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IBPS PO Exam

Mains Answer Key

Simplifying
Government Exams

 SSC CHSL	 IAS EXAM	 RRB NTPC	 NTSE	 CDS
 SSC CGL	 CBSE UGC NET	 IBPS PO	 NDA	
 SBI PO	 IBPS CLERK	 AFCAT	 SSC JE	 CTET
 CSIR UGC NET	 CAPF	 IBPS RRB		

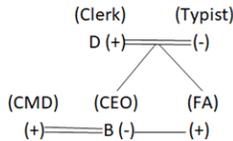
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ANSWERS

1. Ans. D.

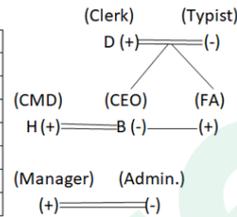
- 1) CMD is married to B, who works as a CEO and who does not work in Mumbai. (The husband and wife do not work in the same city)
- 2) CEO is the sister of FA, who works in Delhi only with his father D.
- 3) D is junior to SSC.
- 4) The typist is the mother of FA.

(+) CMD		Mumbai
(-) CEO	B	Hyderabad
Manager		
Administrator		
(+) FA		Delhi
SSC		
(+) Clerk	D	Delhi
(-) Typist		



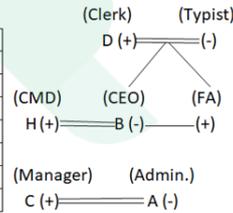
- 5) The manager is married to the administrator and he does not work with the CEO.
- 6) H is a senior to the manager.

(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager		Mumbai
(-) Administrator		
(+) FA		Delhi
(-) SSC		
(+) Clerk	D	Delhi
(-) Typist		



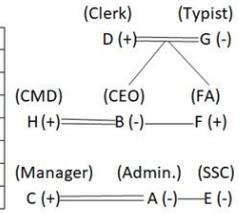
- 7) A is senior to the SSC and is the wife of the one, who works in Mumbai.
- 8) C is senior to FA. (there are only four females)

(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager	C	Mumbai
(-) Administrator	A	Hyderabad
(+) FA		Delhi
(-) SSC		
(+) Clerk	D	Delhi
(-) Typist		



- 9) E is senior to the typist and is the sister of the administrator but does not work with her sister.
- 10) The one, who works as a typist does not work in Hyderabad.
- 11) F is senior to G.

(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager	C	Mumbai
(-) Administrator	A	Hyderabad
(+) FA	F	Delhi
(-) SSC	E	Mumbai
(+) Clerk	D	Delhi
(-) Typist	G	Mumbai

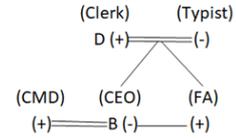


Therefore, option D is the correct answer.

2. Ans. A.

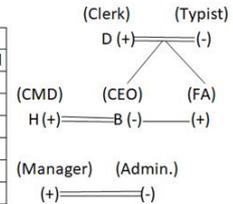
- 1) CMD is married to B, who works as a CEO and who does not work in Mumbai. (The husband and wife do not work in the same city)
- 2) CEO is the sister of FA, who works in Delhi only with his father D.
- 3) D is junior to SSC.
- 4) The typist is the mother of FA.

(+) CMD		Mumbai
(-) CEO	B	Hyderabad
Manager		
Administrator		
(+) FA		Delhi
SSC		
(+) Clerk	D	Delhi
(-) Typist		



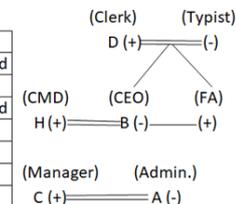
- 5) The manager is married to the administrator and he does not work with the CEO.
- 6) H is a senior to the manager.

(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager		Mumbai
(-) Administrator		
(+) FA		Delhi
(-) SSC		
(+) Clerk	D	Delhi
(-) Typist		



- 7) A is senior to the SSC and is the wife of the one, who works in Mumbai.
- 8) C is senior to FA. (there are only four females)

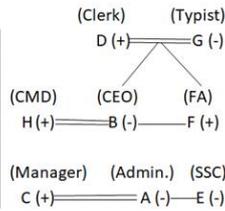
(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager	C	Mumbai
(-) Administrator	A	Hyderabad
(+) FA		Delhi
(-) SSC		
(+) Clerk	D	Delhi
(-) Typist		



- 9) E is senior to the typist and is the sister of the administrator but does not work with her sister.
- 10) The one, who works as a typist does not work in Hyderabad.

11) F is senior to G.

(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager	C	Mumbai
(-) Administrator	A	Hyderabad
(+) FA	F	Delhi
(-) SSC	E	Mumbai
(+) Clerk	D	Delhi
(-) Typist	G	Mumbai

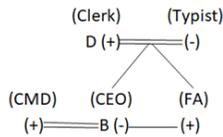


Therefore, option A is the correct answer.

3. Ans. A.

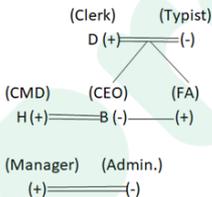
- 1) CMD is married to B, who works as a CEO and who does not work in Mumbai. (The husband and wife do not work in the same city)
- 2) CEO is the sister of FA, who works in Delhi only with his father D.
- 3) D is junior to SSC.
- 4) The typist is the mother of FA.

(+) CMD		Mumbai
(-) CEO	B	Hyderabad
Manager		
Administrator		
(+) FA		Delhi
SSC		
(+) Clerk	D	Delhi
(-) Typist		



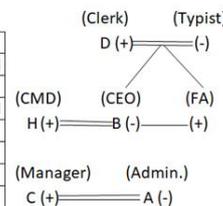
- 5) The manager is married to the administrator and he does not work with the CEO.
- 6) H is a senior to the manager.

(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager		Mumbai
(-) Administrator		
(+) FA		Delhi
(-) SSC		
(+) Clerk	D	Delhi
(-) Typist		



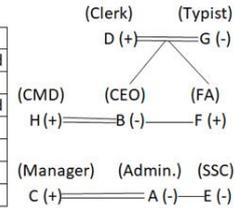
- 7) A is senior to the SSC and is the wife of the one, who works in Mumbai.
- 8) C is senior to FA. (there are only four females)

(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager	C	Mumbai
(-) Administrator	A	Hyderabad
(+) FA		Delhi
(-) SSC		
(+) Clerk	D	Delhi
(-) Typist		



- 9) E is senior to the typist and is the sister of the administrator but does not work with her sister.
- 10) The one, who works as a typist does not work in Hyderabad.
- 11) F is senior to G.

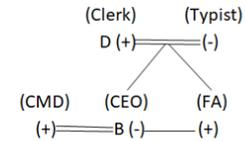
(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager	C	Mumbai
(-) Administrator	A	Hyderabad
(+) FA	F	Delhi
(-) SSC	E	Mumbai
(+) Clerk	D	Delhi
(-) Typist	G	Mumbai



Therefore, option A is the correct answer.
4. Ans. B.

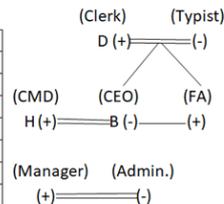
- 1) CMD is married to B, who works as a CEO and who does not work in Mumbai. (The husband and wife do not work in the same city)
- 2) CEO is the sister of FA, who works in Delhi only with his father D.
- 3) D is junior to SSC.
- 4) The typist is the mother of FA.

(+) CMD		Mumbai
(-) CEO	B	Hyderabad
Manager		
Administrator		
(+) FA		Delhi
SSC		
(+) Clerk	D	Delhi
(-) Typist		



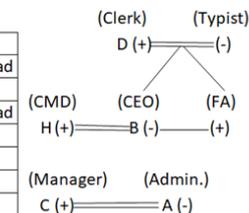
- 5) The manager is married to the administrator and he does not work with the CEO.
- 6) H is a senior to the manager.

(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager		Mumbai
(-) Administrator		
(+) FA		Delhi
(-) SSC		
(+) Clerk	D	Delhi
(-) Typist		



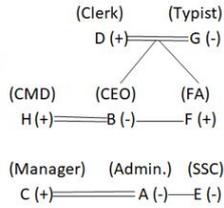
- 7) A is senior to the SSC and is the wife of the one, who works in Mumbai.
- 8) C is senior to FA. (there are only four females)

(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager	C	Mumbai
(-) Administrator	A	Hyderabad
(+) FA		Delhi
(-) SSC		
(+) Clerk	D	Delhi
(-) Typist		

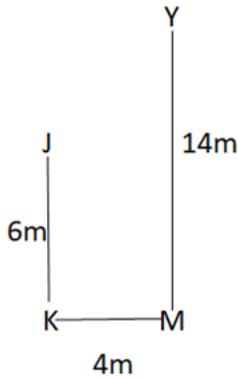


- 9) E is senior to the typist and is the sister of the administrator but does not work with her sister.
- 10) The one, who works as a typist does not work in Hyderabad.
- 11) F is senior to G.

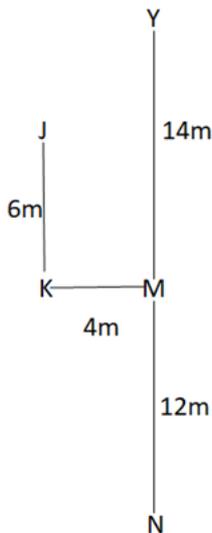
(+) CMD	H	Mumbai
(-) CEO	B	Hyderabad
(+) Manager	C	Mumbai
(-) Administrator	A	Hyderabad
(+) FA	F	Delhi
(-) SSC	E	Mumbai
(+) Clerk	D	Delhi
(-) Typist	G	Mumbai



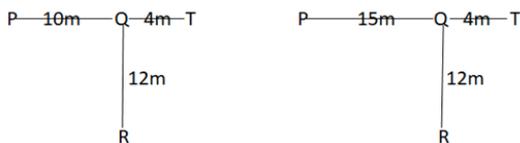
Therefore, option B is the correct answer.
5. Ans. B.



Required distance = $\sqrt{4^2 + 8^2} = \sqrt{80} = 4\sqrt{5}m$
Therefore, option B is the correct answer.
6. Ans. D.



Required distance = $14 + 12 = 26m$
Therefore, option D is the correct answer.
7. Ans. D.



Therefore, option D is the correct answer.
8. Ans. D.

1) B, who is 55 years old, lives in an even-numbered house to the east of the house number 6.

Case 1



Case 2

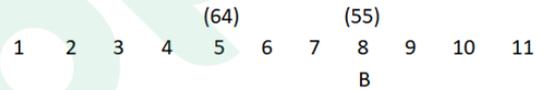


2) There are two houses between B's house and the person's house who is 64 years old.

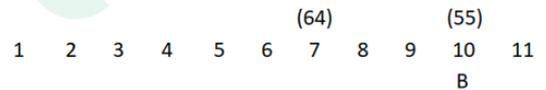
Case 1.1



Case 1.2



Case 2



3) Only one house is there between the vacant house and the house in which 64 years old person lives.

4) The vacant house is to the west of 64 years old person's house.

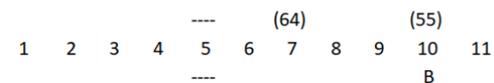
Case 1.1



Case 1.2



Case 2



5) House number 5 is not vacant. (Here, case 2 will be eliminated and we will continue with the remaining cases)

Case 1.1

							(55) ---			(64)
1	2	3	4	5	6	7	8	9	10	11
							B	---		

Case 1.2

				(64)			(55)			
1	2	3	4	5	6	7	8	9	10	11
		---					B			

6) A, who is 46 years old, lives to the west of the house number 3 but not at the end.

7) Two persons live between A and D, who is 14 years older than B and lives to the west of B.

8) Vacant houses are not near to each other.

9) D does not live in the house number 5 and not near to B.

Case 1.1

	(46)				(69)		(55) ---			(64)
1	2	3	4	5	6	7	8	9	10	11
	A				D		B	---		

Case 1.2

	(46) ---			(64) (69)			(55)			
1	2	3	4	5	6	7	8	9	10	11
	A	---			D		B			

10) At least two people live between the one, who is 64 years old and the one, who is 69 years old.

(Here, case 1.2 will be eliminated and we will continue with the case 1.1)

	(46)				(69)		(55) ---			(64)
1	2	3	4	5	6	7	8	9	10	11
	A				D		B	---		

11) One of the houses is vacant to the east of the house number 6. (Refer point 8)

12) The one, who is 7 years younger than A, lives immediately right of a vacant house which is even-numbered house.

	(46)			(39) (69) ---			(55) ---			(64)
1	2	3	4	5	6	7	8	9	10	11
	A	---			D	---	B	---		

13) C is 4 years younger than the one, who lives in the house number 5 and lives to the west of the house number 5 but not at the end.

14) Only one person lives between E, who is 3 years older than D and the one who is 35 years old.

(72)	(46)	(35) ---		(39)	(69) ---		(55) ---			(64)
1	2	3	4	5	6	7	8	9	10	11
E	A	C	---			D	---	B	---	

15) F is 4 years younger than the one, who lives in the house number 11.

16) H is 25 years older than G.

(72)	(46)	(35) ---		(39)	(69) ---		(55) ---		(60)	(64)
1	2	3	4	5	6	7	8	9	10	11
E	A	C	---	G	D	---	B	---	F	H

Therefore, option D is the correct answer.

9. Ans. D.

1) B, who is 55 years old, lives in an even-numbered house to the east of the house number 6.

Case 1

							(55)			
1	2	3	4	5	6	7	8	9	10	11
							B			

Case 2

									(55)	
1	2	3	4	5	6	7	8	9	10	11
									B	

2) There are two houses between B's house and the person's house who is 64 years old.

Case 1.1

							(55)			(64)
1	2	3	4	5	6	7	8	9	10	11
							B			

Case 1.2

				(64)			(55)			
1	2	3	4	5	6	7	8	9	10	11
							B			

Case 2

						(64)			(55)	
1	2	3	4	5	6	7	8	9	10	11
									B	

3) Only one house is there between the vacant house and the house in which 64 years old person lives.

4) The vacant house is to the west of 64 years old person's house.

Case 1.1

							(55) ----			(64)
1	2	3	4	5	6	7	8	9	10	11
							B	----		

Case 1.2

		----		(64)			(55)			
1	2	3	4	5	6	7	8	9	10	11
		----					B			

Case 2

				----		(64)			(55)	
1	2	3	4	5	6	7	8	9	10	11
				----					B	

5) House number 5 is not vacant.
(Here, case 2 will be eliminated and we will continue with the remaining cases)

Case 1.1

							(55) ----			(64)
1	2	3	4	5	6	7	8	9	10	11
							B	----		

Case 1.2

		----		(64)			(55)			
1	2	3	4	5	6	7	8	9	10	11
		----					B			

6) A, who is 46 years old, lives to the west of the house numbered 3 but not at the end.

7) Two persons live between A and D, who is 14 years older than B and lives to the west of B.

8) Vacant houses are not near to each other.

9) D does not live in the house number 5 and not near to B.

Case 1.1

	(46)					(69)	(55) ----			(64)
1	2	3	4	5	6	7	8	9	10	11
	A					D	B	----		

Case 1.2

	(46) ----			(64)	(69)		(55)			
1	2	3	4	5	6	7	8	9	10	11
	A	----				D	B			

10) At least two people live between the one, who is 64 years old and the one, who is 69 years old.

(Here, case 1.2 will be eliminated and we will continue with the case 1.1)

	(46)				(69)	(55) ----			(64)	
1	2	3	4	5	6	7	8	9	10	11
	A				D	B	----			

11) One of the houses is vacant to the east of the house number 6. (Refer point 8)

12) The one, who is 7 years younger than A, lives immediately right of a vacant house which is even-numbered house.

	(46)	----	(39)	(69)	----	(55)	----		(64)	
1	2	3	4	5	6	7	8	9	10	11
	A	----		D	----	B	----			

13) C is 4 years younger than the one, who lives in the house number 5 and lives to the west of the house number 5 but not at the end.

14) Only one person lives between E, who is 3 years older than D and the one who is 35 years old.

(72)	(46)	(35)	----	(39)	(69)	----	(55)	----		(64)
1	2	3	4	5	6	7	8	9	10	11
E	A	C	----		D	----	B	----		

15) F is 4 years younger than the one, who lives in the house number 11.

16) H is 25 years older than G.

(72)	(46)	(35)	----	(39)	(69)	----	(55)	----	(60)	(64)
1	2	3	4	5	6	7	8	9	10	11
E	A	C	----	G	D	----	B	----	F	H

Therefore, option D is the correct answer.
10. Ans. B.

1) B, who is 55 years old, lives in an even-numbered house to the east of the house number 6.

Case 1

							(55)			
1	2	3	4	5	6	7	8	9	10	11
							B			

Case 2

									(55)	
1	2	3	4	5	6	7	8	9	10	11
									B	

2) There are two houses between B's house and the person's house who is 64 years old.

Case 1.1

1	2	3	4	5	6	7	(55)	9	10	(64)	11
							B				

Case 1.2

1	2	3	4	(64)	6	7	(55)	9	10	11
							B			

Case 2

1	2	3	4	5	6	(64)	8	9	(55)	10	11
							B				

3) Only one house is there between the vacant house and the house in which 64 years old person lives.

4) The vacant house is to the west of 64 years old person's house.

Case 1.1

1	2	3	4	5	6	7	(55) ---	9	10	(64)	11
							B ---				

Case 1.2

1	2	---	4	(64)	6	7	(55)	9	10	11
		---					B			

Case 2

1	2	3	4	---	6	(64)	8	9	(55)	10	11
				---			B				

5) House number 5 is not vacant. (Here, case 2 will be eliminated and we will continue with the remaining cases)

Case 1.1

1	2	3	4	5	6	7	(55) ---	9	10	(64)	11
							B ---				

Case 1.2

1	2	---	4	(64)	6	7	(55)	9	10	11
		---					B			

6) A, who is 46 years old, lives to the west of the house numbered 3 but not at the end.

7) Two persons live between A and D, who is 14 years older than B and lives to the west of B.

8) Vacant houses are not near to each other.

9) D does not live in the house number 5 and not near to B.

Case 1.1

1	2	3	4	5	(46)	7	(69)	9	(55) ---	10	(64)	11
					A		D		B ---			

Case 1.2

1	2	3	4	5	(46) ---	7	(64) (69)	9	(55)	10	11
					A ---		D		B		

10) At least two people live between the one, who is 64 years old and the one, who is 69 years old.

(Here, case 1.2 will be eliminated and we will continue with the case 1.1)

Case 1.1

1	2	3	4	5	(46)	7	(69)	9	(55) ---	10	(64)	11
					A		D		B ---			

11) One of the houses is vacant to the east of the house number 6. (Refer point 8)

12) The one, who is 7 years younger than A, lives immediately right of a vacant house which is even-numbered house.

Case 1.1

1	2	3	4	5	(46)	---	(39) (69)	---	(55) ---	10	(64)	11
					A	---	D	---	B ---			

13) C is 4 years younger than the one, who lives in the house number 5 and lives to the west of the house number 5 but not at the end.

14) Only one person lives between E, who is 3 years older than D and the one who is 35 years old.

Case 1.1

1	2	(72)	(46)	(35) ---	(39)	(69)	---	(55) ---	10	(64)	11
		E	A	C ---	---	D	---	B ---			

15) F is 4 years younger than the one, who lives in the house number 11.

16) H is 25 years older than G.

Case 1.1

1	2	(72)	(46)	(35) ---	(39)	(69)	---	(55) ---	(60)	(64)	11
		E	A	C ---	---	G	D	---	B ---	F	H

Therefore, option B is the correct answer. 11. Ans. A.

Required ratio = (3000 + 7000) : (7000 + 8000) = 2 : 3.

$$\frac{\text{Total number of orders delivered}}{\text{Number of orders}} \times 100$$

Percentage of orders delivered out of the total orders

$$\frac{\text{Number of order cancel} = \text{Total number of ordered} - \text{Number of orders delivered}}{\text{Total number of orders}} \times 100$$

Percentage of orders returned

Month	Total No. of order	No. of order delivered	No. of order canceled	No. of order returned	No. of order finally accepted
January	30000	27000	3000	8100	18900
February	30000	24000	6000	10800	13200
March	28000	21000	7000	10080	10920
April	22500	21600	900	10800	10800
May	40000	24000	16000	5760	18240
June	40000	32000	8000	11200	20800

12. Ans. E.

$$\frac{\text{Required average} = 30000 + 30000 + 28000 + 22500 + 40000 + 40000}{6}$$

$$= 31750.$$

$$\frac{\text{Total number of orders delivered}}{\text{Number of orders}} \times 100$$

Percentage of orders delivered out of the total orders

$$\frac{\text{Number of order cancel} = \text{Total number of ordered} - \text{Number of orders delivered}}{\text{Total number of orders}} \times 100$$

Percentage of orders returned

Month	Total No. of order	No. of order delivered	No. of order canceled	No. of order returned	No. of order finally accepted
January	30000	27000	3000	8100	18900
February	30000	24000	6000	10800	13200
March	28000	21000	7000	10080	10920
April	22500	21600	900	10800	10800
May	40000	24000	16000	5760	18240
June	40000	32000	8000	11200	20800

13. Ans. D.

$$\text{Required difference} = 16000 - 5760 = 10240.$$

$$\frac{\text{Total number of orders delivered}}{\text{Number of orders}} \times 100$$

Percentage of orders delivered out of the total orders

$$\text{Number of order cancel} = \text{Total number of ordered} - \text{Number of orders delivered}$$

$$\frac{\text{Total number of orders returned}}{\text{Number of orders delivered}} \times 100$$

Percentage of orders returned

Month	Total No. of order	No. of order delivered	No. of order canceled	No. of order returned	No. of order finally accepted
January	30000	27000	3000	8100	18900
February	30000	24000	6000	10800	13200
March	28000	21000	7000	10080	10920
April	22500	21600	900	10800	10800
May	40000	24000	16000	5760	18240
June	40000	32000	8000	11200	20800

14. Ans. C.

$$\frac{6000 - 900}{6000} \times 100 = 85\%.$$

$$\frac{\text{Total number of orders delivered}}{\text{Number of orders}} \times 100$$

Percentage of orders delivered out of the total orders

$$\text{Number of order cancel} = \text{Total number of ordered} - \text{Number of orders delivered}$$

$$\frac{\text{Total number of orders returned}}{\text{Number of orders delivered}} \times 100$$

Percentage of orders returned

Month	Total No. of order	No. of order delivered	No. of order canceled	No. of order returned	No. of order finally accepted
January	30000	27000	3000	8100	18900
February	30000	24000	6000	10800	13200
March	28000	21000	7000	10080	10920
April	22500	21600	900	10800	10800
May	40000	24000	16000	5760	18240
June	40000	32000	8000	11200	20800

15. Ans. B.

$$\text{Required sum} = 13200 + 10800 = 24000.$$

$$\frac{\text{Total number of orders delivered}}{\text{Number of orders}} \times 100$$

Percentage of orders delivered out of the total orders

$$\text{Number of order cancel} = \text{Total number of ordered} - \text{Number of orders delivered}$$

$$\frac{\text{Total number of orders returned}}{\text{Number of orders delivered}} \times 100$$

Percentage of orders returned

Month	Total No. of order	No. of order delivered	No. of order canceled	No. of order returned	No. of order finally accepted
January	30000	27000	3000	8100	18900
February	30000	24000	6000	10800	13200
March	28000	21000	7000	10080	10920
April	22500	21600	900	10800	10800
May	40000	24000	16000	5760	18240
June	40000	32000	8000	11200	20800

16. Ans. B.

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get $h = 0.1$ and $l = 0.2$

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get $h = 0.1$ and $l = 0.2$

Let the required number of leg movements = x , then

$$(x + 1200) \times 0.1 + x \times 0.2 = 1200$$

$$\Rightarrow 0.3x + 120 = 1200$$

$$\Rightarrow 0.3x = 1080$$

$$\Rightarrow x = 3600$$

Hence, the average number of leg movements done by toy A in 1 minute = Total number of leg movements/180 (in 9 AM to 12 PM = 3 hours = 180 minutes)

$$= 3600/180 = 20.$$

17. Ans. C.

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get

$$h = 0.1 \text{ and } l = 0.2$$

Let the number of hand movements = a and number of leg movements = b

$$a \times 0.1 + b \times 0.2 = 1120$$

$$\Rightarrow a + 2b = 11200 \dots (i)$$

Given,

$$2a + b = x \dots (ii)$$

On adding equations (i) and (ii), we get $(11200 + x)$

$$a + b = \frac{3}{3}$$

For $(a + b)$ to be integer, $(11200 + x)$ must be divisible by 3

I. When $x = 9000$, then $(11200 + x) = 11200 + 9000 = 20200$, which is not divisible by 3

II. When $x = 12600$, then $(11200 + x) = 11200 + 12600 = 23800$, which is not divisible by 3

III. When $x = 9800$, then $(11200 + x) = 11200 + 9800 = 21000$, which is divisible by 3

Hence, only statement III is true.

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get $h = 0.1$ and $l = 0.2$

18. Ans. D.

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get $h = 0.1$ and $l = 0.2$

Let the remaining battery capacity of each of the batteries B and C = x mAh, then

$$1500 \times 0.1 + y \times 0.2 = (1350 - x)$$

$$\Rightarrow 150 + 0.2y = 1350 - x$$

$$\Rightarrow 0.2y = 1200 - x$$

$$\Rightarrow y = 6000 - 5x$$

Also given

$$\begin{aligned} y \times 0.1 + 2000 \times 0.2 &= (1120 - x) \\ \Rightarrow (6000 - 5x) \times 0.1 + 400 &= (1120 - x) \\ \Rightarrow 600 - 0.5x + 400 &= 1120 - x \\ \Rightarrow 0.5x &= 1120 - (600 + 400) = 120 \\ \Rightarrow x &= 240 \end{aligned}$$

Hence, the required percentage = $\frac{240}{1600} \times 100 = 15\%$.

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get h = 0.1 and l = 0.2

19. Ans. E.

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get h = 0.1 and l = 0.2

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get h = 0.1 and l = 0.2

Let the number of rotations done by toy B = x and battery consume by 1 rotation = r mAh, then

$$3r = h + 7l = 0.1 + 7 \times 0.2 = 0.1 + 1.4 = 1.5$$

$$\Rightarrow r = \frac{1.5}{3} = 0.5$$

According to question

$$\begin{aligned} 2x \times 0.1 + x \times 0.2 + 2x \times 0.5 &= 1120 \\ \Rightarrow 0.2x + 0.2x + x &= 1120 \end{aligned}$$

$$\Rightarrow 1.4x = 1120$$

$$\Rightarrow x = 800$$

Hence, the required sum = $2x + 2x = 4x = 3200$.

20. Ans. D.

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get h = 0.1 and l = 0.2

$$\text{Battery capacity of toy D} = \frac{1200 + 1120}{2} = 1160 \text{ mAh}$$

Let the number of hand movements done by toy D = x, then

$$x \times 0.1 + x \times 0.2 = 75\% \text{ of } 1160$$

$$\Rightarrow 0.3x = 870$$

$$\Rightarrow x = 2900$$

Hence, the number of hand movements done by toy D = x = 2900.

Toy	A	B	C
Capacity (mAh)	1500	1600	1800
Present capacity (mAh)	1200	1120	135

Let the battery consume by 1 hand movement be h mAh and 1 leg movement be l mAh, then

$$4h + 3l = 1 \dots (i)$$

$$6h + 7l = 2 \dots (ii)$$

On solving equations (i) and (ii), we get h = 0.1 and l = 0.2

21. Ans. E.

British employees "...don't have enough time to spend with their family..." which can lead to tensions in personal lives. So, option A is correctly assumed.

British employees "...struggle to make time for health appointments..." which might lead health hazards. So, option B is correctly assumed.

"...Brits say they have felt anxious due to work pressure in the last year..." proves that option C is correctly assumed.

British employees have "...feelings of failure..." which means option D is correctly assumed.

Hence, the correct answer is E.

22. Ans. B.

"Despite agreeing that flexible working can improve work life balance, just 17 percent of British employees are actively encouraged to do so..." This means that 87 % are not practicing flexible working due to the disinterested employers. And among those who are encouraged to do so, "...don't have the tech to work effectively." So, option I is wrong.

"When it comes to addressing the issue, British employees are clear that flexible working can help improve work life balance..." proves that option II is false.

"British employees are adopting unhealthy ways of working that are having a profound impact on their personal lives..." proves that option III is correct.

Hence, the correct answer is B.

23. Ans. D.

The employees "...need an 'official reason' such as an appointment to work outside the office". The author puts 'official reason' under quotations means that he/she believes that this particular reason provided by the employers is not genuine. So, the author will not agree with option C.

The passage is about the lack of flexible work culture and the shortcomings of the flexible work culture in UK. Thus, the author will agree with option A.

"Only 23 per cent of organisations regularly implement initiatives to improve employee wellbeing..." 23% is less than a fourth, which is equivalent to 25%. So, the author will agree option B.

Hence, the correct answer is D.

24. Ans. C.

"Meanwhile, for those that do make it out of the office to work more flexibly, outdated tech is slowing people down and preventing employees from doing their best work." This proves that proper enforcement alone cannot reduce stress. So, option I is not correct.

"Of the 50 per cent of UK workers whose organisations offer flexible working, just 35 per cent are actively encouraged to do so..." indicates that even though the employers claim that they have flexible

working, but their employees are not encouraged to do and are expected to provide an 'official reason' to work outside the office. So, option II is correct. "...outdated tech is slowing people down and preventing employees from doing their best work" proves option III is correct.

Hence, the correct answer is C.

25. Ans. A.

Employers do not actively encourage employees to pursue flexible working, even though it is present in their organisations. They also do not accept the employees' choice to work outside the office and ask for official reason'. Even those can work outside, have outdated equipment because the organisations didn't invest in it. This leads to the employees returning back to the office. So, the given inference is definitely true. Hence, the correct answer is A.

26. Ans. B.

Among the given sentences, A and B have errors.

In sentence A, the preposition 'on' before a place like 'Jamshedpur' is incorrect. The preposition 'at' is more appropriate in this case. 'At' is used to refer a specific place, in this case Jamshedpur.

In sentence B, the tense is in the past form. 'Has been' as used in part 3 is incorrect as it is used refer to the present tense.

Thus, option B is the correct answer.

27. Ans. B.

Sentences A and C have errors in them. In sentence A, 'pass the deer' is an incorrect phrase. The correct phrase is 'pass the buck' which means shifting the responsibility for something to someone else.

In sentence C, the preposition between has been incorrectly used. 'Between' is used when referring to two things. But in context of the given sentence, it involves more than two things which makes 'among' the correct preposition.

Thus, option B is the correct answer.

28. Ans. D.

Sentences B and C carry errors in them. In sentence B, 'but' is the incorrect conjunction to use. The conjunction 'but'

is used to introduce something contrasting with what has already been mentioned. The correct conjunction here is 'and' which is used to show addition and when the statements are similar. In this case, the sentence talks about the views of the American elite regarding military supremacy and how the world must play by their rules. We see an addition of fact and not contrasting the initial one.

In sentence C, 'extent' is a noun and does not correctly express the work of the attempt. It requires a verb like 'extend' which means cause to cover a wider area. As the sentence talks about extending battlefield dimensions, the latter fits here contextually.

Thus, option D is the correct answer.

29. Ans. A.

The errors lie in sentences A and C.

In sentence A, to maintain the subject-verb agreement, 'actions', as it is plural in number, should be followed by 'are' instead of 'is'.

In sentence C, 'dethroning' means to remove someone from the throne. The army cannot be dethroned. This is conceptually incorrect and should be replaced by 'removal' which means dismissal. The latter makes more sense.

Thus, option A is the correct answer.

30. Ans. C.

The passage begins with a shocking revelation made from the Tork research that how North Americans are skipping lunch and are hooked to their workstations, but it is certainly not the central theme of the passage, but it provides the base to convey the central theme of the passage which is 'importance of taking breaks during work'. The entire passage revolves around this and outlines the health hazards of working without breaks and how taking them leads to enhanced productivity at work.

Take note of the following lines from the passage "A recent survey by Tork shows exactly how important lunch breaks are, along with how rare they are in the North American workplace...." And "Taking a break in the middle of the day for lunch is

a recovery period, allowing employees to come back refreshed and reinvigorated for the second half". Therefore, C is the correct option.

31. Ans. B.

* The World Day for Audiovisual Heritage (WDAH) was celebrated to raise awareness of the significance and preservation of recorded sound and audiovisual documents (films, sound and video recordings, television and radio programmes) for future generations.

* The theme for the year 2019 is "Engage the Past Through Sound and Images".

* The day was approved at UNESCO (United Nations Educational, Scientific and Cultural Organization) general conference in 2005 & it was observed for the first time on October 27, 2007.

32. Ans. A.

* Bollywood actor Kareena Kapoor unveiled the ICC World Cup trophies for the men's and women's tournament at the Melbourne Cricket Ground (MCG).

* The 2020 ICC Women's World Cup is slated to get underway from February 21 with Australia hosting India in the inaugural fixture.

* The men's event will begin from October 19 with Bangladesh taking on a yet-to-qualify team.

33. Ans. D.

* Vikram Solar Limited is an Indian company based in Kolkata and the second-largest solar energy company in India by revenue.

* The company's primary business focus is manufacturing solar PV modules and also carries out engineering, procurement and construction services and operations & maintenance of solar power plants.

* It is a subsidiary of Vikram Group, which also has subsidiaries in the tea processing, textiles and engineering industries

34. Ans. D.

* Two new countries Eritrea and Saint Kittis and Nevis have signed the International Solar Alliance's (ISA) Framework Agreement at its second Assembly in New Delhi taking the membership strength of the body to 83.

* The Ministry of New and Renewable Energy hosted the second Assembly of ISA.

* Power and New & Renewable Energy Minister R K Singh presided over the Assembly.

35. Ans. A.

* Mother Teresa Memorial Awards 2019 for Social Justice (MTMA) dedicated to the memory of the Saint of Kolkata, went to a number of people from India and abroad.

* The awards were presented to the laureates on 3 November 2019 in Mumbai.

* The annual award is established by the Harmony Foundation and is endorsed by Missionaries of Charities.

* The theme by Harmony Foundation for 2019 is 'Combating Contemporary Forms of Slavery'.

36. Ans. A.

* German multinational conglomerate company Siemens signed Memorandum of Understanding (MoU) with power producer NTPC and The Energy and Resources Institute (TERI) for decarbonization.

* The MoU was signed for reducing the industrial and commercial carbon footprint and also to reduce the dependence on hydrocarbon in India.

* The MoU with Teri was to enable energy transitions across the electricity, transport and industrial sectors.

37. Ans. C.

* A robotic surgery facility was opened for public at the Centre-run Safdarjung Hospital.

* Safdarjung Hospital is the first central government-run healthcare institution to have this latest facility.

* Robotic surgery has the advantage of providing minimally invasive surgery, reducing morbidity and mortality significantly of critically ill, cancer and kidney failure patients.

* The operating time also decreases, resulting in improvement in turnover of patients and decrease in waiting list of patients for surgery significantly.

38. Ans. A.

* India and Asian Development Bank, ADB, have signed 200-million dollar loan agreement for upgrading rural roads in 34 districts of Maharashtra to improve road safety.

* The agreement was signed between Sameer Kumar Khare, Additional Secretary, Department of Economic Affairs in the Ministry of Finance and Sabyasachi Mitra, Deputy Country Director of ADB's India Resident Mission.

* The project will improve the condition of about two thousand 100 kilometres of rural roads to all-weather standards.

39. Ans. C.

* Renowned Hindi writer Leeladhar Jagoori was conferred with the 28th Vyas Samman for the year 2018 in New Delhi.

* The award was conferred to him by well-known author Govind Mishra, for his 12th anthology (collection of poems or other pieces of writing) of poetry collection 'Jitne Log Utne Prem'.

* Vyas Samman is a literary award in India, given annually by the K.K. Birla Foundation in honour of Indian industrialist Krishna Kumar Birla.

40. Ans. A.

* The union minister of Road Transport & Highways and Micro, Small and Medium Enterprises, Shri Nitin Gadkari inaugurated conference on 'One Nation One Tag - FASTag' in New Delhi for rolling out usage of unified electronic system in the country.

* Several states/authorities signed a Memorandum of Understanding (MoU) with Indian Highways Management Corp Ltd (IHMCL) for FASTag integration in the state, as toll collection will be mandatorily done through FASTags effective from December 31, 2019 onwards.

* The toll collection at national highways is done through Radio Frequency Identification (RFID) technology based FASTags.

* To promote FASTag usage in State/ City Toll Plaza, scheme guidelines were circulated in all states by Indian Highways Management Corp Ltd (IHMCL).



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