

## CAT 2008 Question Sets Mapping

### Section – II

Set_111	Ans_111	Set_222	Set_333	Set_444
26	3	34	49	31
27	2	32	50	30
28	3	33	48	29
29	3	42	36	48
30	1	39	37	49
31	1	40	34	50
32	4	41	35	47
33	3	49	26	33
34	3	48	27	32
35	2	50	28	34
36	1	45	30	44
37	5	43	31	43
38	5	44	29	42
39	1 and 4	47	32	46
40	1	46	33	45
41	2	28	39	41
42	4	26	40	40
43	5	27	38	39
44	5	38	43	36
45	2	35	44	37
46	4	36	41	38
47	5	37	42	35
48	4	31	46	28
49	5	29	47	27
50	3	30	45	26

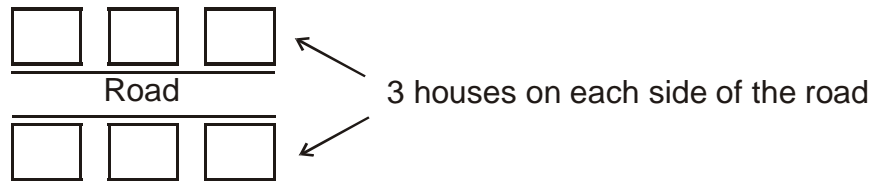
## Section – II : LRDI

### Set – 222

**For questions 26 to 28:**

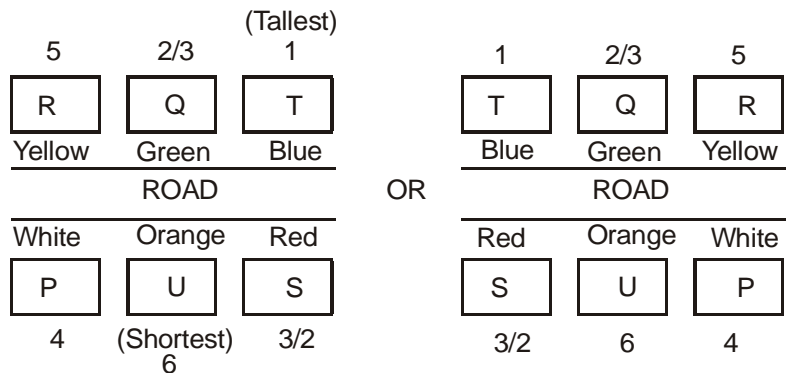
The given information can be depicted as follows.

(i)



- (ii) Six houses – P, Q, R, S, T, U
- (iii) Colours – Red, Blue, Green, Orange, Yellow, White
- (iv) Different heights
- (v) T = tallest & opposite to Red
- (vi) Shortest opposite to Green
- (vii) U = orange & the position of U is: P/S U S/P
- (viii) R = yellow & opposite to P
- (ix) Q = Green & opposite to U
- (x) P = White & (S, Q) > P > R (in height)

From (iv), (v), (vi), (ix) & (x),  $T > (S, Q) > P > R > U$  in terms of height  
 From (iv), (vii), (viii), (ix) & (x), we get the following two cases.



26. (4) Diagonally opposite to yellow is red.
27. (5) Second tallest house is either Q or S. So, we can not determine.
28. (2) Tallest house is T whose colour is Blue.
29. (5) Let volume of data transfer in India = Volume of data transfer in Singapore = X

**For INDIA:**

ARDT for India  $\approx$  \$1 (approx)

$\therefore$  Revenue from data transfer = \$X (approx)

$$\frac{\text{Revenue from data transfer}}{\text{Total Revenue}} \times 100 = 9\% \text{ (approx)}$$

$$\Rightarrow \text{Total Revenue} \approx \frac{X}{9} \times 100 \text{ (approx)}$$

**For SINGAPORE:**

ARDT = \$9 (approx)

$\therefore$  Revenue from data transfer = \$9X (approx)

$$\frac{\text{Revenue from data transfer}}{\text{Total Revenue}} \times 100 = 20.5\% \text{ (approx)}$$

$$\Rightarrow \text{Total Revenue} = \frac{9x}{20.5} \times 100 \text{ (approx)}$$

$$\frac{\text{Total Revenue for Singapore}}{\text{Total Revenue for India}} = \frac{\frac{9x}{20.5} \times 100}{\frac{x}{9} \times 100} \approx 4 \text{ (approx)}$$

So, the statement given in option (5) is true.

30. (3) Let total Revenue of Sweden in 2010 = x  
 Therefore total Revenue of India in 2010 = 2x

**For Sweden in 2010:**

ARDT = \$6

Revenue from data transfer = 2 × 18% of x

$$\therefore \text{Volume of data transfer} = \frac{2 \times 18\% \text{ of } x}{6}$$

**For India in 2010:**

Let ARDT = y

Revenue from data transfer = 3 × 9% of 2x

$$\therefore \text{Volume of data transfer} = \frac{3 \times 9\% \text{ of } 2x}{y}$$

$$\text{Therefore } \frac{2 \times 18\% \text{ of } x}{6} = \frac{3 \times 9\% \text{ of } 2x}{y}$$

$$\Rightarrow y = \$9$$

$$\text{Therefore \% change in ARDT of India} = \frac{9-6}{6} \times 100 = 50\%$$

31. (4) **For UK:**

$$\frac{\text{Revenue from Data transfer}}{\text{Total Revenue}} \times 100 = 30\% (\text{approx})$$

$$\text{Revenue from Data transfer} = \frac{30}{100} \times \text{Total Revenue}$$

ARDT = \$ 13 (approx)

$$\therefore \text{Volume of Data transfer} = \frac{30}{100} \times \frac{\text{Total Revenue}}{13}$$

$$\approx \frac{3}{130} \times \text{Total Revenue}$$

**For Spain:**

$$\frac{\text{Revenue from Data transfer}}{\text{Total Revenue}} \times 100 = 15\% (\text{approx})$$

$$\text{ARDT} = 6.5 (\text{approx})$$

$$\therefore \text{Volume of Data transfer} = \frac{15}{100} \times \frac{\text{Total Revenue}}{6.5}$$

$$\approx \frac{3}{130} \times \text{Total Revenue}$$

Similarly, we can check the other options and easily see that the volume of data transfer is NOT the same for given pair countries.

32. (2) Since Bhama got calls from all colleges, she has to score marks in each section equal to at least the maximum of the cut-offs across colleges which means 45, 45, 46 & 45 in section A, B, C, & D respectively. This makes her total to be 181 with which she will clear the overall cut-offs of all institutes also.

33. (3) Since we have to minimise the marks in a particular section, we will maximise the marks in other 3 sections. Let us assume that marks obtained in each of the three sections in which we are going to maximize the score, is equal to 50. Now, the lowest overall cut-off is 171 & second lowest is 175. Hence Charlie must have scored at least  $175 - (50 + 50 + 50) = 25$  marks in the remaining section.

Lets confirm whether he can clear sectional cut-offs also with such a distribution. On seeing the sectional cut-offs, we conclude what they can be cleared with 50 marks each in section A, B & C and 25 marks in section D, which may enable Charlie to clear the sectional cut-off of section D for college 1, 2, 3 or 5. Hence answer is 25.

34. (3) Since we have to maximize Aditya's marks, let us take the base values of 50 marks in each section and try to reduce that by minimum values to ensure he doesn't get any call. We notice that by reducing the marks obtained in section C to 41, we ensure colleges 1, 2, 3 & 5 are ruled out. Now for colleges 4 & 6, reducing the marks obtained in section D to 43, ensures these colleges are also ruled out. Please note that we are reducing the score to 1 less than the minimum cut-off across all colleges for that particular section. In the other two sections A and B, Aditya may score 50 each. So, the maximum possible aggregate marks =  $50 + 50 + 41 + 43 = 184$ .

**For questions 35 to 38:**

The given basic information can be collated as below:

- (i) Six teams – A, B, C, D, E, F
- (ii) Matches scheduled in two stages – I & II.
- (iii) No team plays against the same team more than once.
- (iv) No ties permitted.

As per the instructions given for stage – I, we can reach the following conclusions:

- (a) As B lost at least one match, hence A won all the 3 matches.
- (b) The two teams who lost all the matches cannot be A (as explained above), cannot be B (E lost to B), cannot be D (D won against C & F). Hence, the two teams must be C and F.
- (c) F did not play against the top team (i.e. A).  
We get the following table for stage – I.

(To be read from rows)

	A	B	C	D	E	F
A	X	W	W	W		
B	L	X			W	W
C	L		X	L	L	
D	L		W	X		W
E		L	W		X	W
F		L		L	L	X

As per the instructions given for Stage-II, we can reach the following conclusions.

- (d) A lost both its matches against E and F.
- (e) F won against A, hence is the bottom team (out of C & F) which won both the matches  
⇒ F won against C as well.  
This also means that C lost both its matches against B and F.
- (f) Apart from A and C, one more team lost both the matches in Stage-II. That team can neither be E (A lost to E), nor B (as C lost to B), nor F (as F won both its matches).  
Hence, the team must be D.

We get the following table for Stage-II.

(To be read from Rows)

	A	B	C	D	E	F
A	X				L	L
B		X	W	W		
C		L	X			L
D		L		X	L	
E	W			W	X	
F	W		W			X

35. (2) E & F defeated A. **[Please note that in this question option (1) and (5) were the same]**
36. (4) B, E & F won both the matches in Stage-II.
37. (5) D & F won exactly two matches in the event.
38. (5) B & E has most wins, 4 each.
39. (1) Subscription in Europe in 2006 = 380 Mn USD  
Subscription in Europe in 2007 = 500 Mn USD  
 $\% \text{ change in 2007} = \frac{500 - 380}{380} \times 100 \approx 30\%$   
Therefore subscription (based upon the growth rate of 2007 over 2006) in 2008 should have been =  $500 \times 1.3 = 650$  Mn USD (approx)  
Therefore difference from the estimated subscription =  $650 - 600 = 50$  Mn USD (approx)  
**[Please note that the unit is mentioned neither in the question, nor in the options]**
40. (1) Let total number of subscribers =  $100x$   
Number of men =  $60x$   
Therefore number of men in 2010 =  $60x \times (1.05)^7 = 84.42x$  (approx)  
Number of women =  $40x$   
Therefore number of women in 2010 =  $40x \times 1.1^7 = 77.94x$  (approx)  
Therefore total number of subscribers =  $84.42x + 77.94 = 162.36x$   
 $\% \text{ growth of subscribers} = \frac{162.36x - 100x}{100x} = 62.36$  (approx)
41. (4) Gap in 2008 =  $780 - 600 = 180$  Mn USD  
Gap in 2009 =  $810 - 700 = 110$  Mn USD  
Annual  $\% \text{ change} = \frac{110 - 180}{180} \times 100 = -39\%$   
Absolute change = 39% which is the highest. Among the other options, option (3) '06-07' is closest, but it will lead to only 22% change in gap.

42. (3) Growth rate of 2007 =  $\frac{500 - 380}{380} \times 100 = 31.58\%$   
 Growth rate of 2005 =  $\frac{280 - 190}{190} \times 100 = 47.37\%$   
 Therefore % change in growth rate of 2007 relative to growth rate of 2005 is  
 $\frac{47.37 - 31.58}{47.37} \times 100 \approx 35\%$
43. (5) Since we do not know what are the share prices during different times of the day we cannot come to any conclusion. Hence (5)
44. (5) Suppose the prices of shares remains same throughout the day then all the four given statements would not hold true. Hence (5).
45. (1) As the prices are rising continuously, the earlier a person invests, the more profitable it would be.  
 Abdul invested in the beginning only and hence reaped in maximum return.  
 Between Bikram and Chetan, Chetan always invested the same amount but Bikarm invested more and more amount towards the end. Hence Bikram got the minimum return.

**For questions 46 and 47:**

Let the share price are 10 am, 11 am, 12 noon, 1 pm, 2 pm and 3 pm be a, b, c, d, e & f rupees respectively.

From information (i) we get,  $a > f$  ... (I)

From information (ii) we get  
 a) Dane made profit i.e.  $(a + b + c) < (d + e + f)$  ... (II)

And, b) Emily made profit i.e.  $\frac{d}{c} \times f > a$  ... (III)

Or,  $d \times f > a \times c$  ... (IV)

From information (iii) we get,  $e > f$  ... (V)

From information (iv) we get,  $a > c$  ... (VI)

On combining in-equations (I) & (III) we get,  $c > d$  ... (VII)

On combining in-equations (I) and (VIII) we get,  
 $a + c > d + f$  ... (VIII)

On combining in-equations (II) and (VIII) we get,  $e > b$  ... (IX)

Hence, we get the sequence as

$(a > f > e > b)$  and  $(c > d)$ . And also we know that 'a' is greater than both 'c' and 'd', therefore 'a' is the highest among the six mentioned variables.

46. (1) The price at 10 am i.e. 'a' is greater than prices at any other time.
47. (1) and (4)  
 Since the price at 11 am i.e. 'b' is less than the price at 2 pm (i.e. 'c'), hence statement (1) is necessarily false.  
 From in-equation (VII) we know that  $c > d$ . Hence statement (IV) is also necessarily false.
48. (3) Avg. Gross pay of HR department before transfer  
 $= \text{Rs. } 5000 \times 1.7$   
 $= \text{Rs. } 8500$   
 Basic pay of the transferred person = Rs. 8000  
 New allowance of the transferred person =  $(80 + 10) = 90\%$  of the basic pay  
 New Gross pay of the transferred person =  $\text{Rs. } 8000 \times 1.9$   
 $= \text{Rs. } 15,200$   
 New average gross pay of HR dept. =  $\text{Rs. } 8500 + \left( \frac{15200 - 8500}{6} \right)$   
 $= \text{Rs. } (8500 + 1116)$   
 Percentage change =  $\frac{1116}{8500} \times 100$   
 $\approx 13\%$
49. (3) Since increase in average age of the Finance dept. is one year, the age of the person moving from Mktg. to Finance is more than that moving from Finance to Marketing, by  $1 \times 20 = 20$  years.  
 Hence, due to this transfer, cumulative age of Marketing department has gone down by 20 yrs. But since the average age of Mktg. dept. remaining unchanged, the person moving from Marketing to HR has age = (Avg. age of Marketing) – 20 = 15 years.  
 New average age of HR dept. =  $\frac{(5 \times 45) + (1 \times 15)}{5 + 1}$   
 $= 40$  yrs.
50. (2) Total basic pay of HR  
 $= 5 \times 5000$  (existing) +  $2 \times 6000$  (from Maintenance) +  $1 \times 8000$  (from Marketing)  
 $= \text{Rs. } 45,000$   
 New average =  $\frac{45,000}{8} = \text{Rs. } 5,625$   
 Percentage change =  $\frac{625}{5000} = 12.5\%$