- 1. If RESPOND is coded as EMPOTDS and SENSE is coded as FRODT, then CLARIFY will be coded as<br/>(1) EDTOJME(2) ZEJSBMD(3) ZEJQBKD(4) ZDKSBKD
- Sol. Pattern is +1, -1, +1, -1, +1.... C L A R I F Y +1 -1 +1 -1 +1 -1 +1 D K B Q J E Z

#### Ans. (3) ZEJQBKD

Madhu walks 15 metres towards north, then she turns left at 90° and walk 30 metres, then turns right at 90° and walks 25 metres. How far, she is from the starting point and in which direction ?
(1) 55 mt., north-east (2) 50 mt., north-east (3) 60 mt., north (4) 50 mt., west



Five friends A, B, C, D and E are standing in a row facing south but not necessarily in the same order. Only B is between A and E, C is immediate right to E and, D is immediate left to A. On the basis of above information, which of the following statements is definitely true ?

(1) B is the left of A
(2) B is to the right of E

(3) A is second to the left of C

(2) B is to the right of E(4) D is third to the left of E

Sol.  $\downarrow \downarrow \downarrow \downarrow \downarrow$ C E B A

So only option 4 is satisfies.

D

**Directions** (Q.4 to Q.8) : A, B, C, E, F, G and H are seven employees in an organisation working in the departments of Administration, Accounts and Operations. There are at least two employees in each department. There are three females, one in each department. Each of seven employees earns different amount. The only bearded employee F works in Administration and his only other colleague G earns the maximum. C, the least earner works in Accounts. B and E are brothers and do not work in the same department. A, husband of H, works in Accounts and earns more than each of F, B and E. The wife in the couple earns more than the husband.

	Departments	Income
Α	Accounts	More than F,B,E
В	Accounts / Operation	
С	Accounts	Minimum
Е	Accounts / Operation	
F	Administration	Maximum
G	Administration	
Н		Wife of A

Income : G > H > A > F, B, E > C

4.	Which of the following	s is a group of females?										
	(1) GCE	(2) GEH	(3) GCH	(4) GHB								
Sol.	Ans. 3, G C H											
5.	In which department do three people work ?											
	(1) Operations		(2) Accounts									
	(3) Operations or Acco	ounts	(4) Data inadequate									
Sol.	Ans. 2, accounts											
6.	What will be the positi income ?	tion of A from the top	when they are arranged	in descending order of their								
	(1) Second	(2) Third	(3) Fourth	(4) Fifth								
Sol.	Ans. 2, Third											
7.	In which of the following	ing departments does B v	work ?									
	(1) Operations	(2) Accounts	(3) Administration	(4) Data inadequate								
Sol.	Ans. 4, Data inadequat	te										
8.	Which of the following	statements is definitely	true ?									
	(1) B earns less than F	and H	(2) F earns more than B and E									
	(3) B earns more than I	E and C	(4) B earns less than A and H									
Sol.	Ans. 4, B earns less that	an A and H.										
Direc	ctions (Q.9 to Q.11) : C	diven an input, a machine	e generates pass codes fo	or the six batches each day as								
follo	WS:											
Input	: these icons were taken	out from the sea.										
Pass	Codes											
Batch	I : from sea the out tak	ken were icons these										
Batch	II : from icons these w	ere taken out the sea										
Batch	III : from icons out sea	a the taken were these										
Batch	TV : from 1cons out sea	a these were taken the										
	The pattern followed is	as under :	·									
	remaining words are w	ritten in a reverse order.	in the dictionary is plac	ed at the first place and the								
	In the second step, the word which comes second in the dictionary is placed at the second place and all words except the first and the second are written in a reverse order. The process continues in the same manner to give the pass codes for the subsequent batches.											
9.	What will be the pass c group"?	ode for the Batch V on a	day, if the input is "fou	r of the following five form a								
	(1) a five following for	m four group the of	(2) a five following for	m group the of four								
	(3) a five following for	m four the of group	(4) a five following for	rm four group of the								

- Sol. (1): Input: four of the following five form a group
  Batch I (10 a.m. to 11 a.m.): a group form five following the of four
  Batch II (11 a.m. to 12 noon): a five four of the following form group
  Batch III (12 noon to 1 p.m.): a five following group form the of four
  Batch IV(1 p.m. to 2 p.m.): a five following form four of the group
  Rest hour (2 p.m. to 3 p.m.)
  Batch V (3 p.m. to 4 p.m.): a five following form four group the of
- **10.** If the pass code for the Batch IV on a day was 'back go here people who settle want to', what was the pass code for the Batch V on that day?
  - (1) back go here people settle who want to
  - (2) back go here people to want settle who
  - (3) back go here people settle to want who
  - (4) cannot be determined
- **Sol.** (3) : Clearly. Batch IV starts at 1 p.m. Thus, in the pass code for Batch IV, first four words are arranged in alphabetical order. So, as per the pattern, we ought to place the word which comes fifth in the dictionary at the fifth place and then write all the words except the first five, in reverse order, to get the pass code for the batch at 3.00 p.m., i.e., Batch V.

Batch IV : back go here people who settle want to

Batch V : back go here people settle to want who

- 11. The pass code for the Batch I on a day was 'he so used to sell the surplus items'. What was input on that day ?
  - (1) items surplus the sell to used so he
  - (2) he items surplus the sell to used so
  - (3) so used to sell the surplus items he
  - (4) cannot be determined
- **Sol.** (4) : The input may be obtained by writing all words except 'he' in the given pass code in the reverse order and then placing 'he' at any of the eight positions. So, there are eight possible inputs. Thus, it is not possible to determine the exact input.

- 12. What is the total number of triangles and total numbers of squares in the given figure ?
  - (1) 28 triangles, 10 squares
  - (2) 28 triangles, 8 squares
  - (3) 32 triangles, 10 squares
  - (4) 32 triangles, 8 squares





**Sol.** (3) : We may label the figure as shown.



Triangles :

The simplest triangles are IJQ, JKQ, KLQ, LMQ, MNQ, NOQ, OPQ and PIQ i.e. 8 in number.

The triangles composed of two components each are ABQ, BCQ, CDQ, DEQ, EFQ, FGQ, GHQ, HAQ, IKQ, KMQ, MOQ and OIQ i.e. 12 in number.

The triangles composed of four components each are ACQ, CEQ, EGQ, GAQ, IKM, KMO, MOI and OIK i.e. 8 in number.

The triangles composed of eight components each are ACE, CEG, EGA and GAC

i.e. 4 in number.

:. Total number of triangles in the figure = 8 + 12 + 8 + 4 = 32.

Squares :

The squares composed of two components each are IJQP, JKLQ, QLMN and PQNO i.e. 4 in number. The squares composed of four components each are ABQH, BCDQ, QDEF and HQFG i.e. 4 in number. There is only one square i.e. IKMO composed of eight components.

There is only one square i.e. ACEG composed of sixteen components

Thus, there are 4 + 4 + 1 + 1 = 10 squares in the given figure.

**13.** A cube whose two adjacent faces are coloured is cut into 64 identical small cubes. How many of those small cubes are not coloured at all ?





So uncoloured cubes  $3 \times 3 \times 4 = 36$ 

14. If 54/32 = 4, 36/42 = 3, 92/22 = 7 then what is 28/33 = ?(1) 5(2) 6(3) 4 (4) 9**Sol.** Ans. (3)  $\frac{54}{32} \Rightarrow (5+4) - (3+2) = 4$  $\frac{36}{42} \Rightarrow (3+6) - (4+2) = 3$  $\frac{92}{22} \Rightarrow (9+2) - (2+2) = 7$  $\frac{28}{33} \Longrightarrow (2+8) - (3+3) = 4$ 15. In a certain code language, 'po ki top ma' means 'Usha is playing cards'; 'Kop ja ki ma' means 'Asha is playing tennis'; 'ki top sop ho' means 'they are playing football'; and 'po sur kop' means 'cards and tennis'. Which word in this language means 'Asha' ? (1) ja (2) ma (3) kop (4) top **Sol.** Ans. (1) Po ki top ma  $\rightarrow$  Usha is playing cards......(i) Kop ja ki ma  $\rightarrow$  Asha is playing tennis.....(ii) Ki top sop ho  $\rightarrow$  they are playing football......(iii) Po sur kop  $\rightarrow$  cards and tennis.....(iv) from (i) & (ii) is playing - ki ma then from (ii) and (iv) - tennis - kop Remaining code ja stand for Asha 16. A ship navigating in the Indian Ocean is hit by a sea storm and drifts as follows: 40 km North 28 km north-west 36 km west 52 km south and 29 km south east. The ship had finally drifted in direction from its original position. (1) South West (2) South (3) West (4) South East 28 36 Sol. 40 52 29 km So option (1)

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17. Four diagrams martked A, B, C and D are given below. The one that best illustrates the relationship among three given classes :

Women, Teachers, Doctors



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24. A boat starts with the speed of 1 km per hour. After every 1 km, the speed of boat becomes twice. How much will be the average speed of the boat at the end of journey of 2.5 km?

(1) 
$$\frac{2.5}{1.5125}$$
 (2)  $\frac{2.5}{1.75}$  (3)  $\frac{2.5}{1.625}$  (4)  $\frac{2.5}{1.50}$ 

**Sol.** Ans. (3)

When the speed of boat increases time will decrease due to inverse relations. So in first 1 km speed is 1 km/hr in second 1 km speed is 2 km/hr in tast 5 km speed is 4 km/hr

So time in first 1km is 1hr

in second 1km is 
$$\frac{1}{2}$$
 hr

in last 5 km is  $\frac{1}{4}$  kh

So total times 1.75 hr

So average speed =  $\frac{\text{total distance}}{\text{total time}}$ 

 $=\frac{2.5}{\frac{1}{1}+\frac{1}{2}+\frac{0.5}{4}}=\frac{2.5}{1.625}$ 

**25.** Using the total number of alphabets in your solution as a parameter, find the number that represents G is.

A - 0, B - 0, C - 2, D - 2, E, - 1, F - 2 G - ?  
(1) 2 (2) 3 (3) 4 (4) 5  
Sol. 
$$\frac{\text{Total no. of alphabets (26)}}{\text{position value of alphabet}} = \text{Reminder}$$
  
 $\frac{26}{G(7)} = \text{Reminder is (5)}$   
So option (4)  
26. Rs. 1000 is given to A, B and C in some ratio. A is wrongly given double and C is wrongly given half, which is Rs. 500 and Rs. 250 respectively. How much is given to B ?  
(1) 500 (2) 250 (3) 750 (4) None of above  
Sol. A + B + C  
500 + 250 + 250 = 1000  
So option (2) B is given 250 Rs.  
27. Given that the total cost of 5 erasers, 7 sharpeners and 9 pencils in Rs. 100 and the total cost of 2 erasers 6 sharpeners and 10 pencils is Rs. 80. What is the total cost (in Rs.) of one eraser one sharpener and one pencil ?  
(1) 10 (2) 15 (3) 20 (4) Data not sufficient

Sol. Ans. (2) 5e +7s + 9p = 100....(i) 2e + 6s + 10p = 80 ....(ii)Subtract (ii) from (i) 3e + s - p = 20 .....(iii)Add (i) in (ii) 8e + 8s + 8p = 120So, e + s + p = 15

**28.** Renu went to the market between 7 am and 8 am. The angle between the hour-hand and the minute-hand was 90°. She returned home between 7 am and 8 am. Then also the angle between the minute-hand and hour-hand was 90°. At what time (nearest to second) did Renu leave and return home ?

(1) 7 h 18 m 35 s and 7 h 51 m 24 s

(3) 7 h 20 m 42 s and 7 h 53 m 11 s

Sol. Between 7 am to 8 am

Right angles are

$$1^{\text{st}} \rightarrow \frac{12}{11} \times 20 = \frac{240}{11} = 21 \text{ m } 49 \text{ s}$$

$$2^{nd} \rightarrow \frac{12}{11} \times 50 = \frac{600}{11} = 54 \text{ m } 33 \text{ s}$$

So, ans is option (4)

- **29.** Stimulant : Activity : : ?
  - (1) Symptom : Disease
    - (3) Fertilizer : Growth

- (2) Food : Hunger
- (4) Diagnosis : Treatment

(2) 7 h 19 m 24 s and 7 h 52 m 14 s

(4) 7 h 21 m 49 s and 7 h 54 m 33 s

Sol. Both are synonyms

So in option (3) both are synonyms

30. Choose the missing number from among the four alternatives :



31. From among the four alternatives given below, which number replaces the question mark ?



**32.** From among the four alternatives given below, which letter replaces in the given figure the question mark ?

3 P 8	
9 G 11	
2 U 4	
3 W 1	
7 ? 18	
(3) S	(4) Y

(1) A

Sol. Ans. (2) (8 + 3) = 11  $11^{\text{th}}$  letter from back – P (11 + 9) = 20  $20^{\text{th}}$  letter from back – G Same way (18 + 7) = 25 $25^{\text{th}}$  letter from back – B

(2) B

**33.** Choose the correct mirror-image most closely resembles the word source, from the four given alternatives.

e c r u o s (1)	source (2)	soucre (E)	(4) e c r u o s

**Sol**. (4) ecruos



**34.** In the probelm figure a unfolded cuboids is given. Choose from the four given alternatives the box that will be formed when problem figure is folded.





(4) 54.66

Sol. Only (1) & (2) is possible

(1) 1 only



If X is on the top and circles is on right surface than possible diagram is given so her option (3) & (4) not possible according to given unfolded structure of dice. So option (2)

(3) 56.66

**35.** A work can be completed by 40 workers in 40 days. If 5 workers leave every 10 days, in how many days work will be completed ?

(1) 55.66 (2) 56.44

**Sol.** Ans. (3)

Total work is  $40 \times 40 = 1600$  unit

I. 10 days total work completed

 $= 40 \times 10 = 400$ 

II. 10 days total work completed

 $= 35 \times 10 = 350$ 

and so on

In 50 days 1500 unit work is done.

Now 15 worker ..... 100 unit

So it will be completed in 6.66 days

So total days work will be completed 56.66 days.

36. From among the four alternatives given below, which figure replaces the question mark '?'.



Sol. Ans. (2)

Number of line increasing in next figure.

37. Six persons A, B, C, D, E and F are sitting in two rows, three persons are sitting in each row E is not at end of any row

D is second to the left of F

C, the neighbour of E, is sitting diagonally opposite to D

B is the neighbour of F

Who are sitting in each column ?

- (1) A and D; E and F; and B and C
- (3) B and D; A and C; and E and F
- (2) A and F; D and E; and B and C
- (4) A and D; B and E; and F and C

**Sol.** Ans. (4)

A •	E	C
D	В	F

A, D; E, B & C, F are sitting in each column.

- 38. The sum of the incomes of A and B is more than that of C and D taken together. The sum of incomes of A and C is the same as that of B and D taken together. Moreover, A earns half as much as the sum of the incomes of B and D. Whose income is the highest ?
- (1) A (2) B (3) C (4) D Sol. A + B > C + DA + C = B + D $A = \frac{B+D}{2}$ So the income of C is  $\frac{B+D}{2}$  $\frac{B+D}{2} + B > \frac{B+D}{2} + D$ B > DSo option (2) 39. A letter number series is given with one or more terms missing as shown below. Choose the alternative next in the sequence.
  - A4X, D9U, G16R, .....

(1) K25P (2) J25P (3) J25O (4) J25C

**Sol.** Ans. (3)

		+5		+/		+9		
								_
Ą	4 2	Κ, Γ	9 U 9 O	(	յ 16 հ	λ, [.	<u>25 (</u>	)
		+3		+3		+3		
			3	_	-3	_	3	

40. Study the following information and answer the question given below it:

Rohit, Kunal, Ashish and, Ramesh are students of a school. Three of them stay far from the school and one near it. Two studies in class IV, one in class V and one in class VI. They study Hindi, Mathematics, Social Sciences and Science. One is good at all four subjects while another is weak in all of these. Rohit stay far from the school and is good at mathematics only while Kunal is weak in mathematics only and stay close to the school. Neither of these two nor Ashish studies in class VI. One who is good at all the subjects study in class V. Name the boy who is good at all the subjects.

(1) Rohit (2) Ramesh (3) Kunal (4) Ashish

**Sol.** Ans. (4)

	Far/Close	Class	Subject
Rohit	far	IV	Good in Maths
Kunal	close	IV	Weak in Maths only
Ashish	far	V	Good in all
Ramesh	far	VI	Weak in all

**41.** Half of the villagers of a certain village have their own houses. One - fifth of the villagers cultivate paddy. One - third of villagers are literate. Four - fifth of the villagers are below twenty five. Then, which one of the following is certainly true?

- (1) At least 10 percent villagers who have their own houses are literate.
- (2) At least 25 percent of the villagers who have their own houses cultivate paddy.
- (3) At least 50 percent of the villagers who cultivate paddy are below twenty five.
- (4) At least 13.33 percent literate must be below twenty five.

**Sol.** Ans. (4)

- $\frac{4}{5}$  of villager below 25 = 80%
- $\frac{1}{3}$  of villager are literate = 33.33%

So, min 13.33% of villagers are literate will below 25.

**42.** A tank is filled by three pipes with each pipe having uniform flow. The first two pipes operating simultaneously fill the tank in the same time during in which the tank is filled by the third pipe alone. The second pipe fills the tank 5 hours faster than the first pipe and 4 hours slower than the third pipe. The time required by the first pipe to fill the tank is:

```
(1) 6 hours (2) 10 hours (3) 15 hours (4) 30 hours
```



Sol.	А	В	С	
	x+5	Х	x-4	
	Total work is $(x + 5)$ (	(x)(x-4)		
	Work done by $A = \frac{(x)}{(x)}$	$\frac{(x+\cancel{5})(x)(x-4)}{(x+\cancel{5})}$		
	Workdono by D - (r. 1	= x(x - 4)		
	Workdone by $C = (x + y)$	(x - 4)		
	A + B = C	- 3)(x)		
	x + b = c x(x-4) + (x+5)(x-4) =	(x+5)(x)		
	$x^{2} - 4x + x^{2} + x - 20 =$	$= x^{2} + 5x$		
	$2x^2 - 3x - 20 = x^2 + 5$	X		
	$2x^2 - 3x - 20 - x^2 - 5x^2 $	$\mathbf{x} = 0$		
	$x^2 - 8x - 20 = 0$			
	$x^2 - 10x + 2x - 20 = 0$	)		
	x(x - 10) + 2(x - 10) =	= 0		
	(x + 2) (x - 10) = 0			
	$\mathbf{x} = -2$			
	x = 10			
	A = x + 5 = 10 + 5 = 1	15 hours		
	So option (3)			
43.	If FEED is codded as	47 and TREE is coded as	s 91, then MEET will be	coded as :
	(1) 110	(2) 114	(3) 118	(4) 122
Sol.	Ans. (3)			
	FEED			
	6554			
	$6 \times 1 + 5 \times 2 + 5 \times 3 +$	$-4 \times 4 = 47$		
	Τ Κ Ε Ε			
	20 18 5 5			
	$20 \times 1 + 18 \times 2 + 5 \times 3$	$3 + 5 \times 4 = 91$		
	ΜΕΕΤ			
	$13 \times 1 + 5 \times 2 + 5 \times 3$	$+20 \times 4 = 118$		
44.	One watch is 1 minute show that correct time	e slow at 1 pm on Tuesc ?	lay and 2 minutes fast at	1 am on Friday. When did it
	(1) 5.00 am on Wedne	esday	(2) 9.00 am on Wedne	esday
	(3) 5.00 pm on Wedne	esday	(4) 9.00 pm on Wedne	esday

Sol. Ans. (2)

Watch covers 3 min in \_\_\_\_\_ 60 hrs

Watch covers 1 min in  $\frac{60}{3}$  hrs

= 20 hrs

So, 1 pm on tuesday + 20 hrs

= 9 am on wednesday

Directions (Q.45 to Q.47) : A coding language is used to write English words in coded form given below.

TENNIS	%#\$@\$&
TRUE	@+# *
PRIME	* = ? # %
SPINE	#\$%?&

The codes do not appear in the same order of the letters in English words. Decode the language and based on these codes identify the code for English word given in each question from the alternatives provided.

	Letter	Т	Е	S	Ν	Ι	Р	R	U	Μ		
	Coding	@	#	&	\$	%	?	*	+	=		
45.	MINT											
	(1) % = & *	:			(2	2) =	#?	%			(3) @ % = \$	(4) * @ ? +
Sol.	(3)				@	9 %	= \$					
46.	RINSE											
	(1) = ? + * 0	@			(2	2) %	* 9	\$#.	&		(3) * \$ # @ +	(4) \$ & # = ?
Sol.	(2)				%	; * <b>9</b>	\$#	&				
47.	INTEREST											
	(1) = ? * + 9	% &	$z = \frac{1}{2}$	*	(2	2)?	# =	? +	# *	\$	(3) +  @ + \$ = * %	(4) @ # * # @ \$
Sol.	(4) @ # * #	@	\$ %	&								

**Directions (Q.48 to Q.50) :** There are three circles in the following diagram. A total number of 100 persons were surveyed and the number in the diagram indicates the number of tourists who visited different states. 46 tourists visited Sikkim and 42 tourists visited Karnataka.



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48.	How many tourists have visited at least two states ?										
	(1) 46	(2) 50	(3) 54	(4) 58							
Sol.	(3) 54 tourists have visited at least two states.										
49.	How many tourists have visited only two states?										
	(1) 46	(2) 50	(3) 54	(4) 96							
Sol.	(2) 50 tourists have vis	sited only two states.									
50.	Ifg BREAKTHROUGH	is coded as EAOUHRB	RGHKT, then DISTRIB	UTION will be coded as							
	(1) STTIBUDIONRI		(2) TISTBUONDIRI								
	(3) STTIBUONRIDI		(4) RISTTIBUDION								
Sol.	(1) Acc. to letters posi	tions.									

\* \* \* \* \*