



Section : Verbal Ability

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QNo:- 1 ,Correct Answer:- C

**Explanation:-**

Q is all of the following are true, EXCEPT

For option 1, refer lines *"a framework for analyzing the contradictory pulls on [Indian] nationalist ideology in its struggle against the dominance of colonialism and the resolution it offered to those contradictions. Briefly, this resolution was built around a separation of the domain of culture into two spheres—the material and the spiritual."*

For option 2, refer lines *"The discourse of nationalism shows that the material/spiritual distinction was condensed into an analogous, but ideologically far more powerful, dichotomy: that between the outer and the inner."*

For option 4, refer lines *"The discourse of nationalism shows that the material/spiritual distinction was condensed into an analogous, but ideologically far more powerful, dichotomy: that between the outer and the inner. . . . Applying the inner/outer distinction to the matter of concrete day-to-day living separates the social space into ghar and bāhir, the home and the world. The world is the external, the domain of the material; the home represents one's inner spiritual self, one's true identity."*

QNo:- 2 ,Correct Answer:- D

**Explanation:-**

Refer lines **"It was in the material sphere that the claims of Western civilization were the most powerful. Science, technology, rational forms of economic organization, modern methods of statecraft—these had given the European countries the strength to subjugate the non-European people . . . To overcome this domination, the colonized people had to learn those superior techniques of organizing material life and incorporate them within their own cultures. . . . But this could not mean the imitation of the West in every aspect of life, for then the very distinction between the West and the East would vanish—the self-identity of national culture would itself be threatened. . ."**

QNo:- 3 ,Correct Answer:- A

**Explanation:-**

Option 1 goes against lines *"But this could not mean the imitation of the West in every aspect of life, for then the very distinction between the West and the East would vanish—the self-identity of national culture would itself be threatened."*

Here the author talks about distinction, while the option talks about hybridization in all realms

QNo:- 4 ,Correct Answer:- C



**Explanation:-**

Q is about liberals' **perception**. Refer lines

*"as liberals are apt to in their despair at the many marks of social conservatism in nationalist practice, a total rejection of the West."*

**QNo:- 5 ,Correct Answer:- A**

**Explanation:-**

Option1 is supported by paras 1 and 2

Option2 is incorrect Refer lines *"We hold our beliefs and presumptive knowledges more or less confidently, usually **depending on how we acquired them** (I saw it with my own eyes; I heard it on Fox News; a guy at the office told me)"*

Option 3 is incorrect as sceptic says "we should aim to know that reality independently" isn't supported by the passage

**QNo:- 6 ,Correct Answer:- C**

**Explanation:-**

Refer to lines preceding the line in Q and we reach option 3 as the answer

*"we cannot be sure that we know anything – at least not if we think of knowledge as something like having a correct mental representation of reality, and not if we think of reality as something like things-as-they-are-in-themselves, independent of our perceptions, ideas or descriptions. For, the sceptic will note, since reality, under that conception of it, is outside our ken (we cannot catch a glimpse of things-in-themselves around the corner of our own eyes; we cannot form an idea of reality that floats above the processes of our conceiving it), we have no way to compare our mental representations with things-asthey-are-in-themselves and therefore no way to determine whether they are correct or incorrect"*

**QNo:- 7 ,Correct Answer:- D**

**Explanation:-**

Refer lines *"We hold our beliefs and presumptive knowledge's more or less confidently, usually **depending on how we acquired them** (I saw it with my own eyes; I heard it on Fox News; a guy at the office told me) **and how broadly and strenuously they seem to be shared or endorsed by various relevant people:** experts and authorities, friends and family members, colleagues and associates"*

**QNo:- 8 ,Correct Answer:- D**

**Explanation:-**



Q is all of the following, EXCEPT

For option 1 refer lines "sceptic's contention that we cannot be sure that we know anything – at least not if we think of knowledge as something like having a correct mental representation of reality, and not if we think of reality as something like things-as-they-are-in-themselves, independent of our perceptions, ideas or descriptions."

For option 2 refer lines "**unless we can ground our claims to knowledge as such, which is to say, distinguish it from mere opinion**, superstition, fantasy, wishful thinking, ideology, illusion **or delusion**, then the actions we take on the basis of presumed knowledge – boarding an airplane, swallowing a pill, finding someone guilty of a crime – **will be irrational and unjustifiable.**"

For option 3 refer lines "While it is not clear that the scandal matters to anyone but philosophers, philosophers point out that it should matter to everyone"

**QNo:- 9 ,Correct Answer:- D**

**Explanation:-**

Option 4 is correct as it's supported by lines "Both push and pull factors lead to the decline of languages. .... More commonly, speakers live on but abandon their language in favor of another vernacular, a widespread process that linguists refer to as "**language shift**" from which few languages are immune. Such trading up and out of a speech form occurs for complex political, cultural and economic reasons – sometimes voluntary for economic and educational reasons, although often amplified by state coercion or neglect. Welsh, long stigmatized and disparaged by the British state, has rebounded with vigor." where author talks about language shift in previous lines

Option 1 is incorrect as author doesn't state globalization as reason for Welsh language

Option 2 is incorrect as it's not about people but about the language

Option 3 is incorrect as it gives credit to state opposite to what the author states "Such trading up and out of a speech form occurs for complex political, cultural and economic reasons – sometimes voluntary for economic and educational reasons, although often amplified by **state coercion** or neglect. Welsh, **long stigmatized and disparaged by the British state**, has rebounded with vigor."

**QNo:- 10 ,Correct Answer:- C**

**Explanation:-**

Refer last paragraph

**QNo:- 11 ,Correct Answer:- C**

**Explanation:-**

Q is all of the following EXCEPT

Option 3 is incorrect because of words 'challenging to document' which isn't supported by the passage

Option 1 is supported by lines *"But indigenous languages are about much more than unusual words and intriguing grammar: **They function as vehicles for the transmission of cultural traditions, environmental understandings** and knowledge about medicinal plants, all at risk when elders die and livelihoods are disrupted."*

Option 2 is supported by lines *"While speech communities are increasingly involved in projects to protect their languages – in print, on air and online – orality is fragile and contributes to linguistic vulnerability."*

Option 4 is supported throughout the passage especially by lines *"It's easy to forget that **most of the world's languages are still transmitted orally with no widely established written form.** While speech communities are increasingly involved in projects to protect their languages – in print, on air and online – **orality is fragile and contributes to linguistic vulnerability.**"*

**QNo:- 12 ,Correct Answer:- B**

**Explanation:-**

Q is all of the following EXCEPT

Option 2 is opposite of what author states Refer lines:

*"Speakers of previously exclusively oral tongues are turning to the web as a virtual space for languages to live on. Internet technology offers powerful ways for oral traditions and cultural practices to survive, even thrive, among increasingly mobile communities"*

*"By widening access to technology, globalization can support indigenous and scholarly communities engaged in documenting and protecting our shared linguistic heritage"*

**QNo:- 13 ,Correct Answer:- B**

**Explanation:-** Q is about 'successful' leaders

Option 1 is incorrect because of the word 'better' which isn't supported by the passage

Option 3 is incorrect as it isn't first but second type of power

Option 4 is extreme owing to its meaning and use of words 'need' and 'both' and 'to remain'

**QNo:- 14 ,Correct Answer:- C**

**Explanation:-** 2 Main points to be covered are 'truth' and 'unity' Refer lines *"Should they aim to unite people by making sure everyone believes in the same fiction, or should they let people know the truth even at the price of disunity?"*

**QNo:- 15 ,Correct Answer:- A**

**Explanation:-** None of the other options actually talks about fiction

**QNo:- 16 ,Correct Answer:- A**

**Explanation:-**

Option 2 is not correct as author doesn't recommend staying close to unalloyed truth Refer line "*Hence if you stick to unalloyed reality, few (i.e. hardly anyone) people will follow you.*"

Option 3 is incorrect as author doesn't talk about limits

Option 4 is incorrect as author doesn't talk about "*a leader who propagates **only** myths*"

**QNo:- 17 ,Correct Answer:- 3214**

**Explanation:-**

1-4 1-4 is an obvious pair as 'this invention' in 1 is referring to 'commercial fusion power' in 1

3-2 2 tells why the modern scientific method is the greatest as the method (including controlled tests, precise observations and clever analysis) provides meaningful insights

32-14 14 add to the why the method is the greatest by providing an example (commercial fusion power is inconceivable without it)

**QNo:- 18 ,Correct Answer:- B**

**Explanation:-**

Option 1 is incorrect as the industrialist and the unemployed don't capture the political agenda, the capitalist does

Option 3 is incorrect as 'stifle competition in free markets' isn't talked about in the paragraph

Option 4 is incorrect as 'the capitalists capture the political agenda' because of competition isn't implied by the paragraph

Option 2 summarizes the paragraph without committing any of the mistakes in other options

**QNo:- 19 ,Correct Answer:- 5**

**Explanation:-** Statement 1 to 4 talk about marketing and neuromarketing while Statement 5 talks about social scientists, who haven't been talked about in any other Statement Hence 5 is the odd one out

**QNo:- 20 ,Correct Answer:- C**

**Explanation:-**

Option 1 is incorrect as it's the undue obsession not the industry that is hampering creativity. Also, 'destroyed' is too strong a word

Option 2 is incorrect as it's not proliferation of creativity that is negative but undue obsession

with it. Also, the paragraph never implied that there ever was a stable process for creativity  
Option 4 is incorrect as it focuses on **defining** creativity while paragraph is talking about real creativity

Option 3 summarizes the paragraph without committing any of the mistakes in other options

**QNo:- 21 ,Correct Answer:- B**

**Explanation:-**

Option 1 is factually incorrect because of use of words 'almost all'

Option 3 is incorrect as it leaves out biologists and physicists completely and also because of use of word 'most'

Option 4 is factually incorrect as preprints aren't accepted by biologists

**QNo:- 22 ,Correct Answer:- 1**

**Explanation:-** Statement 2 and 3 both talk about genetics

Statement 3,4 and 5 talk about enhancement through genetics

Statement 4 talks about philosophers shrinking from/shying away while Statement 1 talks about '*The care with which philosophers examine*' Hence Statement 1 and 4 are conceptually opposing

**QNo:- 23 ,Correct Answer:- 2413**

**Explanation:-** Statement 2 at the beginning states that we are at crossroads

2-41 41 state why we are at crossroads comparing situations 'half a century ago' and 'today'

1-3 'This' in 3 is referring to initial part of Statement 1

**QNo:- 24 ,Correct Answer:- 2143**

**Explanation:-** 2 starts the paragraph as it states what the northwest passage is composed of

4-3 'the dispute' in 3 is referring to Statement 4

Also, 3 concludes by stating the dispute is transitory

21--3 the basis of 'the dispute' in 3 is given in Statement 2 and 1 so 2 and 1 come before Statement 3 though not immediately before statement 3

## **Section : DI & Reasoning**

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**QNo:- 25 ,Correct Answer:- 6**

**Explanation:-** From the given information, we can make the following table. The numbers



here are the dates on which the orders are booked (B) and dispatched (D).

	Order									
	I		II		III		IV		V	
	B	D	B	D	B	D	B	D	B	D
Art	1	3	3	4	4	6	6	13	13	21
Binders	1	2	2	4	4	5	5	16		
Paper	2	4	4	7	7	12				
Phones	2	4	4	5	5	17				
Appliances	2	4	4	12						
Book cases	3	4	4	6	6	7				
Fasteners	2	4	4	6	6	8				
Furnishing	1	5	5	12						
Labels	2	4	4	12						
Tables	2	4	4	10						
Chairs	2	3	3	9						
Accessories	1	19								
Envelopes	3	7								
Storage	2	7	7	22						

From the above table, we can see that no booking was done on 8th, 9th, 10th, 11th, 12th and 14th Sept. Therefore, for 6 days there was no booking.

**QNo:- 26 ,Correct Answer:- 11**

**Explanation:-** From the given information, we can make the following table. The numbers here are the dates on which the orders are booked (B) and dispatched (D).

	Order									
	I		II		III		IV		V	
	B	D	B	D	B	D	B	D	B	D
Art	1	3	3	4	4	6	6	13	13	21
Binders	1	2	2	4	4	5	5	16		
Paper	2	4	4	7	7	12				
Phones	2	4	4	5	5	17				
Appliances	2	4	4	12						
Book cases	3	4	4	6	6	7				
Fasteners	2	4	4	6	6	8				
Furnishing	1	5	5	12						
Labels	2	4	4	12						
Tables	2	4	4	10						
Chairs	2	3	3	9						



Accessories	1	19							
Envelopes	3	7							
Storage	2	7	7	22					

Accessories and Envelopes have only one type of shipping mode.

Processing time for Accessories = (19 - 1) = 18 days

Processing time for Envelopes = (7 - 3) = 4 days

$$\text{Therefore, average time} = \frac{18+4}{2} = 11 \text{ days}$$

**QNo:- 27 ,Correct Answer:- B**

**Explanation:-** From the given information, we can make the following table. The numbers here are the dates on which the orders are booked (B) and dispatched (D).

	Order									
	I		II		III		IV		V	
	B	D	B	D	B	D	B	D	B	D
Art	1	3	3	4	4	6	6	13	13	21
Binders	1	2	2	4	4	5	5	16		
Paper	2	4	4	7	7	12				
Phones	2	4	4	5	5	17				
Appliances	2	4	4	12						
Book cases	3	4	4	6	6	7				
Fasteners	2	4	4	6	6	8				
Furnishing	1	5	5	12						
Labels	2	4	4	12						
Tables	2	4	4	10						
Chairs	2	3	3	9						
Accessories	1	19								
Envelopes	3	7								
Storage	2	7	7	22						

Average processing time for Arts

$$= \frac{(3-1)+(4-3)+(6-4)+(13-6)+(21-13)}{5} = \frac{2+1+2+7+8}{5} = \frac{20}{5} = 4 \text{ days}$$

Average processing time for Binders

$$= \frac{(2-1)+(4-2)+(5-4)+(16-5)}{4} = \frac{1+2+1+11}{4} = \frac{15}{4} = 3.75$$

$$\text{Average processing time for Paper} = \frac{(4-2)+(7-4)+(12-7)}{3} = \frac{2+3+5}{3} = \frac{10}{3} = 3.33$$

$$\text{Average processing time for Phones} = \frac{(4-2)+(5-4)+(17-5)}{3} = \frac{2+1+12}{3} = \frac{15}{3} = 5$$





Therefore, the decreasing order is Phones, Art, Binders, Paper

**QNo:- 28 ,Correct Answer:- C**

**Explanation:-** From the given information, we can make the following table. The numbers here are the dates on which the orders are booked (B) and dispatched (D).

	Order									
	I		II		III		IV		V	
	B	D	B	D	B	D	B	D	B	D
Art	1	3	3	4	4	6	6	13	13	21
Binders	1	2	2	4	4	5	5	16		
Paper	2	4	4	7	7	12				
Phones	2	4	4	5	5	17				
Appliances	2	4	4	12						
Book cases	3	4	4	6	6	7				
Fasteners	2	4	4	6	6	8				
Furnishing	1	5	5	12						
Labels	2	4	4	12						
Tables	2	4	4	10						
Chairs	2	3	3	9						
Accessories	1	19								
Envelopes	3	7								
Storage	2	7	7	22						

Total orders = 35

Orders with processing time of one day = 7

$\therefore \text{Required \%age} = \frac{7}{35} \times 100 = 20\%$

**QNo:- 29 ,Correct Answer:- C**

**Explanation:-**

3 games:- Aruna, Biju, Chira, Dipen

2 games:- Azul, Chetan

1 game:- Arif, Brinda, Brij, Chhavi, Donna, Deb

Group A:- Arif played one game & Azul played 2 games

$\therefore$  1st match  $\rightarrow$  Arif vs Azul  $\rightarrow$  Azul won

2nd match  $\rightarrow$  Azul vs Aruna  $\rightarrow$  Aruna won

$\therefore$  Aruna is Rank 1 player of group A.

As Aruna played 3 matches and she played only one match in group 1, so the remaining two

matches of Aruna are semifinal & final.

⇒ Aruna played final

Group B:- Brinda & Brij played 1 match each, so Biju cannot be rank one player in Group B. This is because, if Biju is rank 1, then Brinda & Brij will play first match and winner of that match will play against Biju, so that person will play 2 matches, which is not possible.

If Brinda is rank 1 player, then

I match → Biju vs Brij ⇒ Biju won

II match → Biju vs Brinda ⇒ Biju won

If Brij is rank 1 player, then

I match → Biju vs Brinda ⇒ Biju won

II match → Biju vs Brij ⇒ Biju won

So either Brij or Brinda is rank 1 player in group B and Biju played 2 matches in group.

So the third match which Biju will play is semifinal.

Group C:- Here Chhavi played one match and Chetan played 2 matches.

So match I:- Chhavi vs Chetan ⇒ Chetan won

match II:- Chitra vs Chetan ⇒ Chitra won

if Chhavi plays with Chitra & Chitra beats her, then Chitra will beat Chetan also. In that case Chetan has played only one game which is not possible.

Here Chitra had played one match in group and her remaining matches are semifinal & final. So Chitra played final.

Group D:- Here Donna & Deb played one match each. So as discussed in Group B, Dipen cannot be rank 1 player.

∴ In group D, either Donna & Deb are rank 1 player & Dipen played 2 matches in group and his one match will be semifinal.

Dipen is definitely not ranked first in his group.

**QNo:- 30 ,Correct Answer:- D**

**Explanation:-**

3 games:- Aruna, Biju, Chira, Dipen

2 games:- Azul, Chetan

1 game:- Arif, Brinda, Brij, Chhavi, Donna, Deb

Group A:- Arif played one game & Azul played 2 games

∴ 1st match → Arif vs Azul → Azul won

2nd match → Azul vs Aruna → Aruna won

∴ Aruna is Rank 1 player of group A.

As Aruna played 3 matches and she played only one match in group 1, so the remaining two matches of Aruna are semifinal & final.

⇒ Aruna played final

Group B:- Brinda & Brig played 1 match each, so Biju cannot be rank one player in Group B. This is because, if Biju is rank 1, then Brinda & Brij will play first match and winner of that match will play against Biju, so that person will play 2 matches, which is not possible.

If Brinda is rank 1 player, then

I match → Biju vs Brij ⇒ Biju won

II match → Biju vs Brinda ⇒ Biju won

If Brij is rank 1 player, then

I match → Biju vs Brinda ⇒ Biju won

II match → Biju vs Brij ⇒ Biju won

So either Brij or Brinda is rank 1 player in group B and Biju played 2 matches in group.

So the third match which Biju will play is semifinal.

Group C:- Here Chhavi played one match and Chetan played 2 matches.

So match I:- Chhavi vs Chetan ⇒ Chetan won

match II:- Chitra vs Chetan ⇒ Chitra won

if Chhavi plays with Chitra & Chitra beats her, then Chitra will beat Chetan also. In that case Chetan has played only one game which is not possible.

Here Chitra had played one match in group and her remaining matches are semifinal & final. So Chitra played final.

Group D:- Here Donna & Deb played one match each. So as discussed in Group B, Dipen cannot be rank 1 player.

∴ In group D, either Donna & Deb are rank 1 player & Dipen played 2 matches in group and his one match will be semifinal.

Chitra, Dipen

**QNo:- 31 ,Correct Answer:- C**

**Explanation:-**

3 games:- Aruna, Biju, Chira, Dipen

2 games:- Azul, Chetan

1 game:- Arif, Brinda, Brij, Chhavi, Donna, Deb

Group A:- Arif played one game & Azul played 2 games

∴ 1st match → Arif vs Azul → Azul won

2nd match → Azul vs Aruna → Aruna won

∴ Aruna is Rank 1 player of group A.

As Aruna played 3 matches and she played only one match in group 1, so the remaining two matches of Aruna are semifinal & final.

⇒ Aruna played final

Group B:- Brinda & Brig played 1 match each, so Biju cannot be rank one player in Group B. This is because, if Biju is rank 1, then Brinda & Brij will play first match and winner of that match will play against Biju, so that person will play 2 matches, which is not possible.



If Brinda is rank 1 player, then

I match → Biju vs Brij ⇒ Biju won

II match → Biju vs Brinda ⇒ Biju won

If Brij is rank 1 player, then

I match → Biju vs Brinda ⇒ Biju won

II match → Biju vs Brij ⇒ Biju won

So either Brij or Brinda is rank 1 player in group B and Biju played 2 matches in group.

So the third match which Biju will play is semifinal.

Group C:- Here Chhavi played one match and Chetan played 2 matches.

So match I:- Chhavi vs Chetan ⇒ Chetan won

match II:- Chitra vs Chetan ⇒ Chitra won

if Chhavi plays with Chitra & Chitra beats her, then Chitra will beat Chetan also. In that case Chetan has played only one game which is not possible.

Here Chitra had played one match in group and her remaining matches are semifinal & final. So Chitra played final.

Group D:- Here Donna & Deb played one match each. So as discussed in Group B, Dipen cannot be rank 1 player.

∴ In group D, either Donna & Deb are rank 1 player & Dipen played 2 matches in group and his one match will be semifinal.

Aruna & Chitra reached the final. As Chitra did not win final, so Aruna must have won it.

**QNo:- 32 ,Correct Answer:- A**

**Explanation:-**

3 games:- Aruna, Biju, Chira, Dipen

2 games:- Azul, Chetan

1 game:- Arif, Brinda, Brij, Chhavi, Donna, Deb

Group A:- Arif played one game & Azul played 2 games

∴ 1st match → Arif vs Azul → Azul won

2nd match → Azul vs Aruna → Aruna won

∴ Aruna is Rank 1 player of group A.

As Aruna played 3 matches and she played only one match in group 1, so the remaining two matches of Aruna are semifinal & final.

⇒ Aruna played final

Group B:- Brinda & Brig played 1 match each, so Biju cannot be rank one player in Group B. This is because, if Biju is rank 1, then Brinda & Brij will play first match and winner of that match will play against Biju, so that person will play 2 matches, which is not possible.

If Brinda is rank 1 player, then

I match → Biju vs Brij ⇒ Biju won

II match → Biju vs Brinda ⇒ Biju won

If Brij is rank 1 player, then  
I match → Biju vs Brinda ⇒ Biju won  
II match → Biju vs Brij ⇒ Biju won

So either Brij or Brinda is rank 1 player in group B and Biju played 2 matches in group.  
So the third match which Biju will play is semifinal.

Group C:- Here Chhavi played one match and Chetan played 2 matches.

So match I:- Chhavi vs Chetan ⇒ Chetan won

match II:- Chitra vs Chetan ⇒ Chitra won

if Chhavi plays with Chitra & Chitra beats her, then Chitra will beat Chetan also. In that case Chetan has played only one game which is not possible.

Here Chitra had played one match in group and her remaining matches are semifinal & final.  
So Chitra played final.

Group D:- Here Donna & Deb played one match each. So as discussed in Group B, Dipen cannot be rank 1 player.

∴ In group D, either Donna & Deb are rank 1 player & Dipen played 2 matches in group and his one match will be semifinal.

Biju played semifinal against Aruna and lost it. So he cannot play against Chitra.

**QNo:- 33 ,Correct Answer:- 6**

**Explanation:-** The total tip received is Rs. 120

Now  $120 = 20 + 20 + 30 + 50$  or  $20 + 50 + 50 + 0$  or  $30 + 30 + 30 + 30$

It is given that in Timeliness, Ravi received a total of 21 points. As per point 1, let Atal gave  $x$  points then Bihari, Chirag and Deepak will give  $y$  each, s.t.  $x > y$  &  $x + 3y = 21$

⇒  $(x, y)$  are  $(6, 5)$  or  $(9, 4)$

Total of Packaging is 29 with all distinct ratings ⇒  $29 = 9 + 8 + 7 + 5$

Hygiene also has distinct ratings with a total of 26.

Now  $26 = 9 + 8 + 7 + 2$  or  $9 + 8 + 6 + 3$  or  $9 + 8 + 5 + 4$  or  $8 + 7 + 6 + 5$

Point 4 says that Chirag gave highest rating to hygiene, and also rating of Chirag as per point 3 is same for packaging & hygiene. So Chirag cannot give rating 9 to packaging as Bihari is the one giving highest rating to packaging.

∴ Chirag will give highest rating of 8 to hygiene and therefore  $26 = 8 + 7 + 6 + 5$

Using the point 5, the partial table can be as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7			$x$	
Bihari	6	9		$y$	
Chirag	6	8	8	$y$	
Deepak	5			$y$	
Total		9	26	21	

Point 6 says that Atal's Rank in Packaging & hygiene is same. So it can be rank 3 or 4 and the same is true for Deepak also.

Two cases arise here:

Case I:- If Atal's rank is 3rd in packaging and hygiene.

In this case Atal's rating in packaging will be 7 and in hygiene will be 6 Deepak will be ranked 4 in these parameters with ratings 5 each.

Also taking the possible values of timeliness, the table will look like as follows

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	7	6	6/9	26/29
Bihari	6	9	7	5/4	27/26
Chirag	6	8	8	5/4	27/26
Deepak	5	5	5	5/4	20/19
Total		29	26	21	

In this case Ravi will get bonus of Rs 20 each from Atal, Bihari & Chirag. From Deepak he can get maximum Rs 50 as tip. So his total will not be Rs 120 therefore, this case is wrong.

Case II:- If Atal's rank is 4th in packaging and hygiene. In this case Atal's ratings in these two parameters will be 5 each and Deepak's rank will be third with ratings of 7 & 6 respectively in packaging and hygiene respect.

We get the first table as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	9	26
Bihari	6	9	7	4	26
Chirag	6	8	8	4	26
Deepak	5	7	6	4	22

In this case again he will get Rs 20 bonus from Atal, Bihari & Chirag, so his total cannot be Rs 120. Hence this case is not valid.

If we take the second case of timeliness, then the table will be

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	6	23
Bihari	6	9	7	5	27
Chirag	6	8	8	5	27
Deepak	5	7	6	5	23
Total		29	26		

In this case Ravi can get tip from Atal & Deepak & will get bonus from Bihari & Chirag. Atal & Deepak can give tip of Rs 30 & Rs 50 in any order.



So he will get  $120 = 20 + 20 + 30 + 50$ .

Minimum rating given is 5

**QNo:- 34 ,Correct Answer:- D**

**Explanation:-** The total tip received is Rs. 120

Now  $120 = 20 + 20 + 30 + 50$  or  $20 + 50 + 50 + 0$  or  $30 + 30 + 30 + 30$

It is given that in Timeliness, Ravi received a total of 21 points. As per point 1, let Atal gave  $x$  points then Bihari, Chirag and Deepak will give  $y$  each, s.t.  $x > y$  &  $x + 3y = 21$

$\Rightarrow (x, y)$  are  $(6, 5)$  or  $(9, 4)$

Total of Packaging is 29 with all distinct ratings  $\Rightarrow 29 = 9 + 8 + 7 + 5$

Hygiene also has distinct ratings with a total of 26.

Now  $26 = 9 + 8 + 7 + 2$  or  $9 + 8 + 6 + 3$  or  $9 + 8 + 5 + 4$  or  $8 + 7 + 6 + 5$

Point 4 says that Chirag gave highest rating to hygiene, and also rating of Chirag as per point 3 is same for packaging & hygiene. So Chirag cannot give rating 9 to packaging as Bihari is the one giving highest rating to packaging.

$\therefore$  Chirag will give highest rating of 8 to hygiene and therefore  $26 = 8 + 7 + 6 + 5$

Using the point 5, the partial table can be as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7			$x$	
Bihari	6	9		$y$	
Chirag	6	8	8	$y$	
Deepak	5			$y$	
Total		9	26	21	

Point 6 says that Atal's Rank in Packaging & hygiene is same. So it can be rank 3 or 4 and the same is true for Deepak also.

Two cases arise here:

Case I:- If Atal's rank is 3rd in packaging and hygiene.

In this case Atal's rating in packaging will be 7 and in hygiene will be 6 Deepak will be ranked 4 in these parameters with ratings 5 each.

Also taking the possible values of timeliness, the table will look like as follows

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	7	6	6/9	26/29
Bihari	6	9	7	5/4	27/26
Chirag	6	8	8	5/4	27/26
Deepak	5	5	5	5/4	20/19
Total		29	26	21	

In this case Ravi will get bonus of Rs 20 each from Atal, Bihari & Chirag. From Deepak he can



get maximum Rs 50 as tip. So his total will not be Rs 120 therefore, this case is wrong.

Case II:- If Atal's rank is 4th in packaging and hygiene. In this case Atal's ratings in these two parameters will be 5 each and Deepak's rank will be third with ratings of 7 & 6 respectively in packaging and hygiene respect.

We get the first table as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	9	26
Bihari	6	9	7	4	26
Chirag	6	8	8	4	26
Deepak	5	7	6	4	22

In this case again he will get Rs 20 bonus from Atal, Bihari & Chirag, so his total cannot be Rs 120. Hence this case is not valid.

If we take the second case of timeliness, then the table will be

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	6	23
Bihari	6	9	7	5	27
Chirag	6	8	8	5	27
Deepak	5	7	6	5	23
Total		29	26		

In this case Ravi can get tip from Atal & Deepak & will get bonus from Bihari & Chirag. Atal & Deepak can give tip of Rs 30 & Rs 50 in any order.

So he will get  $120 = 20 + 20 + 30 + 50$ .

Bihari & Chirag gave maximum 27 points

**QNo:- 35 ,Correct Answer:- 6**

**Explanation:-** The total tip received is Rs. 120

Now  $120 = 20 + 20 + 30 + 50$  or  $20 + 50 + 50 + 0$  or  $30 + 30 + 30 + 30$

It is given that in Timeliness, Ravi received a total of 21 points. As per point 1, let Atal gave x points then Bihari, Chirag and Deepak will give y each, s.t.  $x > y$  &  $x + 3y = 21$

$\Rightarrow (x, y)$  are (6, 5) or (9, 4)

Total of Packaging is 29 with all distinct ratings  $\Rightarrow 29 = 9 + 8 + 7 + 5$

Hygiene also has distinct ratings with a total of 26.

Now  $26 = 9 + 8 + 7 + 2$  or  $9 + 8 + 6 + 3$  or  $9 + 8 + 5 + 4$  or  $8 + 7 + 6 + 5$

Point 4 says that Chirag gave highest rating to hygiene, and also rating of Chirag as per point 3 is same for packaging & hygiene. So Chirag cannot give rating 9 to packaging as Bihari is the one giving highest rating to packaging.





∴ Chirag will give highest rating of 8 to hygiene and therefore  $26 = 8 + 7 + 6 + 5$   
Using the point 5, the partial table can be as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7			x	
Bihari	6	9		y	
Chirag	6	8	8	y	
Deepak	5			y	
Total		9	26	21	

Point 6 says that Atal’s Rank in Packaging & hygiene is same. So it can be rank 3 or 4 and the same is true for Deepak also.

Two cases arise here:

Case I:- If Atal’s rank is 3rd in packaging and hygiene.

In this case Atal’s rating in packaging will be 7 and in hygiene will be 6 Deepak will be ranked 4 in these parameters with ratings 5 each.

Also taking the possible values of timeliness, the table will look like as follows

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	7	6	6/9	26/29
Bihari	6	9	7	5/4	27/26
Chirag	6	8	8	5/4	27/26
Deepak	5	5	5	5/4	20/19
Total		29	26	21	

In this case Ravi will get bonus of Rs 20 each from Atal, Bihari & Chirag. From Deepak he can get maximum Rs 50 as tip. So his total will not be Rs 120 therefore, this case is wrong.

Case II:- If Atal’s rank is 4th in packaging and hygiene. In this case Atal’s ratings in these two parameters will be 5 each and Deepak’s rank will be third with ratings of 7 & 6 respectively in packaging and hygiene respect.

We get the first table as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	9	26
Bihari	6	9	7	4	26
Chirag	6	8	8	4	26
Deepak	5	7	6	4	22

In this case again he will get Rs 20 bonus from Atal, Bihari & Chirag, so his total cannot be Rs 120. Hence this case is not valid.

If we take the second case of timeliness, then the table will be



	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	6	23
Bihari	6	9	7	5	27
Chirag	6	8	8	5	27
Deepak	5	7	6	5	23
Total		29	26		

In this case Ravi can get tip from Atal & Deepak & will get bonus from Bihari & Chirag. Atal & Deepak can give tip of Rs 30 & Rs 50 in any order.  
So he will get  $120 = 20 + 20 + 30 + 50$ .

Atal gave rating of 6 on timeliness

**QNo:- 36 ,Correct Answer:- C**

**Explanation:-** The total tip received is Rs. 120

Now  $120 = 20 + 20 + 30 + 50$  or  $20 + 50 + 50 + 0$  or  $30 + 30 + 30 + 30$

It is given that in Timeliness, Ravi received a total of 21 points. As per point 1, let Atal gave  $x$  points then Bihari, Chirag and Deepak will give  $y$  each, s.t.  $x > y$  &  $x + 3y = 21$

$\Rightarrow (x, y)$  are (6, 5) or (9, 4)

Total of Packaging is 29 with all distinct ratings  $\Rightarrow 29 = 9 + 8 + 7 + 5$

Hygiene also has distinct ratings with a total of 26.

Now  $26 = 9 + 8 + 7 + 2$  or  $9 + 8 + 6 + 3$  or  $9 + 8 + 5 + 4$  or  $8 + 7 + 6 + 5$

Point 4 says that Chirag gave highest rating to hygiene, and also rating of Chirag as per point 3 is same for packaging & hygiene. So Chirag cannot give rating 9 to packaging as Bihari is the one giving highest rating to packaging.

$\therefore$  Chirag will give highest rating of 8 to hygiene and therefore  $26 = 8 + 7 + 6 + 5$

Using the point 5, the partial table can be as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7			$x$	
Bihari	6	9		$y$	
Chirag	6	8	8	$y$	
Deepak	5			$y$	
Total		9	26	21	

Point 6 says that Atal's Rank in Packaging & hygiene is same. So it can be rank 3 or 4 and the same is true for Deepak also.

Two cases arise here:

Case I:- If Atal's rank is 3rd in packaging and hygiene.

In this case Atal's rating in packaging will be 7 and in hygiene will be 6 Deepak will be ranked 4 in these parameters with ratings 5 each.

Also taking the possible values of timeliness, the table will look like as follows

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	7	6	6/9	26/29
Bihari	6	9	7	5/4	27/26
Chirag	6	8	8	5/4	27/26
Deepak	5	5	5	5/4	20/19
Total		29	26	21	

In this case Ravi will get bonus of Rs 20 each from Atal, Bihari & Chirag. From Deepak he can get maximum Rs 50 as tip. So his total will not be Rs 120 therefore, this case is wrong.

Case II:- If Atal's rank is 4th in packaging and hygiene. In this case Atal's ratings in these two parameters will be 5 each and Deepak's rank will be third with ratings of 7 & 6 respectively in packaging and hygiene respect.

We get the first table as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	9	26
Bihari	6	9	7	4	26
Chirag	6	8	8	4	26
Deepak	5	7	6	4	22

In this case again he will get Rs 20 bonus from Atal, Bihari & Chirag, so his total cannot be Rs 120. Hence this case is not valid.

If we take the second case of timeliness, then the table will be

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	6	23
Bihari	6	9	7	5	27
Chirag	6	8	8	5	27
Deepak	5	7	6	5	23
Total		29	26		

In this case Ravi can get tip from Atal & Deepak & will get bonus from Bihari & Chirag. Atal & Deepak can give tip of Rs 30 & Rs 50 in any order. So he will get  $120 = 20 + 20 + 30 + 50$ .

Deepak can give a tip of Rs 30 or 50

**QNo:- 37 ,Correct Answer:- D**

**Explanation:-** The total tip received is Rs. 120

Now  $120 = 20 + 20 + 30 + 50$  or  $20 + 50 + 50 + 0$  or  $30 + 30 + 30 + 30$

It is given that in Timeliness, Ravi received a total of 21 points. As per point 1, let Atal gave  $x$  points then Bihari, Chirag and Deepak will give  $y$  each, s.t.  $x > y$  &  $x + 3y = 21$

$\Rightarrow (x, y)$  are (6, 5) or (9, 4)

Total of Packaging is 29 with all distinct ratings  $\Rightarrow 29 = 9 + 8 + 7 + 5$

Hygiene also has distinct ratings with a total of 26.

Now  $26 = 9 + 8 + 7 + 2$  or  $9 + 8 + 6 + 3$  or  $9 + 8 + 5 + 4$  or  $8 + 7 + 6 + 5$

Point 4 says that Chirag gave highest rating to hygiene, and also rating of Chirag as per point 3 is same for packaging & hygiene. So Chirag cannot give rating 9 to packaging as Bihari is the one giving highest rating to packaging.

$\therefore$  Chirag will give highest rating of 8 to hygiene and therefore  $26 = 8 + 7 + 6 + 5$

Using the point 5, the partial table can be as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7			$x$	
Bihari	6	9		$y$	
Chirag	6	8	8	$y$	
Deepak	5			$y$	
Total		9	26	21	

Point 6 says that Atal's Rank in Packaging & hygiene is same. So it can be rank 3 or 4 and the same is true for Deepak also.

Two cases arise here:

Case I:- If Atal's rank is 3rd in packaging and hygiene.

In this case Atal's rating in packaging will be 7 and in hygiene will be 6 Deepak will be ranked 4 in these parameters with ratings 5 each.

Also taking the possible values of timeliness, the table will look like as follows

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	7	6	6/9	26/29
Bihari	6	9	7	5/4	27/26
Chirag	6	8	8	5/4	27/26
Deepak	5	5	5	5/4	20/19
Total		29	26	21	

In this case Ravi will get bonus of Rs 20 each from Atal, Bihari & Chirag. From Deepak he can get maximum Rs 50 as tip. So his total will not be Rs 120 therefore, this case is wrong.

Case II:- If Atal's rank is 4th in packaging and hygiene. In this case Atal's ratings in these two parameters will be 5 each and Deepak's rank will be third with ratings of 7 & 6 respectively in packaging and hygiene respect.

We get the first table as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
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Atal	7	5	5	9	26
Bihari	6	9	7	4	26
Chirag	6	8	8	4	26
Deepak	5	7	6	4	22

In this case again he will get Rs 20 bonus from Atal, Bihari & Chirag, so his total cannot be Rs 120. Hence this case is not valid.

If we take the second case of timeliness, then the table will be

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	6	23
Bihari	6	9	7	5	27
Chirag	6	8	8	5	27
Deepak	5	7	6	5	23
Total		29	26		

In this case Ravi can get tip from Atal & Deepak & will get bonus from Bihari & Chirag. Atal & Deepak can give tip of Rs 30 & Rs 50 in any order. So he will get  $120 = 20 + 20 + 30 + 50$ .

Atal gave maximum points in behaviour

**QNo:- 38 ,Correct Answer:- A**

**Explanation:-** The total tip received is Rs. 120

Now  $120 = 20 + 20 + 30 + 50$  or  $20 + 50 + 50 + 0$  or  $30 + 30 + 30 + 30$

It is given that in Timeliness, Ravi received a total of 21 points. As per point 1, let Atal gave  $x$  points then Bihari, Chirag and Deepak will give  $y$  each, s.t.  $x > y$  &  $x + 3y = 21$

$\Rightarrow (x, y)$  are  $(6, 5)$  or  $(9, 4)$

Total of Packaging is 29 with all distinct ratings  $\Rightarrow 29 = 9 + 8 + 7 + 5$

Hygiene also has distinct ratings with a total of 26.

Now  $26 = 9 + 8 + 7 + 2$  or  $9 + 8 + 6 + 3$  or  $9 + 8 + 5 + 4$  or  $8 + 7 + 6 + 5$

Point 4 says that Chirag gave highest rating to hygiene, and also rating of Chirag as per point 3 is same for packaging & hygiene. So Chirag cannot give rating 9 to packaging as Bihari is the one giving highest rating to packaging.

$\therefore$  Chirag will give highest rating of 8 to hygiene and therefore  $26 = 8 + 7 + 6 + 5$

Using the point 5, the partial table can be as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7			$x$	
Bihari	6	9		$y$	
Chirag	6	8	8	$y$	
Deepak	5			$y$	

Total		9	26	21	
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Point 6 says that Atal's Rank in Packaging & hygiene is same. So it can be rank 3 or 4 and the same is true for Deepak also.

Two cases arise here:

Case I:- If Atal's rank is 3rd in packaging and hygiene.

In this case Atal's rating in packaging will be 7 and in hygiene will be 6 Deepak will be ranked 4 in these parameters with ratings 5 each.

Also taking the possible values of timeliness, the table will look like as follows

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	7	6	6/9	26/29
Bihari	6	9	7	5/4	27/26
Chirag	6	8	8	5/4	27/26
Deepak	5	5	5	5/4	20/19
Total		29	26	21	

In this case Ravi will get bonus of Rs 20 each from Atal, Bihari & Chirag. From Deepak he can get maximum Rs 50 as tip. So his total will not be Rs 120 therefore, this case is wrong.

Case II:- If Atal's rank is 4th in packaging and hygiene. In this case Atal's ratings in these two parameters will be 5 each and Deepak's rank will be third with ratings of 7 & 6 respectively in packaging and hygiene respect.

We get the first table as follows:

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	9	26
Bihari	6	9	7	4	26
Chirag	6	8	8	4	26
Deepak	5	7	6	4	22

In this case again he will get Rs 20 bonus from Atal, Bihari & Chirag, so his total cannot be Rs 120. Hence this case is not valid.

If we take the second case of timeliness, then the table will be

	Behaviour	Packaging	Hygiene	Timeliness	Total
Atal	7	5	5	6	23
Bihari	6	9	7	5	27
Chirag	6	8	8	5	27
Deepak	5	7	6	5	23
Total		29	26		



In this case Ravi can get tip from Atal & Deepak & will get bonus from Bihari & Chirag. Atal & Deepak can give tip of Rs 30 & Rs 50 in any order.

So he will get  $120 = 20 + 20 + 30 + 50$ .

Deepak gave rating of 7 on packaging

**QNo:- 39 ,Correct Answer:- B**

**Explanation:-** Since, Bharat value  $o_9 = 10$  and Elsie value  $o_{10} = 10$ , they definitely receive so

Also, three people value their bundle = 16 and no value could be greater than 16 (Except Disha as she values her bundle as odd, number)

The other object of Bharat must be  $o_7 = 6$  to make it total = 16 (even)

And the other object of Elsie must be either  $o_1$  or  $o_5$

Now if Amar value his bundle = 16, objects received  $o_2$  or  $o_3 = 9$  and  $o_5$  or  $o_8 = 7$

Let say combination is  $o_2$  and  $o_5$ , in that case Elsie must get  $o_1$

Then Charles get either  $o_3$  or  $o_8$  along with  $o_6$ , total value = 12,

But Charles with those objects and score will not envy Amar as his bundle value is either equal or greater than Amar.

Likewise, in other cases as well, Charles bundle value cannot be 12

So, Charles bundle value must be = 16 and Amar bundle value must be = 12

Rest of the information can be gathered as follows

	Amar	Barat	Charles	Disha	Elsie
$o_1$	x	x	x	$o_1 = 8$	x
$o_2$	$o_2/o_3 = 9$	x	$o_2/o_3 = 8$	x	x
$o_3$		x		x	
$o_4$	x	x	x	$o_4 = 5$	x
$o_5$	x	x	x	x	$o_5 = 6$
$o_6$	$o_6 = 3$	x	x	x	x
$o_7$	x	$o_7 = 6$	x	x	x
$o_8$	x	x	$o_8 = 8$	x	x
$o_9$	x	$o_9 = 10$	x	x	x
$o_{10}$	x	x	x	x	$o_{10} = 10$
Bundle Value	12	16	16	13	16

Now question can be answered using the above table

$o_8$  was given to Charles

**QNo:- 40 ,Correct Answer:- D**

**Explanation:-** Since, Bharat value  $o_9 = 10$  and Elsie value  $o_{10} = 10$ , they definitely receive so

Also, three people value their bundle = 16 and no value could be greater than 16 (Except Disha as she values her bundle as odd, number)

The other object of Bharat must be  $o_7 = 6$  to make it total = 16 (even)

And the other object of Elsie must be either  $o_1$  or  $o_5$

Now if Amar value his bundle = 16, objects received  $o_2$  or  $o_3 = 9$  and  $o_5$  or  $o_8 = 7$

Let say combination is  $o_2$  and  $o_5$ , in that case Elsie must get  $o_1$

Then Charles get either  $o_3$  or  $o_8$  along with  $o_6$ , total value = 12,

But Charles with those objects and score will not envy Amar as his bundle value is either equal or greater than Amar.

Likewise, in other cases as well, Charles bundle value cannot be 12

So, Charles bundle value must be = 16 and Amar bundle value must be = 12

Rest of the information can be gathered as follows

	Amar	Barat	Charles	Disha	Elsie
$o_1$	×	×	×	$o_1 = 8$	×
$o_2$	$o_2/o_3 = 9$	×	$o_2/o_3 = 8$	×	×
$o_3$		×		×	
$o_4$	×	×	×	$o_4 = 5$	×
$o_5$	×	×	×	×	$o_5 = 6$
$o_6$	$o_6 = 3$	×	×	×	×
$o_7$	×	$o_7 = 6$	×	×	×
$o_8$	×	×	$o_8 = 8$	×	×
$o_9$	×	$o_9 = 10$	×	×	×
$o_{10}$	×	×	×	×	$o_{10} = 10$
Bundle Value	12	16	16	13	16

Now question can be answered using the above table

Amar with 12 bundle value envies others with bundle value 16

**QNo:- 41 ,Correct Answer:- 12**

**Explanation:-** Since, Bharat value  $o_9 = 10$  and Elsie value  $o_{10} = 10$ , they definitely receive so

Also, three people value their bundle = 16 and no value could be greater than 16 (Except Disha as she values her bundle as odd, number)

The other object of Bharat must be  $o_7 = 6$  to make it total = 16 (even)

And the other object of Elsie must be either  $o_1$  or  $o_5$

Now if Amar value his bundle = 16, objects received  $o_2$  or  $o_3 = 9$  and  $o_5$  or  $o_8 = 7$

Let say combination is  $o_2$  and  $o_5$ , in that case Elsie must get  $o_1$

Then Charles get either  $o_3$  or  $o_8$  along with  $o_6$ , total value = 12,



But Charles with those objects and score will not envy Amar as his bundle value is either equal or greater than Amar.

Likewise, in other cases as well, Charles bundle value cannot be 12

So, Charles bundle value must be = 16 and Amar bundle value must be = 12

Rest of the information can be gathered as follows

	Amar	Barat	Charles	Disha	Elise
o1	x	x	x	o1 = 8	x
o2	o2/o3 = 9	x	o2/o3 = 8	x	x
o3		x		x	
o4	x	x	x	o4 = 5	x
o5	x	x	x	x	o5 = 6
o6	o6 = 3	x	x	x	x
o7	x	o7 = 6	x	x	x
o8	x	x	o8 = 8	x	x
o9	x	o9 = 10	x	x	x
o10	x	x	x	x	o10 = 10
Bundle Value	12	16	16	13	16

Now question can be answered using the above table

Amar's bundle value = 12

**QNo:- 42 ,Correct Answer:- D**

**Explanation:-** Since, Bharat value o9 = 10 and Elsie value o10 = 10, they definitely receive so

Also, three people value their bundle = 16 and no value could be greater than 16

(Except Disha as she values her bundle as odd, number)

The other object of Bharat must be o7 = 6 to make it total = 16 (even)

And the other object of Elsie must be either o1 or o5

Now if Amar value his bundle = 16, objects received o2 or o3 = 9 and o5 or o8 = 7

Let say combination is o2 and o5, in that case Elsie must get o1

Then Charles get either o3 or o8 along with o6, total value = 12,

But Charles with those objects and score will not envy Amar as his bundle value is either equal or greater than Amar.

Likewise, in other cases as well, Charles bundle value cannot be 12

So, Charles bundle value must be = 16 and Amar bundle value must be = 12

Rest of the information can be gathered as follows

	Amar	Barat	Charles	Disha	Elise
o1	x	x	x	o1 = 8	x
o2	o2/o3 = 9	x	o2/o3 = 8	x	x
o3		x		x	



o4	x	x	x	o4 = 5	x
o5	x	x	x	x	o5 = 6
o6	o6 = 3	x	x	x	x
o7	x	o7 = 6	x	x	x
o8	x	x	o8 = 8	x	x
o9	x	o9 = 10	x	x	x
o10	x	x	x	x	o10 = 10
Bundle Value	12	16	16	13	16

Now question can be answered using the above table

o4 was given to Disha

**QNo:- 43 ,Correct Answer:- B**

**Explanation:-** Since, Bharat value o9 = 10 and Elsie value o10 = 10, they definitely receive so

Also, three people value their bundle = 16 and no value could be greater than 16 (Except Disha as she values her bundle as odd, number)

The other object of Bharat must be o7 = 6 to make it total = 16 (even)

And the other object of Elsie must be either o1 or o5

Now if Amar value his bundle = 16, objects received o2 or o3 = 9 and o5 or o8 = 7

Let say combination is o2 and o5, in that case Elsie must get o1

Then Charles get either o3 or o8 along with o6, total value = 12,

But Charles with those objects and score will not envy Amar as his bundle value is either equal or greater than Amar.

Likewise, in other cases as well, Charles bundle value cannot be 12

So, Charles bundle value must be = 16 and Amar bundle value must be = 12

Rest of the information can be gathered as follows

	Amar	Barat	Charles	Disha	Elise
o1	x	x	x	o1 = 8	x
o2	o2/o3 = 9	x	o2/o3 = 8	x	x
o3		x		x	x
o4	x	x	x	o4 = 5	x
o5	x	x	x	x	o5 = 6
o6	o6 = 3	x	x	x	x
o7	x	o7 = 6	x	x	x
o8	x	x	o8 = 8	x	x
o9	x	o9 = 10	x	x	x
o10	x	x	x	x	o10 = 10
Bundle Value	12	16	16	13	16

Now question can be answered using the above table

o5 was given to Elise

**QNo:- 44 ,Correct Answer:- C**

**Explanation:-** Since, Bharat value o9 = 10 and Elsie value o10 = 10, they definitely receive so

Also, three people value their bundle = 16 and no value could be greater than 16 (Except Disha as she values her bundle as odd, number)

The other object of Bharat must be o7 = 6 to make it total = 16 (even)

And the other object of Elsie must be either o1 or o5

Now if Amar value his bundle = 16, objects received o2 or o3 = 9 and o5 or o8 = 7

Let say combination is o2 and o5, in that case Elsie must get o1

Then Charles get either o3 or o8 along with o6, total value = 12,

But Charles with those objects and score will not envy Amar as his bundle value is either equal or greater than Amar.

Likewise, in other cases as well, Charles bundle value cannot be 12

So, Charles bundle value must be = 16 and Amar bundle value must be = 12

Rest of the information can be gathered as follows

	Amar	Barat	Charles	Disha	Elise
o1	x	x	x	o1 = 8	x
o2	o2/o3 = 9	x	o2/o3 = 8	x	x
o3		x		x	
o4	x	x	x	o4 = 5	x
o5	x	x	x	x	o5 = 6
o6	o6 = 3	x	x	x	x
o7	x	o7 = 6	x	x	x
o8	x	x	o8 = 8	x	x
o9	x	o9 = 10	x	x	x
o10	x	x	x	x	o10 = 10
Bundle Value	12	16	16	13	16

Now question can be answered using the above table

o1 was given to Disha

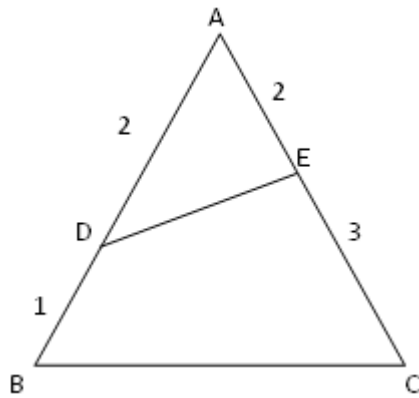
### **Section : Quantitative Ability**

**QNo:- 45 ,Correct Answer:- 30**

**Explanation:-** Let AD = 2x, BD = x  
AE = 2y, EC = 3y



Area of  $\Delta AED = 8$



$$\Rightarrow \frac{1}{2} \times 2x \times 2y \times \sin A = 8$$

$$\Rightarrow 2xy \sin A = 8$$

$$\Rightarrow xy \sin A = 4 \quad \text{----(i)}$$

$$\begin{aligned} \text{Area of } \Delta ABC &= \frac{1}{2} \times 3x \times 5y \sin A \\ &= \frac{1}{2} \times 15 \times xy \sin A \\ &= \frac{1}{2} \times 15 \times 4 = 30 \text{ Sq unit} \end{aligned}$$

**QNo:- 46 ,Correct Answer:- A**

**Explanation:-** Let the speeds of trains A and B is  $5x$  &  $3x$  respectively and their lengths be  $l_1$  &  $l_2$  respectively.

In the first case, distance travelled will be equal to length of train B

$$\therefore \frac{l_2}{8x} = 46 \Rightarrow l_2 = 46 \times 8x$$

In the second case, distance travelled will be equal to length of train A.

$$\therefore \frac{l_1}{8x} = 69 \Rightarrow l_1 = 8x \times 69$$

$$\therefore \text{Required ratio} = \frac{l_1}{l_2} = \frac{8x \times 69}{46 \times 8x} = \frac{3}{2}$$

**QNo:- 47 ,Correct Answer:- C**

**Explanation:-** Here the investment of Anil is 70% of the total investment. Now his share of profit decreased by Rs 420 when the profit decreased from 18% to 15%. So 70% of (decreased profit) = 420

$$\Rightarrow \text{Decreased profit} = 420/0.7 = \text{Rs } 600.$$

$$\text{Therefore, } 3\% \text{ of total investment} = 600 \Rightarrow \text{Total investment} = \text{Rs } 20000$$

$$\text{So, Anil's investment is } 70\% \text{ of } 20000 = \text{Rs } 14000.$$

Now Chintu's profit increased by Rs 80 when the profit increases from 15% to 17%.

$$\text{Therefore, } 2\% \text{ of Chintu's investment} = 80 \Rightarrow \text{Chintu's investment} = 80/0.02 = \text{Rs } 4000$$

$$\text{Hence, Bobby's investment} = 20000 - (14000 + 4000) = \text{Rs } 2000.$$

**QNo:- 48 ,Correct Answer:- D**

**Explanation:-** Join AP

Here in  $\triangle ADP$  &  $\triangle BPC$ ,

$AD = BP$ ,  $DP = PC$

$\angle BPC = \angle PBA = \angle ADP$

$\Rightarrow \triangle s$  ADP & BPC are congruent

Also AP is diagonal of parallelogram ABPD

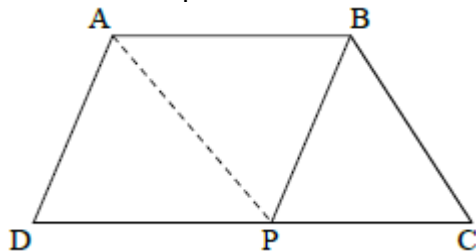
$\therefore \text{Ar}(\triangle ADP) = \text{Ar}(\triangle ABP)$

Let  $\text{Ar}(\triangle ADP) = x = \text{Ar}(\triangle ABP) = \text{Ar}(\triangle BPC)$

$\therefore$  Area of trapezium ABCD =  $3x$

Now given that  $2x - x = 10 \Rightarrow x = 10$

$\therefore$  Area of trapezium =  $10 \times 3 = 30\text{cm}^2$



**QNo:- 49 ,Correct Answer:- A**

**Explanation:-** Let the quantities bought are 6kg, 9kg & 15kg respectively.

Total cost =  $6 \times 800 + 500 \times 9 + 300 \times 15 = \text{Rs } 13800$

Total SP =  $13800 \times 1.5 = \text{Rs } 20700$

SP of 5kg =  $5 \times 700 = \text{Rs } 3500$

Remaining SP =  $\text{Rs } 17200$

$\therefore \text{SP/kg} = \frac{17200}{25} = \text{Rs. } 688$

**QNo:- 50 ,Correct Answer:- B**

**Explanation:-** Area of rhombus = 12

$\Rightarrow \frac{1}{2} d_1 \times d_2 = 12$

$d_1 \times d_2 = 24$

Also  $\frac{d_1^2}{4} + \frac{d_2^2}{4} = 25 \Rightarrow d_1^2 + d_2^2 = 100$

Now  $(d_1 + d_2)^2 = d_1^2 + d_2^2 + 2d_1d_2 = 100 + 48 = 148$

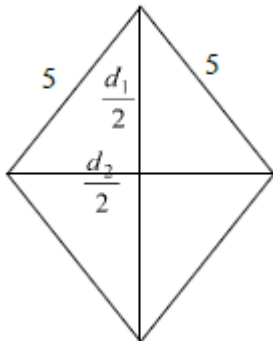
$\Rightarrow d_1 + d_2 = 2\sqrt{37} \quad \text{---(1)}$

Again  $(d_1 - d_2)^2 = d_1^2 + d_2^2 - 2d_1d_2 = 100 - 48 = 52$



$$\Rightarrow d_1 - d_2 = 2\sqrt{13} \quad \text{---(2)}$$

$$(1) + (2) \Rightarrow 2d_1 = 2(\sqrt{37} + \sqrt{13}) \Rightarrow d_1 = \sqrt{37} + \sqrt{13}$$



**QNo:- 51 ,Correct Answer:- A**

**Explanation:-** Here x, y, 7 are in AP

$$\Rightarrow y = \frac{x+z}{2} \Rightarrow x+z = 2y$$

$$\text{Now } xyz = 5(x+y+z)$$

$$\Rightarrow xyz = 5 \times (2y + y)$$

$$\Rightarrow xyz = 5 \times 3y$$

$$\Rightarrow xz = 15$$

Now (x, z) can be (3, 5) & (1, 15)

But if x & z are 3 & 5 then y - x is not greater than 2  $\Rightarrow x = 1, z = 15$  and  $y = 8$

$$\Rightarrow z - x = 14.$$

**QNo:- 52 ,Correct Answer:- 4195**

**Explanation:-** Let the number is abcd

$$\text{Given the } a + b + c = 14 \quad \text{-----(1)}$$

$$b + c + d = 15 \quad \text{-----(2)}$$

$$\& c = d + 4 \quad \text{-----(3)}$$

$$(2) - (1) \Rightarrow d - a = 1 \Rightarrow a = d - 1 \quad \text{-----(4)}$$

As highest number is asked  $\Rightarrow a$  should be max. So (4)  $\Rightarrow d$  should be maximum, or (3)  $\Rightarrow c$  should be maximum  $\Rightarrow c = 9 \Rightarrow d = 5$

$$\therefore (4) \Rightarrow a = 4 \& (1) \Rightarrow 4 + b + 9 = 14 \Rightarrow b = 1$$

$\therefore$  Number is 4195.

**QNo:- 53 ,Correct Answer:- 1000**

**Explanation:-** We have 15 identical balloons, 6 identical pencils and 3 identical erasers. Let the children are A, B and C. Now every child should get four balloons and one pencil. So first distribute 4 balloons and one pencil to A, B and C. We are left with 3 balloons, 3 pencils and 3 erasers.

3 balloons can be distributed to A, B, C in  $3 + 3 - 1C3 - 1$  Or  $5C2 = 10$  ways.



Similarly, 3 pencils can & 3 erasers can be distributed in 10 ways each.

∴ Total ways =  $10 \times 10 \times 10 = 1000$

**QNo:- 54 ,Correct Answer:- 7**

**Explanation:-** Given that  $2.25 \leq 2 + 2^{n+2} \leq 202$

$$\Rightarrow 2 + 0.25 \leq 2 + 2^{n+2} \leq 2 + 128 < 202$$

$$\Rightarrow 2 + 2^{-2} \leq 2 + 2^{n+2} \leq 2 + 2^7$$

$$\therefore -2 \leq n + 2 \leq 7 \Rightarrow -4 \leq n \leq 5$$

$$\therefore n = -4, -3, -2, -1, 0, 1, 2, 3, 4, 5$$

Now for  $n = -1, 0, 1, 2, 3, 4, 5$ ,  $3 + 3^{n+1}$  is an integer.

Therefore total '7' values of 'n' are possible.

**QNo:- 55 ,Correct Answer:- A**

**Explanation:-** Let the loss incurred in first year is  $x\%$

As the balance is more than 5000  $\Rightarrow x < 50\%$

Profit in the next year =  $5x$  & overall profit is  $35\%$

$$\Rightarrow 5x - x + \frac{5x(-x)}{100} = 35$$

$$\Rightarrow 4x - \frac{x^2}{20} = 35$$

$$\Rightarrow x^2 - 80x + 700 = 0$$

$$\Rightarrow (x - 70)(x - 10) = 0$$

$$\Rightarrow x = 10, 70$$

As  $x < 50\% \Rightarrow x = 10\%$

**QNo:- 56 ,Correct Answer:- B**

**Explanation:-** In the first case A worked for 8 hours and B worked for 7 hours.

In the second case A worked for 4 hours and B worked for 2 hours.

∴ If B worked 5 hours less then time saved for A = 4 hours

B does not work then time saved for A =  $\frac{4}{5} \times 7 = 5.6$  hours

So in this A would have filled the tank in  $8 - 5.6 = 2.4$  hours or 144 minutes.

**QNo:- 57 ,Correct Answer:- 250**

**Explanation:-** Let the metallic white and metallic black balls are  $x$  each.

Now 40% of white balls =  $x \Rightarrow$  white balls =  $2.5x$

& 50% of black balls =  $x \Rightarrow$  Total black balls =  $2x$

Now  $2.5x + 2x = 450 \Rightarrow 4.5x = 450 \Rightarrow x = 100$

$\therefore$  Number of non-metallic white & non metallic black balls =  $1.5x + x = 2.5x = 2.5 \times 100 = 250$

**QNo:- 58 ,Correct Answer:- B**

$$\text{Let } \frac{x^2 + 2x + 4}{2x^2 + 4x + 9} = k$$

**Explanation:-**

$$\Rightarrow x^2 + 2x + 4 = 2kx^2 + 4kx + 9k$$

$$\Rightarrow (2k - 1)x^2 + (4k - 2)x + (9k - 4) = 0$$

As  $x$  is real  $\Rightarrow D \geq 0$

$$\Rightarrow (4k - 2)^2 - 4(2k - 1)(9k - 4) \geq 0$$

$$\Rightarrow (2k - 1)^2 - (2k - 1)(9k - 4) \geq 0$$

$$\Rightarrow (2k - 1)[2k - 1 - 9k + 4] \geq 0$$

$$\Rightarrow (2k - 1)(-7k + 3) \geq 0$$

$$\Rightarrow (2k - 1)(7k - 3) \leq 0$$

$$\Rightarrow \frac{3}{7} \leq k \leq \frac{1}{2}$$

$\therefore$  option 2 is the best choice

**QNo:- 59 ,Correct Answer:- 5**

**Explanation:-** Here  $\log_2 [3 + \log_3 \{4 + \log_4 (x-1)\}] - 2 = 0$

$$\Rightarrow \log_2 [3 + \log_3 \{4 + \log_4 (x-1)\}] = 2$$

$$\Rightarrow 3 + \log_3 \{4 + \log_4 (x-1)\} = 4$$

$$\Rightarrow \log_3 [4 + \log_4 (x-1)] = 1$$

$$\Rightarrow 4 + \log_4 (x-1) = 3$$

$$\Rightarrow \log_4 (x-1) = -1 \Rightarrow x - 1 = \frac{1}{4} \Rightarrow x = 5/4$$

$$\text{Now } 4x = 4 \times \frac{5}{4} = 5$$

**QNo:- 60 ,Correct Answer:- A**

**Explanation:-** We have  $x^2 - xy - x = 22$  ---(1)

$$y^2 - xy + y = 34 \quad \text{---(2)}$$

Add the equation (1) & (2), we get

$$x^2 + y^2 - 2xy - (x - y) = 56$$

$$\Rightarrow (x - y)^2 - (x - y) = 56$$

$$\Rightarrow (x - y)(x - y - 1) = 56$$

As  $(x - y)$  and  $(x - y - 1)$  are consecutive numbers and their product is  $56 \Rightarrow x - y = 8$  &  $x - y - 1 = 7$ .

$$\therefore x - y = 8$$





**QNo:- 61 ,Correct Answer:- B**

**Explanation:-** Here  $x_1 - x_2 + x_3 - x_4 + \dots + (-1)^{n+1} x_n = n^2 + 2n$   
 $n = 1 \Rightarrow x_1 = 1 + 2 = 3$   
 $n = 2 \Rightarrow x_1 - x_2 = 8 \Rightarrow x_2 = -5$   
 $n = 3 \Rightarrow x_1 - x_2 + x_3 = 15 \Rightarrow x_3 = 7$   
 $n = 4 \Rightarrow x_1 - x_2 + x_3 - x_4 = 24 \Rightarrow x_4 = -9$  and so on  
 Now here  $x_1 + x_2 = -2, x_3 + x_4 = -2$  and so on, so  $x_{49} + x_{50} = -2$

**QNo:- 62 ,Correct Answer:- 45**

Here  $\frac{\text{milk}}{\text{Total vol}} = \frac{16}{25} = \left(\frac{4}{5}\right)^2$   
 $\therefore \frac{1}{5}$  of total mixture is taken out every time  
 $\therefore \frac{1}{5} \times T = 9 \Rightarrow T = 45$

**Explanation:-**

**QNo:- 63 ,Correct Answer:- A**

**Explanation:-**

Here  $|3x - 20| + |3x - 40| = 20$  ---(1)  
 Case I: If  $x < \frac{20}{3}$ , (1)  $\Rightarrow -(3x - 20) - (3x - 40) = 20$   
 $\Rightarrow -3x + 20 - 3x + 40 = 20$   
 $\Rightarrow -6x = -40 \Rightarrow x = \frac{20}{3}$ , but  $x < \frac{20}{3}$   
 $\therefore$  This is not possible  
 Case II: If  $\frac{20}{3} \leq x < \frac{40}{3}$ , (1)  $\Rightarrow 3x - 20 - 3x + 40 = 20 \Rightarrow 20 = 20$  which is true  
 $\therefore \frac{20}{3} \leq x < \frac{40}{3}$   
 Case III: If  $x \geq \frac{40}{3}$ ,  $\Rightarrow 3x - 20 + 3x - 40 = 20 \Rightarrow 6x = 80 \Rightarrow x = \frac{40}{3}$   
 Combining the case II & III, we have  $\frac{20}{3} \leq x \leq \frac{40}{3}$  or  $6.67 \leq x \leq 13.33$   
 Therefore, option (1) satisfies.

**QNo:- 64 ,Correct Answer:- 10**

**Explanation:-** Let the original matches be 'n' and original goals be 'x'  
 Now  $(n + 10) \times 0.15 = x + 1$   
 $\Rightarrow 0.15 n + 1.5 = x + 1$  ---(1)



$$\& (n + 10) \times 0.2 = x + 2$$

$$\Rightarrow 0.2n + 2 = x + 2 \quad \text{---(2)}$$

$$(2) - (1) \Rightarrow 0.05n + 0.5 = 1 \Rightarrow 0.05n = 0.5 \Rightarrow n = \frac{0.5}{0.05} = 10$$

**QNo:- 65 ,Correct Answer:- B**

**Explanation:-** Given equation is  $ax^2 - bx + c = 0$

Its one root is  $2 + \sqrt{3}$ , so second root will  $2 - \sqrt{3}$ ,

$$\text{Sum of roots} = \frac{b}{a} = 2 + \sqrt{3} + 2 - \sqrt{3} = 4$$

$$\therefore \frac{b}{a} = 4 \quad \text{---(1)}$$

$$\text{Product of roots} = \frac{c}{a} = (2 + \sqrt{3})(2 - \sqrt{3}) = 1$$

$$\Rightarrow \frac{c}{a} = 1 \quad \text{---(2)}$$

$$(1) / (2) \Rightarrow \frac{b}{c} = 4 \Rightarrow b = 4c \quad \text{---(3)}$$

$$\text{Also } b = c^3, (3) \Rightarrow c^3 = 4c \Rightarrow c^2 = 4 \Rightarrow c = 2, -2$$

$$\text{If } c = 2 \Rightarrow b = 8$$

$$\text{Now } \frac{b}{a} = 4 \Rightarrow \frac{8}{a} = 4 \Rightarrow a = 2 \Rightarrow |a| = 2$$

$$\text{If } c = -2, b = -8 \& \frac{b}{a} = 4 \Rightarrow -\frac{8}{a} = 4 \Rightarrow a = -2 = |a| = 2$$

**QNo:- 66 ,Correct Answer:- A**

**Explanation:-** Let the total work is 420 units

A can do 7 units/d, B can do 5 units / day

Let C can do x units/d

$$\therefore 7 \times 24 + 5 \times 14 + x \times 14 = 420 \Rightarrow 14x + 238 = 420 \Rightarrow 14x = 182 \Rightarrow x = 13$$

Work done by A = 168 units

Work done by B = 70 units

Work done by C = 182 units

$\therefore$  Ratio of work done by A, B & C is 168 : 70 : 182 or 84 : 35 : 91

$$\therefore \text{Amount given to C} = \frac{91}{210} \times 21000 = \text{Rs } 9100$$