360} = 975$

n = 54

So, total number of bookshelves manufactured by all five companies = 5400

From table, 3X + 12 + 4X + 20 + 40 = 100

7X + 72 = 100

7X = 28

X = 4

S98. Ans.(e)

Sol. Required value = $20 \times 4 - \frac{2\times65}{5} - \frac{4\times65}{5}$

= 80 – (26+52) = 2

S99. Ans.(a)

Sol. Total number of sold bookshelves of P

$= 5400 \times \frac{75.6}{360} - 500 \times \frac{3\times4}{100} = 1074$

Total number of sold bookshelves of R

$= 5400 \times \frac{64.4}{360} - 500 \times \frac{4\times4}{100} = 886$

Required revenue $= 1074 \times 25 + 886 \times 30 = 53430\ Rs.$

S100. Ans.(c)

Sol. Let total unsold bookshelves = 100y

ATQ –

$100y \times \frac{4\times4}{100} - 100y \times \frac{4\times3}{100} = 16$

4y = 16

y = 4

So, total unsold bookshelves = 400

Total number of sold bookshelves of Q

$= 5400 \times \frac{90}{360} - 400 \times \frac{12}{100} = 1302$

Total number of sold bookshelves of S

$= 975 - 400 \times \frac{20}{100} = 895$

Total number of sold bookshelves of T

$= 975 - 400 \times \frac{40}{100} = 815$

Required average $= \frac{1302+895+815}{3} = 1004$

S101. Ans.(d)
Sol. Let total unsold bookshelves = 100n
ATQ –
$100n \times \frac{4 \times 4}{100} + 100n \times \frac{4 \times 3}{100} = 210$
28n = 210
n = 7.5
So, total unsold bookshelves = 750
Total sold bookshelves of Q
$= 5400 \times \frac{90}{360} - 750 \times \frac{12}{100} = 1260$
Total sold bookshelves of X = $1260 \times \frac{85}{100} = 1071$
Total number of sold bookshelves of S
$= 975 - 750 \times \frac{20}{100} = 825$
Required percentage = $\frac{1071 - 825}{1071} \times 100 = 22.99 \approx 23\%$

S102. Ans.(b)
Sol. Total number of sold bookshelves of Q
$= 5400 \times \frac{90}{360} - 1000 \times \frac{12}{100}$
= 1350 – 120 = 1230
Total number of sold bookshelves of S
$= 975 - 1000 \times \frac{20}{100} = 775$
Total number of sold bookshelves of T
$= 975 - 1000 \times \frac{40}{100} = 575$
Required difference = $1230 - \frac{775 + 575}{2} = 555$

S103. Ans.(d)
Sol. Quantity I: $(\sqrt{p^x})^2 = \frac{p^4}{p^8}$
$p^x = p^{-4}$
So, x = - 4
Quantity II: $\sqrt{y^4} = \sqrt{256}$
$y^2 = 16$
y = ± 4
So, Quantity I ≤ Quantity II

S104. Ans.(e)
Sol. Given, p > 1 > q > 0
Quantity I: $\frac{p^3 - q^3}{p - q} - 3pq$
We know, $a^3 - b^3 = (a-b)(a^2 + ab + b^2)$
So, : $\frac{p^3 - q^3}{p - q} - 3pq = p^2 + pq + q^2 - 3pq$
$= p^2 + q^2 - 2pq$
$= (p - q)^2$
We know, whole square always be > 0 and here it can't be zero because $p \neq q$.
So, quantity I always give a positive value
Quantity II: $(1 - \frac{1}{q})$
Given, 1 > q
So, $1 < \frac{1}{q}$
Then, $1 - \frac{1}{q} < 0$ or give negative value
So, quantity II always give a negative value
So, Quantity I > Quantity II

Solutions (15-17):
For equation II: $q\left(\frac{4}{9}\right) - 8\left(\frac{2}{3}\right) + 4 = 0$
4q – 48 + 36 = 0
q = 3
now, $3y^2 - 8y + 4 = 0$
$3y^2 - 6y - 2y + 4 = 0$
y = 2, $\frac{2}{3}$
Given, the ratio of highest root of equation I to the highest root of equation II is 7 : 4
So, let highest root of equation I = a
So, $\frac{a}{2} = \frac{7}{4}$
a = $\frac{7}{2}$
For equation I: $p\left(\frac{49}{4}\right) - 9\left(\frac{7}{2}\right) + 7 = 0$
49p – 126 + 28 = 0
p = 2
Now, $2x^2 - 9x + 7 = 0$
$2x^2 - 2x - 7x + 7 = 0$
x = $\frac{7}{2}$, 1

S105. Ans.(d)
Sol. Required ratio = $\frac{\frac{1}{2}}{\frac{3}{3}}$ = 3 : 2

S106. Ans.(a)
Sol. p + q = 2 + 3 = 5

S107. Ans.(e)
Sol. $(p+q)^2 a^2 + (3pq + 1) a - 6 = 0$
$(2+3)^2 a^2 + (3 \times 2 \times 3 + 1) a - 6 = 0$
$25a^2 + 19a - 6 = 0$
$25a^2 + 25a - 6a - 6 = 0$
a = $\frac{6}{25}$, -1

S108. Ans.(b)
Sol. Pattern of series –

229,	256,	320,	**445,**	661,	1004
+27	+64	+125	+216	+343	
↑	↑	↑	↑	↑	
3^3	4^3	5^3	6^3	7^3	

X = 445
For I: $\frac{445}{15} = 29.66$ (I is incorrect)
For II: (445+2) = 447
447 is divisible by 149 so it is not a prime number (II is incorrect)
So, both I and II incorrect

S109. Ans.(a)
Sol. Pattern of the series(A):

1332,	612,	492,	**Y=468,**	462,	460
720	120	24	6	2	
6!	5!	4!	3!	2!	

Fourth term of series (B) $= \frac{468-18}{5} = 90$

First term of the series(B):

954,	234,	114,	90,	84,	82
720	120	24	6	2	
6!	5!	4!	3!	2!	

S110. Ans.(e)
Sol. Pattern of the series

49,	**?=56,**	82,	145,	269,	484,	826
7	26	63	124	215	342	
(2^3-1)	(3^3-1)	(4^3-1)	(5^3-1)	(6^3-1)	(7^3-1)	

$? = A + 6$
$56 - 6 = A$
$50 = A$
Nearest square of A = 7

S111. Ans.(b)
Sol. The ratio of time for P, Q and R invested respectively =
10 : 10 : 12 = 5 : 5 : 6
From I.
Let profit share of Q = 100x
And profit share of P & R = 155x
From II.
Let annual profit of P be = Rs.p
Annual profit of R = Rs. (p-450)
And Annual profit of Q = Rs. $\frac{80}{100}$ ×(p-450)
From III.
Let amount invested by R = 5Y
And amount invested by Q = 4Y
There are three variables, so none of the given statements can answer the question

S112. Ans.(e)
Sol. Let speed of boat in still water and speed of stream be x km/hr and y km/hr respectively.
From I.
$x + y - x = 12$
$y = 12$
From II.
$\frac{x-y}{x} = \frac{4}{7}$
$7x - 7y = 4x$
$3x = 7y$
$\frac{3}{7} = \frac{y}{x}$
$\frac{3a}{7a} = \frac{y}{x}$

From III.
$\frac{280}{(x+y)} + \frac{280}{(x-y)} = 24.5$
So, either statement I & II together, statement II & III together or statement I & III together.

S113. Ans.(b)
Sol. Let speed of train A = a m/s
And, speed of train B = b m/s
From I.
Let length of train B be L meters
$\frac{L+140}{b} = 22.4$
$L + 140 = 22.4b$
From II.
Length of train A = 19a
From III
From I & II together:
$19a = 22.4b - 140$
None of the given statements can answer the question.

S114. Ans.(d)
Sol. From I.
$Z + 8 = \frac{X+Y}{2} - 8$
$Z + 16 = \frac{X+Y}{2}$
From II.
Present age of Y = 52 − 12 = 40 years
And present age of X = $\frac{40}{5} \times 3 = 24$ years
From III.
$\frac{X}{Z} = \frac{3}{2}$
From I & II together.
$Z + 16 = \frac{40+24}{2}$
Z = 16 years
Required difference = 21 − 17 = 4 years
So, I & II together required to answer of the questions.
From II & III together.
Present age of Z = $24 \times \frac{2}{3} = 16$ years
Required difference = 21 − 17 = 4 years
So, II & III together required to answer of the questions.
So, either I & II together required or II & III together required to give answer of the question.

Solutions (115-119):
People who like car C = 210**.**
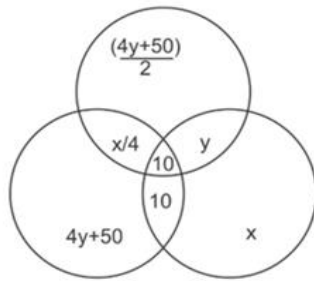People who like car A = $210 \times \frac{29}{42} = 145$
Let people who like only car B be x
And people who like only car A&C together = $\frac{x}{4}$

Let people who like only car A& B together be y
And people who like only car C = 4y+50

People who like only car A = $\frac{4y+50}{2}$

A(145)

C(210)   **B**

ATQ,

$\frac{4y+50}{2} + y + \frac{x}{4} + 10 = 145$

$\frac{4y+50+2y}{2} + \frac{x}{4} = 135$

$8y + 100 + 4y + x = 540$

$x + 12y = 440 \ldots.(i)$
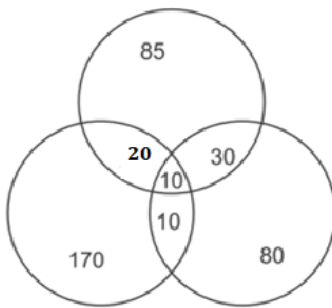
And

$\frac{x}{4} + (4y+50) + 10 + 10 = 210$

$\frac{x}{4} + 4y = 140$

$x + 16y = 560 \ldots.(ii)$

From (i) & (ii)

$y = 30, x = 80$

A (145)

C(210)   **B(130)**

S115. Ans.(b)
Sol. Required ratio = 170 : 130=17:13

S116. Ans.(c)
Sol. Required percentage $= \frac{20}{20+30+10+10} \times 100$

$= \frac{20}{70} \times 100$

$= 28\frac{4}{7}\%$

S117. Ans.(e)
Sol. Males who like only car A= $85 \times \frac{11}{17} = 55$
People who like only car B&C together = 10
Required difference = $55 - 10 = 45$

S118. Ans.(c)
Sol.
People who do not like any of the three cars
= $550 - (145 + 210 + 130) = 65$

S119. Ans.(a)
Sol. People who like only car A and only car B together =
85+80= 165
People who like only car A&B together and people who like
only car C = 30+170=200
Required percentage $= \frac{200-165}{200} \times 100 = 17.5\%$

S120. Ans.(c)
Sol. Let length of train A be x meters
And length of train B = x+60 meters
ATQ.

$\frac{x+60}{126 \times \frac{5}{18}} = \frac{108}{7}$

$x + 60 = 108 \times 5$

$x = 480$ meters

Speed of train A $= \frac{480}{24} = 20$ m/sec

Length of bridge $= \frac{5}{9} \times (480 + 60) = 300 \ meters$

Required time $= \frac{300+480}{20} = 39$ seconds