

# IBPS RRB Clerk Mains 2017

## REASONING ABILITY

**Directions (1-5):** Study the given information carefully to answer the given questions.

A, B, C, D, E, F and G are seven different mobile phones which has different storage spaces, ie 256mb, 500mb, 1gb, 2gb, 8gb, 16gb and 32gb but not necessarily in the same order.

The mobile phone which has 256mb storage space is immediately above A. There are only two mobile phones between D and the mobile phones which have of 256mb storage space. The mobile phones which has 1gb storage space is above D but not immediately above D. Only three mobile phones are between C and the mobile phones which have 1gb storage space. The mobile phones which has 32gb storage space is immediately above C. The mobile phones which is of 2gb storage space is immediately above the mobile phones G. Only one mobile phone is there between mobile phone B and mobile phone E. Mobile phone B is above E. Neither mobile phone B nor mobile phone A is of 8gb storage space. Mobile phone A has not 500mb storage space. There is only one mobile phone between mobile phone E and G. Mobile phones G is not of 16gb or 8gb storage space. Neither mobile phone D nor G is of 500mb storage space. Mobile phone G is not below mobile phone A.

1. How many mobile phones are there between mobile phone D and mobile phone G?  
(a) One                      (b) Two                      (c) Three  
(d) Four                      (e) None
2. What is the storage space of mobile phone F?  
(a) 32gb                      (b) 256mb                      (c) 1gb  
(d) 2gb                      (e) Can't be determined
3. Find the pair of storage space and mobile phone which is not correctly matched.  
(a) B-2gb                      (b) F-1gb                      (c) A-16gb  
(d) G-256mb                      (e) None of these
4. Which of the following conditions is correct regarding 8gb storage space with respect to E?  
(a) There is one mobile phone between E and 8gb storage space mobile phones.  
(b) E is immediately above 8gb storage space mobile phone.  
(c) 8gb storage space is related to the mobile phone immediately above E.  
(d) All the above are true  
(e) None of the above is true

5. Which of the following storage spaces belongs to 'A'?  
(a) 256mb                      (b) 2gb                      (c) 8gb  
(d) 500mb                      (e) None of these.

**Directions (6-8):** In each of the question below are given three statements followed by three conclusions numbered I, II and III. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follow(s) from the given statements, disregarding commonly known facts:

6. **Statements:** Some Gujrat are karnal.  
Some karnal are haryana.  
Some haryana are delhi.  
**Conclusions: I.** Atleast some delhi are Gujrat.  
**II.** There is a possibility that all delhi are karnal.  
**III.** No delhi is karnal.  
(a) None follows                      (b) I and II follow  
(c) Only II follows  
(d) Only either II or III follows  
(e) Only I and either II or III follow
7. **Statements:** All doc are pdf.  
Some pdf are ppt.  
All ppt are xls.  
**Conclusions: I.** At least some xls are pdf.  
**II.** Some pdf are doc.  
**III.** All xls are doc is a possibility.  
(a) I and II follow                      (b) I and III follow  
(c) II and III follow                      (d) All follow  
(e) None of the above
8. **Statements:** All windows are microsoft.  
All ios are microsoft  
All microsoft are android.  
**Conclusions: I.** All windows are android is a possibility.  
**II.** All ios is android.  
**III.** At least some android are microsoft.  
(a) I and II follow                      (b) I and III follow  
(c) II and III follow                      (d) All follow  
(e) None of the above

**Directions (9-13):** Study the following information carefully to answer the given questions.

W, X, Y, Z, M, N and O going to three different malls GIP, DLF and SRS with at least two of them in any of these malls. Each of them has a favourite colour—Green, Blue, Red, White, Black, Violet and Purple. X going to DLF mall with M.

M's favourite colour is Purple. Those who went to GIP mall do not like Green and White colour. The one who likes Blue colour is going only with O in SRS mall. The one who's favourite Colour is Black does not go in the same mall with either M or O. W does not go in DLF mall. W likes Violet colour. Z and N going in the same mall. N does not like Red colour. The one who's favourite colour is White does not go in DLF mall.

9. W, Z and N are going in which mall?  
 (a) Cannot be determined  
 (b) GIP (c) DLF  
 (d) SRS (e) None of these
10. What is the favourite colour of M?  
 (a) Violet (b) White (c) Purple  
 (d) Black (e) None of these
11. Which of the following combinations is true?  
 (a) W-SRS-Blue (b) O-GIP-Black  
 (c) N-SRS-White (d) Z-GIP-Red  
 (e) None of these
12. Y goes in which mall?  
 (a) GIP (b) DLF (c) SRS  
 (d) Cannot be determined (e) None of these
13. Whose favourite colour is White?  
 (a) X (b) W (c) O  
 (d) Z (e) None of these

**Directions (14-18):** Following questions are based on the five three-digit given below.  
 519 328 746 495 837

14. If half of the second highest number is subtracted from the third highest number, what will be the value?  
 (a) 156 (b) 146 (c) 213  
 (d) 314 (e) None of these
15. If the positions of the first and the third digits in each of the numbers are interchanged, which of the following will be the second digit of the lowest number?  
 (a) 1 (b) 2 (c) 4  
 (d) 9 (e) 3
16. If in each number the third digit becomes the first digit, the first digit becomes the second digit and the second digit becomes the third digit, which of the following will be the second digit of the lowest number?  
 (a) 1 (b) 2 (c) 4  
 (d) 9 (e) 3
17. Which of the following represents the difference between the first and the second digits of the second highest number?  
 (a) 4 (b) 1 (c) 3  
 (d) 5 (e) None of these

18. If '1' is subtracted from the third digit of each number and '1' is added to the first digit of each number, which of the following will be the sum of the second and third digits of the second lowest number?  
 (a) 13 (b) 9 (c) 8  
 (d) 6 (e) None of these

**Directions (19-20):** Read the given information carefully and answer the given questions.

There are 5 persons A, B, C, D and E. B is to the northeast of E. D is 2km to the east of E, who is 6km to the west of A. C is to the northwest of D and in the line of EB. D is 4km the south of B.

19. What is the distance between D and A?  
 (a) 6km (b) 4km (c) 3km  
 (d) 2km (e) None of these
20. In which direction is A with respect to B?  
 (a) Southeast (b) Southwest  
 (c) Northeast (d) Northwest  
 (e) None of these

**Directions (21-23):** Study the following digit-letter-symbol sequence carefully and answer the questions given below:  
 R \* T J L 2 \$ D = M # 8 C % B < K 1 & A W ? P E + Q @ 7 F 6

21. How many such numbers are there in the above sequence, each of which is immediately preceded by a consonant and immediately followed by a symbol?  
 (a) None (b) One (c) Three  
 (d) Four (e) None of these
22. Which of the following is sixth to the left of eighteenth element from the left?  
 (a) % (b) C (c) 1  
 (d) 8 (e) None of these
23. If the above sequence is written in reverse order then which of the following will be sixth to the right of sixteenth element from the right end?  
 (a) M (b) A (c) B  
 (d) ? (e) None of these
24. If each of the odd position in the letter CAREFULLY is increased by 1 and each of the even position letter are decreased by 1 then which will be the new word?  
 (a) EZSDHTNKY (b) EZSDHTNKY  
 (c) DZSDGTMKZ (d) DYTFGTNKY  
 (e) None of these.
25. In a certain code, CHAMPION is written as NBIDMNH0. How is ELECTRON written in the code?  
 (a) FMDFMNQS (b) BDKDMNQS  
 (c) DFMFOPSU (d) DFMFMNQS  
 (e) None of these

**Directions (26-30):** Study the following information carefully and answer the given questions.

Five Movies- Go Goa, Chandni-Chawk to China, London Dreams, Chennai Express and Mumbai Metro are played in 5 halls-Golden, Diamond, platinum, Deluxe, and Galaxy in a PVR. These movies are rated by different stars-one, two, three, four and five. The show timing is also different for each movie, 9am, 12 noon, 3pm, 6pm, and 9pm.

- Chandni-Chawk to China is not played in Diamond or Galaxy hall.
- The show timing of Go Goa is not 6pm or 9pm while show timing of Chennai Express is 12 noon.
- Mumbai Metro is not one or four star movie but played in Diamond hall.
- London Dream and Chennai Express are neither played in Golden & Platinum hall nor two or four star movie. Five star rated movie is played at 9pm
- Three star rated movie is played in Galaxy. Five star rated movie is played in Deluxe hall.
- Four star rated movie is played immediate after Mumbai Metro.

26. Movie 'Go Goa' is rated as?

- (a) One star (b) Two star  
(c) Three star (d) Four star  
(e) Five star

27. Which of the following statement is true?

- (a) Two star rated movie is played in Deluxe hall  
(b) Mumbai Metro is played at 3pm.  
(c) Chennai Express is five star rated movie  
(d) Chandni-Chawk to China is played in Platinum hall  
(e) None of the above

28. Which of the following matching is correct?

- (a) London Dream-four star  
(b) Go Goa-five star  
(c) Mumbai Metro-6pm  
(d) Chennai Express-Galaxy hall  
(e) More than one of the above

29. What is the timing of the movie which is played in Deluxe hall?

- (a) 9 am (b) 12 noon (c) 3 pm  
(d) 6 pm (e) 9 pm

30. Movie 'Mumbai Metro' is rated as?

- (a) One star (b) Two star  
(c) Three star (d) Four star  
(e) Five star

**Directions (31-32):** Study the following information carefully and answer the questions given below:

Five family members V, W, X, Y and Z are sitting in a straight line facing north. Each of them somehow has a relation with V, who sits third to the right of his daughter. There are only two females in the family. X is an immediate neighbour of his mother. Y sits third to the right of Z, who

sits at one end of the line. V sits with his wife. X is brother of W, who is niece of Z.

31. How is Z related to V?

- (a) Father (b) Mother (c) Brother  
(d) Can't be determined (e) None of these

32. How is Y related to W?

- (a) Mother (b) Father (c) Brother  
(d) Can't be determined (e) None of these

**Directions (33-37):** Study the information carefully and answer the question given below.

Eight persons-P, S, Q, R, U, B, J and C are sitting in a circle at equal distances. Three of them are facing opposite to center and other five are sitting facing the centre of the circle. Two persons are sitting between C and U and two are sitting between B and U. Q is sitting to the second left of J, who is facing the centre of the circle. S is facing the centre of the circle. S is sitting to the third right of B. R is not near to C. Q is sitting to the third left of R, who is second right of P, and among these three players one is facing opposite to the centre of the circle. U is not opposite to B and Q.

33. Which of the following sportspersons is facing to the opposite of the centre?

- (a) B (b) R (c) U  
(d) Q (e) None of these

34. Who is sitting third to the left of U?

- (a) R (b) B (c) S  
(d) C (e) None of these

35. If all the people change their positions with the person sitting opposite to them then who is now sitting second to the left of R?

- (a) U (b) P (c) B  
(d) C (e) None of these

36. Who is second right to J?

- (a) B (b) C (c) S or B  
(d) R or S (e) C or R

37. How many people are sitting between C and R, when counting in anticlockwise direction from R?

- (a) Three (b) None (c) One  
(d) Two (e) None of these

**Directions (38-40):** Each of the questions below consists of a question and three statements numbered I, II and III given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the three statements and Give answer:

- (a) If the data in Statement I and II are sufficient to answer the question while the data in Statement III is not required to answer the question  
(b) If the data in Statement I and III are sufficient to answer the question, while the data in Statement II is not required to answer the question

- (c) If the data in Statement II and III are sufficient to answer the question, while the data in Statement I is not required to answer the question
- (d) If even the data in Statement I, II and III together are not sufficient to answer the question.
- (e) If the data in all the Statement I, II and III together are necessary to answer the question.
- 38.** Who among A, B, C, D and E is driving the four wheeler?
- (i) B and C are drunk.
- (ii) D does not have the driving license.
- (iii) D and C are sitting on the front row.

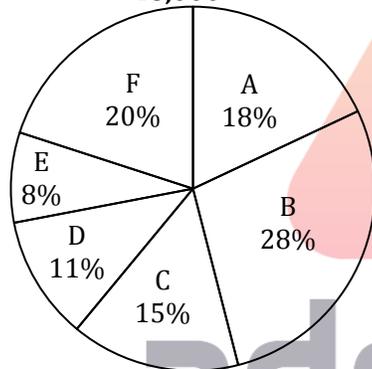
- 39.** Who is the tallest or heaviest among A, B, C, D and E?
- (i) E is heavier than D and B. Neither D nor B is the shortest.
- (ii) A is taller than B. Neither B nor C is the shortest.
- (iii) C is shorter than B but lighter than B.
- 40.** Which of the following persons is B married to amongst A, C, D and E who all belong to the same family?
- (i) No one among B, C or E is the oldest member of the family. D is the father of A.
- (ii) C is the daughter of D. E is the youngest.
- (iii) D has only two children and one of them is a mother. A is unmarried & is brother-in-law of B.

**QUANTITATIVE APTITUDE**

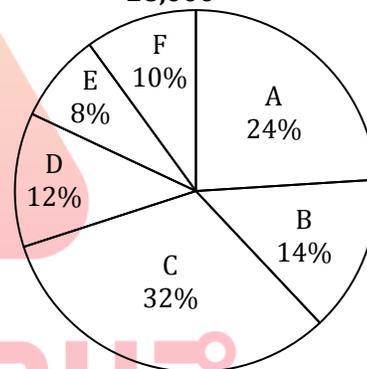
**Directions (41-45):** Study the pie-charts carefully and answer the following question.

Distribution of Laptops (HP and Asus) sold by six sellers

**Total number of laptops sold = 48,000**



**Number of Asus laptops sold = 28,000**



- 41.** Number of HP Laptops sold by A and B together is approximately what percentage more or less than the number of Asus laptop sold by E and F together?
- (a) 145%      (b) 227%      (c) 127%  
(d) 245%      (e) 97%
- 42.** Find the difference between the number of Asus laptop sold D and E together to the number of HP laptop sold by A, B and F together?
- (a) 10,450      (b) 12,460      (c) 10,540  
(d) 12,640      (e) 12,540
- 43.** What is ratio of number of HP laptop sold by D and F together to HP laptop sold by B and E together?
- (a)  $\frac{139}{109}$       (b)  $\frac{109}{139}$       (c)  $\frac{113}{127}$   
(d)  $\frac{127}{113}$       (e)  $\frac{121}{147}$
- 44.** Find the total profit earn by seller A if seller A earns Rs. 40 and Rs. 70 per laptop on HP and Asus respectively.
- (a) Rs. 5,47,200      (b) Rs. 5,27,500  
(c) Rs. 5,47,900      (d) Rs. 4,77,200  
(e) Rs. 5,77,200
- 45.** If seller E sells Asus laptop in loss at Rs. 30 each so at what price he should sell each HP laptop to gain Rs. 3,200 in total.
- (a) Rs.39      (b) Rs.41      (c) Rs.43  
(d) Rs.45      (e) None of these
- 46.** A watch dealer sells watches at Rs. 800 per watch. However, he is forced to give two successive discounts of 10% and 15% respectively. However, he recovers the sales tax on the net sale price from the customer at 25% of the net price. Find the profit percentage if the C.P of watch is Rs.600.
- (a) 23.5%      (b) 21.5%      (c) 25.5%  
(d) 27.5%      (e) 26.5%
- 47.** The short and the long hands of a clock are 4 cm and 6 cm long respectively. What will be sum of distances travelled by their tips in 4 days? (Take  $\pi = 3.14$ )
- (a) 954.56 cm      (b) 3818.24 cm  
(c) 2909.12 cm      (d) 2703.56 cm  
(e) None of these

48. A spherical cannon ball, 28 cm in diameter, is melted and cast into a right circular conical mould the base of which is 35 cm in diameter. Find the height of the cone correct up to two places of decimals.  
 (a) 8.96 cm (b) 35.84 cm (c) 5.97 cm  
 (d) 17.92 cm (e) 30.92 cm
49. A train takes 3 seconds to cross a pole and 22 seconds to cross a 855 m long bridge. What is the time taken by the train (in seconds) to cross a 215 m long train coming at a speed of 90 km/hr from the opposite direction?  
 (a) 5 (b) 8 (c) 12  
 (d) 7 (e) 15
50. A 10 hectare field is reaped by 2 men, 3 women and 4 children together in 10 days. If working capabilities of a man, a woman and a child are in the ratio 5 : 4 : 2, then a 16 hectare field will be reaped by 6 men, 4 women and 7 children in.  
 (a) 5 days (b) 6 days (c) 7 days  
 (d) 8 days (e) None of these

**Directions (51-55):** In each of the following questions two equations are given. Solve the equations and give answer—

- (a) If  $x < y$  (b) If  $x \leq y$   
 (c) If  $x > y$  (d) If  $x \geq y$   
 (e)  $x = y$  or relationship between  $x$  and  $y$  cannot be established
51. I.  $35x^2 - 53x + 20 = 0$   
 II.  $56y^2 - 97y + 42 = 0$
52. I.  $18x^2 + 18x + 4 = 0$   
 II.  $12y^2 + 29y + 14 = 0$
53. I.  $8x^2 - 78x + 169 = 0$   
 II.  $20y^2 - 117y + 169 = 0$
54. I.  $6x^2 + 13x + 5 = 0$   
 II.  $3y^2 + 11y + 10 = 0$
55. I.  $6x + 7y = 52$   
 II.  $14x + 4y = 35$

**Directions (56-60):** Study the following table carefully and answer the questions that follow.

The table shows the data related top six schools of India. Some values are missing which you need to find out and answer the questions accordingly.

Schools	Number of teachers	Ratio of male to female teachers	Ratio of teachers to students	Percentage of non-teaching staff
Vasant valley	480	15 : 17	- : -	15%
Woodstock	450	- : -	1 : 6	10%
DPS	—	3 : 2	3 : 20	—
Rishi Valley	510	8 : 7	3 : 10	—
Pathways	—	2 : 7	2 : 5	20%
DAV	—	- : -	2 : 7	15%

**Note:** Total strength of school = Number of teachers + Number of students + Number of non-teaching staff

56. If female teachers of school Vasant valley are 17% of total strength of school, then what is the ratio of teachers to students in that school ?  
 (a) 32 : 55 (b) 5 : 11 (c) 32 : 53  
 (d) 23 : 53 (e) 5 : 13
57. The female students of Pathways school are  $15\frac{5}{9}\%$  more than male teachers of school Vasant valley while ratio of male to female students of Pathways school is 14 : 13. Find the number of non-teaching staff of Pathways school.  
 (a) 180 (b) 192 (c) 210  
 (d) 189 (e) None of these
58. If strength of all school is same, then find the number of non-teaching staff of school DAV.  
 (a) 420 (b) 525 (c) 580  
 (d) 630 (e) None of these
59. If total strength and number of students of schools Woodstock and DPS are same, then teachers of DPS are what percent less than students of Woodstock?  
 (a) 80% (b) 85% (c) 72%  
 (d) 92% (e) None of these
60. Find the difference in total strength of school Woodstock and that of Rishi valley.  
 (a) 980 (b) 840 (c) 780  
 (d) can't be determined (e) None of these
61. Anil spends 25% of his monthly salary for his household expenditure and 12% on travelling. Out of the remaining, he spends 20% on clothes and saves the rest. If he saves Rs 2520 every month, what is his monthly salary?  
 (a) Rs 5000 (b) Rs 15000 (c) Rs 3000  
 (d) Rs 10,00 (e) Rs 8000
62. Raman and Nakul invested in a business. Raman invested Rs 3000 and withdraw Rs 1500 at the end of 8<sup>th</sup> month. Nakul invested Rs 1000 initially and Rs 3500 more at the end of 4<sup>th</sup> month but withdraw Rs 1500 at the end of 7<sup>th</sup> month. At the year's end, they earned Rs 1800. What should be Raman's share?  
 (a) 800 (b) 920 (c) 864  
 (d) 850 (e) 795
63. A can do a piece of work in 10 days, B can do the same work in 12 days and C in 15 days. They all started working together, but A leaves the work after 2 days and B leaves the work 3 days before the work is completed. For how many days the work lasted?  
 (a) 8 days (b) 10 days (c) 7 days  
 (d) 9 days (e) 6 days
64. A shopkeeper sells shirts at the rate of Rs 400 per shirt and allows a discount of 10% to all customers buying by full cash payment. Also, for all those customers who buy 10 shirts at a time, he counts 12 shirts. If a customer is willing to take both the discounts, what net effective discount can he avail?  
 (a) 37.5% (b) 12.5% (c) 33.33%  
 (d) 25% (e) None of these

65. Subbu have a fan whose 5% of the selling price is equal to 6% of its cost price and 7% of the selling price exceeds 8% of its cost price by Rs 1. Find the profit.  
 (a) Rs 25            (b) Rs 37.5            (c) Rs 50  
 (d) Rs 75            (e) Rs 62.5
66. A sum of Rs 1000 after 3 years at compound interest becomes a certain amount that is equal to the amount that is the result of a 3 years depreciation from Rs 1728. Find the difference between the rates of CI and depreciation. (Given that CI is 10% p.a.)  
 (a)  $2\frac{1}{3}\%$             (b)  $1\frac{2}{3}\%$             (c) 3%  
 (d) 2%            (e) None of these
67. In a co-educational school there are 15 more girls than boys. If the number of girls is increased by 10% and the number of boys is also increased by 16%, there would be 9 more girls than boys. What is the number of students in the school?  
 (a) 140            (b) 125            (c) 265  
 (d) 255            (e) 250
68. In Ramnagar colony, the ratio of school going children to non-school going children is 5 : 4. If in the next year, the number of non-school going children is increased by 20% making it 35,400, and the number of school going children remains same. Find the new ratio of school going children to non-school going children?  
 (a) 4 : 5            (b) 3 : 2            (c) 25 : 24  
 (d) Data inadequate            (e) None of these
69. There was one mess for 30 boarders in a certain hostel. If the number of boarders were increased by 10, the expenses of the mess would increase by Rs 40 per month, while the average expenditure per head diminish by Rs 2. Find the original monthly expenses.  
 (a) Rs 390            (b) Rs 360            (c) Rs 410  
 (d) Rs 480            (e) None of these
70. An empty container is filled with pure alcohol the alcohol is slowly to run out and when the container is one-fourth empty, it is replaced with water. Next, when the container is half empty it is again filled with water. Finally, when it is three fourth empty, it is again filled with water. What percentage of container is alcohol now?  
 (a)  $8\frac{1}{2}\%$             (b)  $11\frac{3}{4}\%$             (c)  $9\frac{3}{8}\%$   
 (d)  $14\frac{3}{8}\%$             (e) None of these

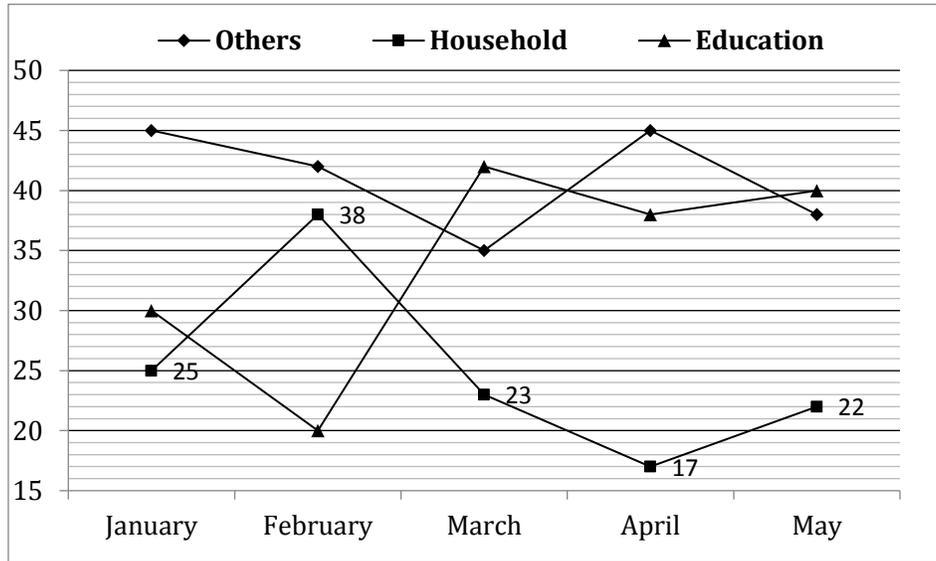
**Direction (71 - 75):** Each question below is followed by two Statements [I] and [II]. You have to determine whether the data given in the statements are sufficient for answering the question. You should use the data and your knowledge of Mathematics to choose between the possible answers.

Give answer

- (a) if the Statement [I] alone is sufficient to answer the question but the Statement [II] alone is not sufficient  
 (b) if the Statement [II] alone is sufficient to answer the question but the Statement [I] alone is not sufficient  
 (c) if both Statement [I] and [II] together are needed to answer the question  
 (d) if either the Statement [I] alone or Statement [II] alone is sufficient to answer the question  
 (e) if you cannot get the answer from the Statements [I] and [II] together but need even more data
71. In how many days 8 women can complete the work?  
 [I]. 10 men & 12 Women can finish the work in  $1\frac{3}{7}$  days.  
 [II]. 5 Men and 6 women can finish the work in  $2\frac{6}{7}$  days.
72. What is the radius of the circle?  
 [I]. Length of a rectangle is 10% more than the breadth. Area of rectangle is 440 cm<sup>2</sup>. Length of rectangle equals to circumference of circle.  
 [II]. Circumference of circle is equal to side of square having area 484 cm<sup>2</sup>
73. Ram sold an item. Find the M.P of the item?  
 [I]. Ram gave two successive discounts is 20% & 5% on marked price. But after that take 25% more on discounted price as tax. Ram can earn 40 more If he sell the item at MP.  
 [II]. Ram gave two successive discount of MP i.e., 15% & 20% whereas Ram kept M.P. 50% more than the C.P. of that item.
74. Find the amount invested by Jagriti?  
 [I]. If jagriti invested half of the amount in Yes Bank at 5% for 3years and half the amount in Kotak Bank at 6% for 5 year, she got Rs 4500 as Simple Interest.  
 [II]. Jagriti will get 2420 more if she will invest in a bank at 10% p.a. for 3 year at compound interest rather than 10% p.a. for 2 year in same bank at compound interest
75. What is the weight of Raju?  
 [I]. There are four person Raju, Ramesh, Rajan, Rajguru. Average of weight of these four is 51.25. Average weight of Rajan and Rajguru is 47.5. Average weight of Ramesh & Rajguru is 57.5.  
 [II]. In a class of 50 students having 30 kg as average weight If one students of weight 30 kg is replaced by Rajan then the average increases by 0.4.

**Direction (76-80):** - Study the following line graph and answer the questions that follow.

The graph shows the percentage distribution of money spent by Avanish on Education, Household and Others in five different months. He spent only 60% of his monthly salary.



**Note:** Monthly income throughout the year remains constant.

**MONTHLY SALARY:- 50,000**

- 76.** In June, Avanish spent 25% less amount on others as compared to what he spent on others in May. Find the percentage contribution of money spent on others in June in monthly salary of June.  
 (a) 20.5%      (b) 22.5%      (c) 17.1%  
 (d) 23.2%      (e) None of these
- 77.** Avanish invested 10% of the money spent on others in January in a business which gives him 10% interest per annum on amount invested. Find the interest earned by him in one year?  
 (a) Rs. 125.5      (b) Rs. 152      (c) Rs. 150  
 (d) Rs. 135      (e) None of these
- 78.** What is the difference in amount saved and amount spent on education by Avanish in April?  
 (a) Rs. 12100      (b) Rs. 8600      (c) Rs. 7200  
 (d) Rs. 8500      (e) Rs. 7850
- 79.** Find the total expenditure made in February except education?  
 (a) Rs. 24,000      (b) Rs. 24,400      (c) Rs. 22,400  
 (d) Rs. 20,400      (e) None of these
- 80.** Find the ratio of money spent on Education in February to monthly salary in February?  
 (a) 3 : 22      (b) 4 : 27      (c) 5 : 29  
 (d) 8 : 35      (e) None of these

**ENGLISH LANGUAGE**

**Directions (81-88):** Read the following passage carefully and answer the questions given below it.

One of the major concerns of many European physicians today is the alarming increase in the incidence of suicides across the Continent. Recent studies indicate that more Europeans take their own lives than they die on the highways. While the traditionally high suicide rates in Austria, Hungary, Switzerland and Scandinavia have remained relatively stable, the low rates in Latin and Catholic countries have begun to grow dramatically in the last 20 years. Among some age groups in Ireland, the increase is to the order of 100 percent. In many parts of Europe, suicide has long been common among older people. In parts of Hungary, which holds Europe's record

for suicides with a rate of 41 a year per one lakh people, the rate among the elderly is 300. In France it is 114, while the overall rate is 20.8. By comparison the overall suicide rate in the United States is 12.3. In Japan, it is 17.3.

The greatest concern of European specialists is the increasing number of young people who take their own lives. Since 1960s the suicide rate among young French men between the ages of 15 and 29 has tripled. A third of Danish men who die between the ages of 25 and 34 kill themselves.

Experts see the transformation of European society as the key to the recent increases in European suicides. The modernization of the workforce, the increasing social and geographical mobility and the consequent breakdown of

old family structures and support networks all play a role. In a comparative study of suicide in 20 European countries over two decades, it was found that factors such as divorce, unemployment, the number of working women in a society, the number of children and the prevalence of religion, combined with the presence of violent crimes and alcohol abuse, are useful in predicting the rise and fall of suicide rates. As European Southern tier becomes more prosperous, families are becoming smaller, relationship less stable and suicides are increasing. In Eastern Europe, where change is coming even faster, suicide rates are expected to flare up for a rather long period of time.

As traditional family support systems have weakened in the U. S., Canada and Britain, State and community services have worked to fill the gap with counseling and hotlines. But there has been a setback to this very recently. More and more people are beginning to consider the way they die as an equally personal choice. This has been fuelled by a whole new range of "how-to-do-it" books hitting the market, a few of them even topping the best-seller list. The authors usually justify their works as human aids for the aged and infirm. Suicide is portrayed essentially as self-inflicted euthanasia, itself a hotly debated issue. As a consequence of this, an increasing number of people in Europe are now directly confronting their own mortality.

81. What, according to the passage, has exactly been the greatest concern of European specialists?
- (a) Increase in the number of young people committing suicide
  - (b) Increase in the number of Danish men killing themselves
  - (c) Increase in the number of older people committing suicide
  - (d) Increase in the number of French people killing themselves
  - (e) None of these
82. Which of the following has not been mentioned in the passage as a reason for the gradual escalation in European suicide rate?
- (a) The breakdown of traditional family structures
  - (b) The migration of people from one place to another
  - (c) The growing unemployment problem
  - (d) The mobility of people on the social scale
  - (e) None of these
83. According to the passage, the finding of the comparative study of suicide in 20 countries was that
- (a) divorce and unemployment led to violent crimes and alcoholic abuse.
  - (b) suicide rate could be predicted on the basis of certain socio-cultural factors.
  - (c) violent crimes and alcohol abuse are the main reasons for suicides.

- (d) the prevalence of religion was combined with the presence of violent crimes and alcohol abuse.
- (e) suicide rates may rise or fall and are difficult to predict.

84. What has been mentioned in the passage as regards the suicide rate in Switzerland?
- (a) The increase in the suicide rate in Switzerland has been higher than that of other European countries.
  - (b) There has not been any appreciable change in the suicide rate in Switzerland over the few years.
  - (c) Switzerland's suicide rate has been the same as that of other countries like Austria, Hungary and Scandinavia.
  - (d) There has been a steady increase in the suicide rate in Switzerland over the past 20 years.
  - (e) Switzerland's suicide rate has been traditionally stable, but has been growing over the last 20 years.
85. Which of the following statements is **TRUE** in the context of the passage?
- (a) Some places in Hungary have a yearly suicide rate of 300 elderly people per one lakh people.
  - (b) The overall suicide rate in Ireland has increased by 700 percent in the last 20 years.
  - (c) The suicide rate in Latin and Catholic countries has remained low over the last 20 years.
  - (d) In France, 114 individuals per one lakh people commit suicide every year.
  - (e) In Japan, the suicide rate of elderly people is 17.3 a year per one lakh people.
86. The activities of State and community services are yielding less results in recent times on account of the
- (a) growing resistance to counselling and hotlines by the people
  - (b) increase in the number of the aged and the terminally ill resorting to euthanasia
  - (c) weakening of traditional family support systems
  - (d) ever-increasing number of people committing suicide out of frustration
  - (e) increase in the number of people exerting their personal choice in deciding the way they die
87. Which of the following statements is **NOT TRUE** in the context of the passage?
- (a) Lesser number of Europeans are today dying of highway accidents than killing themselves.
  - (b) One-third of men between the ages of 25 and 34 who kill themselves are Danish.
  - (c) The overall suicide rate in America is 12.3 a year per one lakh people.
  - (d) An overall suicide rate of 41 a year per one lakh people has been found in parts of Hungary.
  - (e) During the 1960s the suicide rate of 15-29 year old French men was only one-third of what it is today.

88. What has been mentioned in the passage regarding Europe's Southern part?
- (a) Suicide rates are remaining stable there.
  - (b) Unemployment is comparatively more there.
  - (c) The living standards of the people are improving there.
  - (d) There are smaller families there.
  - (e) Economic transformation is relatively faster there.

**Directions (89-95):** Read the following passage carefully and answer the questions given below it.

From 'apparel to aerospace', 'steel to software', the pace of technological innovation is quickening. No longer can companies afford to miss **generation** of technology and expect to remain competitive. Adding to the pressure, innovations are increasingly crossing industry boundaries; a new fiber developed by the textile industry has potential for building materials and medical equipment. Some companies are adept at using a diversity of technologies to create new products that transform markets. But many others are floundering because they rely on a technology strategy that no longer works in such a fast changing environment. The difference between success and failure is not how much a company spends on research and development (R&D), but how it approaches it.

There are two possible approaches. Either a company can invest in R&D that replaces an older generation of technology the 'break through' approach-or its focus on combining existing technologies into hybrid technologies – the 'technologies fusion' approach. It blends incremental technical improvements from several previously separate field of technology to create products that revolutionise markets.

In a world where the old maxim 'one technology one industry' no longer applies, a singular breakthrough strategy is inadequate; companies need to include both the breakthrough and fusion approaches in their technology strategy. Relying on breakthroughs alone fails because it focuses the R&D efforts to narrowly, ignoring the possibilities of combining technologies. Yet many western companies still rely almost exclusively – on the breakthrough approach. The reasons are complex: a distrust of outside innovations and not-invented here engineering and arrogance and aversion to sharing research results.

89. Which of the following is **false** according to the passage?
- (a) Technological innovation is taking place at a fast pace
  - (b) All technological innovations have applicability in other industries
  - (c) Companies failing to adopt new technology may fail.
  - (d) Companies which adopt technologies of other industries have an advantage
  - (e) Technology becomes obsolete in a fast changing environment.

90. Which of the following would correctly reflect the position regarding the two approaches to technology adoption?
- (a) Both the approaches are to be used at the same time
  - (b) 'Breakthrough' approach is only to be used
  - (c) 'Technology fusion' approach is only to be used
  - (d) 'Breakthrough approach' is preferable for many companies
  - (e) None of these
91. Which of the following has the same meaning as the word '**generation**' as it has been used in-the passage?
- (a) Family
  - (b) Class
  - (c) Offspring
  - (d) Phase
  - (e) Level
92. Which of the following features of technology has been highlighted most prominently by the author of the passage?
- (a) Its improper utilization by some companies
  - (b) The speed at which innovations are happening
  - (c) The expenses involved in developing technology
  - (d) The two approaches to adopting technology
  - (e) None of these
93. What does the author want to highlight by using the example '**apparel to aerospace**' and '**steel to software**'?
- (a) Many industries are trying to improve technology
  - (b) His knowledge about the various industries
  - (c) The wide spread of technological innovations
  - (d) The speed of the technological innovation
  - (e) None of these
94. What, according to the author, is adding to the pressure on the companies?
- (a) Applicability of technologies of other industries to them
  - (b) Increasing speed of technological innovations
  - (c) Work load on their R & D departments
  - (d) Finding funds for increased R & D activities
  - (e) Demand from customers for improved products
95. What is the immediate effect, according to the passage, if a company does not innovate?
- (a) It closes down.
  - (b) It ceases to be competitive in the market.
  - (c) The prices of its products go up.
  - (d) Its R & D departments close down.
  - (e) It adds pressure on itself.

**Directions (96-100):** Pick out the word opposite or nearly so in the meaning of the given words.

96. EXTRAVAGANT
- (a) Developing
  - (b) Wonderful
  - (c) Disappearing
  - (d) Economical
  - (e) Real

**97. VIVID**

- (a) Peculiar (b) Uncanny (c) Evocative  
(d) Stifle (e) Ceases

**98. DESULTORY**

- (a) Isolated (b) Manifest (c) Pertinent  
(d) Customization (e) Frequent

**99. ERUDITE**

- (a) Aversion (b) Sleazy (c) Sagacious  
(d) Loquacious (e) Disheveled

**100. DEBONAIR**

- (a) Awkward (b) Windy (c) Balmy  
(d) Sportive (e) Stormy

**Directions (101-103):** In each of the questions given below a sentence is given with a blank which is followed by five options that provide us with the possible alternatives for the blank. The blank must be filled by one of the idioms or phrases given in the options.

**101.** We missed our flight to Paris because the connecting flight was late and to \_\_\_\_\_ they made us pay for a new ticket as if it was our fault!

- (a) break a leg (b) hit the books  
(c) add insult to injury (d) cut the corners  
(e) scratch someone's back

**102.** I can't believe that was our test. I think it was easier than some of our homework! It was a \_\_\_\_\_.

- (a) whole new ball game (b) new lease of life  
(c) dime's worth (d) bit of fluff  
(e) piece of cake

**103.** His birthday was supposed to be a surprise! I can't believe you \_\_\_\_\_. Now he knows!

- (a) let the cat out of bag  
(b) keep your cool  
(c) keep a straight face  
(d) fate worse than death  
(e) face like thunder

**Directions (104-105):** In the question given below few sentences are given which are grammatically correct and meaningful. Connect them by the word given above the statements in the best possible way without changing the intended meaning. Choose your answer accordingly from the options to form a correct, coherent sentence.

**104. BECAUSE**

- (A) The federal department has twice rejected LePage's requests for centralization  
(B) LePage has been in a tug of war with the regional boards for control of the federal money for several years.  
(C) Lepage didn't work in collaboration with federal department as required.  
(D) The organization claims that LePage has broken federal law by refusing to release the funds within 30 days of them having become available in August.

- (a) Only B-D (b) Only D-A  
(c) Both C-B and D-A (d) Only A-C  
(e) None of these

**105. BY THE TIME**

- (A) The storm crawls up the East Coast Wednesday and Thursday.  
(B) It's expected to gust with strong 30 to 50 mph winds.  
(C) That's a signal that the storm is going to get more intense, quickly.  
(D) Once the storm reaches New England, it may bring dangerous, power line-snapping blizzard conditions and coastal flooding.

- (a) Only A-B (b) Only B-C (c) Only D-C  
(d) Only D-B (e) Only C-A

**Directions (106-108):** Five statements are given below, labelled a, b, c, d and e. Among these, four statements are in logical order and form a coherent paragraph. From the given options, choose the option that does not fit into the theme of the paragraph.

**106. (a)** Digital radio works by turning sound into digital signals for transmission and then decoding them at the other end using digital radio receivers;

- (b) The result is close-to-CD-quality sound output.  
(c) Digital radio is to normal radio what digital television is to your standard analog TV.  
(d) It's the most significant upgrade to happen since the introduction of FM in Australia in the 1970s and the leap in quality is comparable to FM versus AM.

(e) Although DAB has the potential to provide better sound quality than FM, governments may end up filling the DAB bandwidth with as many channels as possible which may divide the bit-rate (the rate of data transfer) among these broadcasts. As a result, if the DAB bandwidth is choked, it may suffer a drop in quality.

**107. (a)** India has developed complex election expenditure, political party funding, and reporting and disclosure laws.

- (b) Competitive political parties and election campaigns are central to the health of democracies.  
(c) Parties and campaigns require significant resources to be effective.  
(d) Current state funding measures include provision of free time on public broadcasters for national parties in general elections and for registered state parties in state legislature elections.  
(e) However, these laws may have perverse impacts on the electoral system: they tend to drive campaign expenditure underground and foster a reliance on unaccounted funds or "black money."

108. (a) Many analysts feel that these are opening gambits to create uncertainty as bargaining ploy with the adversary.
- (b) Minor incidents had been taking place since long.
- (c) When man-made disaster looms, sane voices come together to ward it off.
- (d) However, with the coming of Mr. Donald Trump to the White House matters have taken a more serious turn, to the extent that things could get out of hand and even lead to war should the two powers not negotiate and come to a solution acceptable to both sides.
- (e) Such a disaster is clearly looming in the South China Sea, brought on by the two leading powers of the world, China and the USA; the former by militarising the islands, the latter by objecting to it.

**Directions (109-110):** In each of the following questions, various sentences are given and you have to choose the one which has some or any grammatical error in it. In the questions where option (e) all are correct is given and all the sentences are grammatically correct choose option (e) as the correct choice.

109. (a) The potassium found in potatoes is said to reduce cholesterol level, blood pressure and controls heart problems.
- (b) The calcium and magnesium content in potatoes can help ease rheumatism.
- (c) Health experts and nutritionists say that turnip juice has more Vitamin C than orange juice.
- (d) To watch even a single plant grow from seedling to small and big with more leaves each day and find them flowering and giving fruits can give you happiness untold.
- (e) All are correct.
110. (a) Everyone who desires to participate in the good to be obtained must share in the act.
- (b) As we have seen above, all must participate that none may be in a position to reproach the rest.
- (c) While Dean had no desire to participate in the new and perilous sport of ice climbing, he didn't share Cynthia total perplexity at why a sane human being would even consider subjecting himself or herself to such uncomfortable danger.
- (d) They were dressed like the others, and seemed to participate in the general joy.
- (e) He being the best student in the class, Gopal was chosen to participate in the competition.

**Directions (111-115):** In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word that fits the blank.

In these days of economic liberalization, globalization, etc. materialistic values have assumed (111) importance. Money, physical comforts and luxuries are the most sought after aspects. There has been (112) competition. Such competition (113) stress. The stress leads to (114) of health of the people. Indian culture has (115) its striking uniqueness, as against the Western culture.

111. (a) usual (b) little (c) tangible  
(d) least (e) greater
112. (a) critical (b) unhealthy (c) unequalled  
(d) no (e) absolute
113. (a) releases (b) deserves (c) generates  
(d) demonstrates (e) suppresses
114. (a) neglect (b) illness (c) generation  
(d) deterioration (e) encroachment
115. (a) maintained (b) illustrated  
(c) marginalised (d) bestowed  
(e) forsaken

**Direction (116-120):** In the following passage there are blanks, each of which has been numbered and one word has been suggested alongside the blank. These numbers are printed below the passage and against each, five options are given. Find out the appropriate word which fits the blank appropriately. If the word written alongside the blank fits the passage, choose option 'e' (No correction required) as the correct choice.

Significantly, in **remarking (116)** who a whistle-blower is, the law goes beyond government officials who **boost (117)** corruption they come across in the course of their work. It includes any other person or non-governmental organisation. The importance of such **radical (118)** expansion is underlined by the fact that in the last few years, more than 65 people have been killed for exposing corruption in the government on the basis of **instruction (119)** they obtained under the Right to Information (RTI) Act. The RTI law has **guaranteed (120)** the common man to have access to information from public authorities — which only government officials were earlier privy to — making every citizen a potential whistle-blower.

116. (a) characterize (b) assigning (c) defining  
(d) illustrating (e) No correction required
117. (a) unfolds (b) proves (c) inform  
(d) expose (e) No correction required
118. (a) progressive (b) intermittent (c) shifting  
(d) mobile (e) No correction required
119. (a) advice (b) information  
(c) knowledge (d) experience  
(e) No correction required
120. (a) revoked (b) licensed  
(c) enabled (d) empowered

(e) No correction required

# Solutions

## REASONING ABILITY

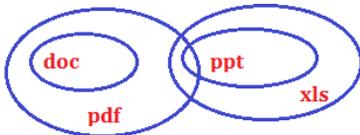
Direction (1-5):

Mobile Phone	Storage Space
F	1gb
B	500mb
D	8gb
E	32gb
C	2gb
G	256mb
A	16gb

1. (b);      2. (c);      3. (a);  
4. (c);      5. (e);  
6. (c);



7. (d);



8. (c);



Direction (9-13):

Person	Mall	Colour
W	GIP	Violet
X	DLF	Green
Y	SRS	Blue
Z	GIP	Red
M	DLF	Purple
N	GIP	Black
O	SRS	White

9. (b);      10. (c);      11. (d);  
12. (c);      13. (c);

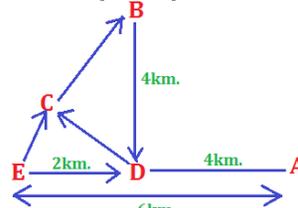
Direction (14-18)

14. (b); 146  
15. (d); Lowest number is 594.  
Second digit is 9  
16. (c); 4

17. (c); 3

18. (a); 13

Direction (19-20)



19. (b);      20. (a);      21. (e);  
22. (d);      23. (a);      24. (c);  
25. (d);

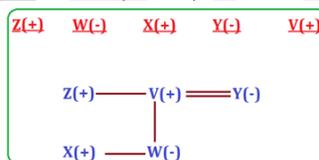


Directions (26-30):

Movie	Hall	Rating	Time
Go Goa	Golden/Platinum	1 star	9a.m
Chandni-Chowk to China	Golden/Platinum	4 star	6p.m
London Dreams	Deluxe	5 star	9p.m
Chennai Express	Galaxy	3 star	12noon
Mumbai Metro	Diamond	2 star	3p.m

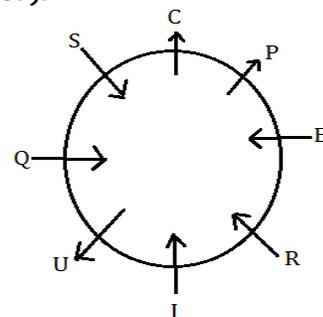
26. (a);      27. (b);      28. (d);  
29. (e);      30. (b);

Direction (31-32)



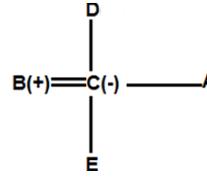
31. (c);  
32. (a);

Directions (33-37):



33. (c); 34. (b); 35. (a);  
 36. (a); 37. (d);  
 38. (d); None is sufficient as the person can be drunk or not have driving license but still be driving the vehicle.  
 39. (b); From (i) and (iii) we can say that A is the heaviest.

40. (e); From all the statements taken together, we can determine B is married to C.



## QUANTITATIVE APTITUDE

41. (c); HP laptop sold by A  

$$= \frac{18}{100} \times 48,000 - \frac{24}{100} \times 28,000$$

$$= 8640 - 6720$$

$$= 1920$$
 HP laptop sold by B  

$$= \frac{28}{100} \times 48,000 - \frac{14}{100} \times 28,000$$

$$= 13,440 - 3,920$$

$$= 9,520$$
 HP laptop sold by A and B together = 11,440  
 Asus laptop sold by E and F together  

$$= \frac{18}{100} \times 28,000$$

$$= 5040$$
 Required percentage =  $\frac{11,440 - 5040}{5040} \times 100$   

$$= \frac{6400}{5040} \times 100 \cong 127\%$$
42. (d); Asus laptop sold by D and E together  

$$= \frac{20}{100} \times 28,000$$

$$= 5600$$
 HP laptop sold by A and B = 11,440  
 HP laptop sold by F  

$$= \frac{20}{100} \times 48,000 - \frac{10}{100} \times 28,000$$

$$= 9600 - 2800 \Rightarrow = 6800$$
 Desired difference = 11,440 + 6,800 - 5,600  

$$= 12,640$$
43. (b); HP laptop sold D and F together  

$$= \frac{(20 + 11)}{100} \times 48,000 - \frac{(12 + 10)}{100} \times 28,000$$

$$= 14,880 - 6,160$$

$$= 8,720$$
 HP laptop sold by B and E together  

$$= \frac{(28 + 8)}{100} \times 48,000 - \frac{(14 + 8)}{100} \times 28,000$$

$$= 17,280 - 6,160$$

$$= 11,120$$
 Desired Ratio =  $\frac{8,720}{11,120} = \frac{109}{139}$
44. (a); Asus laptop sold by A  

$$= \frac{24}{100} \times (28,000)$$

$$= 6,720$$

HP laptop sold by A  

$$= \frac{18}{100} (8,000) - \frac{24}{100} (28,000)$$

$$= 1,920$$
 Total profit of A = 40 × 1,920 + 70 × 6,720  

$$= 76,800 + 4,70,400$$

$$= \text{Rs. } 5,47,200$$

45. (e); Number of Asus laptop sold by E  

$$= \frac{8}{100} \times 28,000$$

$$= 2240$$
 Total loss = 2,240 × 30 = 67,200  
 Total S.P. of HP laptop = 67,200 + 3,200 = 70,400  
 Total no. of HP laptop  

$$= \frac{8}{100} \times 48,000 - \frac{8}{100} \times 28,000$$

$$= 3,840 - 2240$$

$$= 1600$$
 Profit should be gain on HP laptop  

$$= \frac{70,400}{1,600} \Rightarrow = \text{Rs. } 44 \text{ each}$$
46. (d); S. P. after discount =  $800 \times \frac{90}{100} \times \frac{85}{100} = 612$   
 Net sale price =  $612 \times \frac{125}{100} = \text{Rs. } 765$   
 Profit Percentage =  $\frac{765 - 600}{600} \times 100 = \frac{165}{6} \%$   

$$= 27.5\%$$

47. (b); In 4 days, the short hand covers its circumference 4 × 2 = 8 times long hand covers its circumference 4 × 24 = 96 times  
 Then they will cover a total distance of :-  

$$(2 \times \pi \times 4) 8 + (2 \times \pi \times 6) 96 \Rightarrow 3818.24 \text{ cm}$$
48. (b); The volume in both the cases will be equal. Let the height of cone be = h  

$$4 \times \frac{22}{7} \times (14)^3 \times \frac{1}{3} = \frac{22}{7} \times \left(\frac{35}{2}\right)^2 \times \frac{h}{3}$$

$$\Rightarrow 4(14)^3 = h \left(\frac{35}{2}\right)^2$$

$$\Rightarrow h = \frac{4 \times 14 \times 14 \times 14 \times 2 \times 2}{35 \times 35}$$

$$\Rightarrow h = 35.84 \text{ cm}$$

49. (a); Let  $L$  and  $V_t$  be the length and speed of train respectively.

$$\text{Then, } \frac{L}{V_t} = 3$$

$$\text{and } \frac{L+855}{V_t} = 22$$

$$\Rightarrow \frac{L}{V_t} + \frac{855}{V_t} = 22$$

$$3 + \frac{855}{V_t} = 22$$

$$\Rightarrow V_t = \frac{855}{19} = 45 \text{ m/s}$$

$$L = 3 \times 45 = 135 \text{ m}$$

Speed of the second train = 90 km/hr = 25 m/s

$\therefore$  Time taken to cross 215 m long train

$$= \frac{135+215}{45+25} = 5 \text{ seconds.}$$

50. (d); Ratio of their efficiency = 5 : 4 : 2

One day work of 2 men = 10 units

One day work of 3 women 12 units

One day work of 4 children 8 units

Let time taken is  $D$

$$= \frac{(10+12+8) \times 10}{10} = \frac{[(6 \times 5) + (4 \times 4) + (7 \times 2)] \times D}{16}$$

$$30 = \frac{60 \times D}{16}$$

$$D = 8 \text{ days}$$

51. (a);  $35x^2 - 25x - 28x + 20 = 0$

$$5x(7x - 5) - 4(7x - 5) = 0$$

$$x = \frac{4}{5}, \frac{5}{7}$$

$$56y^2 - 49y - 48y + 42 = 0$$

$$7y(8y - 7) - 6(8y - 7) = 0$$

$$y = \frac{6}{7}, \frac{7}{8}$$

$$x < y$$

52. (d); I.  $18x^2 + 18x + 4 = 0$

$$\Rightarrow 3x(3x + 2) + 1(3x + 2) = 0$$

$$\Rightarrow (3x + 1)(3x + 2) = 0$$

$$\therefore x = -\frac{1}{3} \text{ or } -\frac{2}{3}$$

$$\text{II. } 12y^2 + 29y + 14 = 0$$

$$\Rightarrow 3y(4y + 7) + 2(4y + 7) = 0$$

$$\Rightarrow (3y + 2)(4y + 7) = 0$$

$$\therefore y = -\frac{2}{3} \text{ or } -\frac{7}{4}$$

$$x \geq y$$

53. (d); I.  $8x^2 - 78x + 169 = 0$

$$\Rightarrow (2x - 13)(4x - 13) = 0$$

$$\therefore x = \frac{13}{2} \text{ or } \frac{13}{4}$$

$$\text{II. } 20y^2 - 117y + 169 = 0$$

$$\Rightarrow (4y - 13)(5y - 13) = 0$$

$$\therefore y = \frac{13}{4} \text{ or } \frac{13}{5}$$

$$\therefore x \geq y$$

54. (d); I.  $6x^2 + 13x + 5 = 0$

$$6x^2 + 3x + 10x + 5 = 0$$

$$3x(2x + 1) + 5(2x + 1) = 0$$

$$x = -\frac{5}{3}, -\frac{1}{2}$$

$$\text{II. } 3y^2 + 11y + 10 = 0$$

$$3y^2 + 11y + 10 = 0$$

$$3y^2 + 6y + 5y + 10 = 0$$

$$3y(y + 2) + 5(y + 2) = 0$$

$$y = -2, -\frac{5}{3}$$

$$x \geq y$$

55. (a); Equation (I)  $\times 4$  and equation (II)  $\times 7$

$$24x + 28y = 208$$

$$\underline{-98x + 28y = -245}$$

$$-74x = -37$$

$$x = \frac{1}{2}$$

$$y = 7$$

$$\therefore y > x$$

56. (c); Number of female teachers

$$= \frac{17}{32} \times 480 = 255$$

$\therefore$  Total strength of school

$$= \frac{100}{17} \times 255 = 1500$$

Number of students

$$= 1500 - 480 - \frac{15}{100} \times 1500$$

$$= 795$$

$$\therefore \text{Required ratio} = \frac{480}{795} = \frac{32}{53}$$

57. (d); Number of female students of Pathways

$$= \frac{1040}{900} \times 225$$

$$= 260$$

Number of male students

$$= 260 \times \frac{14}{13}$$

$$= 280$$

Number of teachers

$$= (260 + 280) \times \frac{2}{5} = 540 \times \frac{2}{5} = 216$$

Required number of non-teaching staff

$$= (540 + 216) \times \frac{20}{80} = 756 \times \frac{20}{80} = 189$$

58. (b); Since strength of all schools is same.

$$\text{Students in Woodstock} = 450 \times 6 = 2700$$

$$\therefore 90\% \text{ of strength} = 2700 + 450$$

$$\therefore \text{total strength of Woodstock} = 3150 \times \frac{100}{90} = 3500$$

So, required number of non-teaching staff

$$= 15\% \text{ of } 3500$$

$$= 525$$

59. (b); Total strength = 3500

$$\text{Teachers in DPS} = 2700 \times \frac{3}{20} = 405$$

$$\therefore \text{Required percentage} = \frac{2700 - 405}{2700} \times 100$$

$$= 85\%$$

60. (d); We can't find the strength of school Rishi Valley with given data.
61. (a); Let Anil's Salary be Rs  $x$   
According to the question,  
25% of  $x = \frac{x}{4}$ ; on household expenditure  
12% of  $x = \frac{3x}{25}$ ; on travelling  
20% of  $\left(x - \frac{x}{4} - \frac{3x}{25}\right) = \frac{63x}{500}$ , on clothes  
Therefore, remaining salary  
 $= 80\%$  of  $\left(x - \frac{x}{4} - \frac{3x}{25}\right) = 2520$   
 $\Rightarrow x = \text{Rs } 5000$
62. (c); Raman's investment = first 8 months + last 4 months  
 $= 3000 \times 8 + 1500 \times 4$   
 $= 30,000$   
Nakul's investment = first 4 months + next 3 months + remaining five months  
 $= 1000 \times 4 + 4500 \times 3 + 3000 \times 5$   
 $= 32,500$   
Therefore,  $\frac{\text{Raman}}{\text{Nakul}} = \frac{30000}{32500} = \frac{12}{13}$   
Raman's share in profit  
 $= \frac{12}{(12+13)} \times 1800 = \text{Rs } 864$
63. (c); From the question,  
A, B and C work together for 2 days.  
C works alone for 3 days.  
B and C finish the remaining work together.  
A, B and C finish the work in 2 days  
 $= 2 \left(\frac{1}{10} + \frac{1}{12} + \frac{1}{15}\right) = \frac{1}{2}$  of work  
C finishes in 3 days  
 $= 3 \left(\frac{1}{15}\right) = \frac{1}{5}$  of work  
Total work remaining  $= 1 - \frac{1}{2} - \frac{1}{5} = \frac{3}{10}$   
 $\frac{3}{10}$  of work is done by B and C in 2 days  
Total days to finish the work  
 $= 2 + 3 + 2 = 7$  days
64. (d); Price of 12 shirts =  $400 \times 12 = \text{Rs } 4800$   
Price of 10 shirts =  $400 \times 10 = \text{Rs } 4000$   
Cash discount on 10 shirts = 10% of 4000  
 $= \text{Rs } 400$   
 $\therefore$  Total amount to be paid for 12 shirts  
 $= 4000 - 400 = \text{Rs } 3600$   
Net discount availed  
 $= \frac{1200}{4800} \times 100\% = 25\%$
65. (c); According to the question,  
5% of S.P. = 6% of C.P. i.e., 5 S.P. - 6 C.P. = 0  
...(i)  
7% of S.P. - 8% of C.P. = 1, i.e., 7 S.P. - 8 C.P. = 100  
...(ii)  
Solving both the equations, we get  
C.P. = 250, S.P. = 300, hence the profit = Rs 50

66. (b); Amount after 3 years  $= 1000 \left(1 + \frac{10}{100}\right)^3$   
 $= \text{Rs. } 1,331$   
According to question,  
 $1331 = 1728 \left(1 - \frac{x}{100}\right)^3$   
 $\Rightarrow \frac{11}{12} = 1 - \frac{x}{100}$   
 $\Rightarrow x = \frac{25}{3}\%$   
 $\therefore$  Required difference  $= 10 - \frac{25}{3} = \frac{5}{3}\%$   
 $= 1\frac{2}{3}\%$
67. (c); Let total numbers of boys =  $x$   
Then, total number of girls =  $x + 15$   
Now,  
 $\left[(x + 15) \times \frac{110}{100}\right] - \left[x \times \frac{116}{100}\right] = 9$   
 $\Rightarrow \frac{110x + 1650 - 116x}{100} = 9$   
 $\Rightarrow 6x = 750$   
 $\Rightarrow x = 125$   
 $\therefore$  Total Students in School =  $125 + 125 + 15$   
 $= 265$
68. (c); Let, total number of school going children  
 $= 50x$   
And total number of Non-School going children =  $40x$   
 $\therefore$  New Ratio  $= \frac{x}{y} = \frac{50}{40 \times \frac{120}{100}}$   
 $= \frac{50}{48} = 25:24$
69. (b); Initial expenses =  $x$   
New expenses =  $x + 40$   
According to Question,  
 $\Rightarrow \frac{x}{30} = \frac{x+40}{40} + 2$   
 $\Rightarrow \frac{x}{30} = \frac{x+40+80}{40}$   
 $\therefore x = 360$
70. (c); Portion of container filled with alcohol at end  
 $= \left(1 - \frac{1}{4}\right) \left(1 - \frac{1}{2}\right) \left(1 - \frac{3}{4}\right)$   
 $= \frac{3}{32}$   
 $\therefore \frac{3}{32} \times 100 =$   
 $9\frac{3}{8}\%$  of container is filled with alcohol at end
71. (e); From statement [I]  
10M + 12W takes  $\frac{10}{7}$  days to complete the work  
From statement [II]  
5M + 6W can complete the work in  $\frac{20}{7}$  days  
Both the equations is same so, we can't solve the question by using both [I] and [II]  
 $\therefore$  Hence, Neither statement [I] nor statement [II] is sufficient to answer the question.
72. (d); From statement [I]  
L = 1.1 B  
LB = 440  $\Rightarrow$  1.1B.B = 440

$$\begin{aligned} \Rightarrow B^2 &= 400 \\ \Rightarrow B &= 20 \text{ cm} \\ \Rightarrow L &= 22 \text{ cm} \\ L &= 2\pi r \\ 22 &= 2 \times \frac{22}{7} \times r \Rightarrow r = 3.5 \text{ cm} \end{aligned}$$

From statement [II]  
Area of square,  $a^2 = 484$

$$A = 22$$

According to question

$$2\pi r = 22$$

$$2 \times \frac{22}{7} \times r = 22$$

$$r = 3.5 \text{ cm}$$

$\therefore$  Hence, Either statement [I] alone or statement [II] alone is sufficient to answer the question.

73. (a); From Statement [I]

$$MP = x$$

$$\begin{aligned} \text{After two successive discounts} &= \frac{80}{100} \times \frac{95}{100} \times x \\ &= 0.76x \end{aligned}$$

$$\begin{aligned} \text{Final S.P after taking tax} &= \frac{125}{100} \times 0.76x \\ &= 0.95x \end{aligned}$$

According to question

$$MP - SP = 40$$

$$x - 0.95x = 40$$

$$0.05x = 40$$

$$x = 800$$

From statement [II]

$$\text{Let, } MP = x$$

$$\begin{aligned} S.P &= \frac{85}{100} \times \frac{80}{100} \times x \\ &= 0.68x \end{aligned}$$

As, any value is not given so we can't find out the M.P.

$\therefore$  Hence, Statement [I] alone is sufficient to answer the question but the Statement [II] alone is not sufficient

74. (d); From statement [I]

$$\text{Let total amount} = x$$

$$\frac{x}{2} \times \frac{5 \times 3}{100} + \frac{x}{2} \times \frac{6 \times 5}{100} = 4500$$

$$\frac{x}{2} \left[ \frac{15}{100} + \frac{30}{100} \right] = 4500$$

$$x = 20,000$$

From statement [II]

$$2420 = x \left[ 1 + \frac{10}{100} \right]^3 - x \left[ 1 + \frac{10}{100} \right]^2$$

$$2420 = x \times 1.1^3 - x \times 1.1^2$$

$$2420 = 1.331x - 1.21x$$

$$0.121x = 2420$$

$$x = 20,000$$

$\therefore$  Hence, Either statement [I] alone or statement [II] alone is sufficient to answer the question.

75. (c); From statement [I]

$$\begin{aligned} \text{Raju} + \text{Ramesh} + \text{Rajan} + \text{Rajguru} &= 51.25 \times 4 \\ &= 205 \quad \dots(i) \end{aligned}$$

$$\text{Rajan} + \text{Rajguru} = 47.5 \times 2 = 95 \quad \dots(ii)$$

$$\text{Ramesh} + \text{Rajguru} = 57.5 \times 2 = 115 \quad \dots(iii)$$

From statement [II]

$$\text{Let Rajan weight} = x$$

$$\begin{aligned} \text{Weight of 50 students} &= 30 \times 50 \\ &= 1500 \text{ kg} \end{aligned}$$

$$\text{Weight after one students replaced by Rajan}$$

$$= 1500 - 30 + x$$

$$30.4 \times 50 = 1470 + x$$

$$1520 - 1470 = x$$

$$x = 50$$

$$\text{Rajan Weight} = 50 \text{ kg}$$

From Statement [I] and [II]

$$\text{Rajan weight} = 50 \text{ kg}$$

$$\text{Rajguru weight} = 95 - 50 = 45 \text{ kg}$$

$$\text{Ramesh weight} = 115 - 45 = 70 \text{ kg}$$

$$\text{Raju weight} = 205 - 50 - 45 - 70 = 40 \text{ kg}$$

$\therefore$  Hence, Both Statement I and II together are needed to answer the question

$$\text{Direction (76-80); Money spent} = \frac{60}{100} \times 50000 = 30,000$$

76. (c); Money spent by Avanish on others in June

$$= \frac{75}{100} \times \frac{38}{100} \times 30000$$

$$= 8550$$

$$\therefore \% \text{ contribution} = \frac{8550}{50000} \times 100 = 17.1\%$$

$$77. (d); \text{Money invested by Avanish} = \frac{10}{100} \times \frac{45}{100} \times 30,000$$

$$= \text{Rs. } 1350$$

$$\therefore \text{Interest earned by him} = \frac{10}{100} \times 1350$$

$$= \text{Rs. } 135$$

$$78. (b); \text{Amount saved in April} = \frac{40}{100} \times 50000$$

$$= \text{Rs. } 20,000$$

$$\text{Amount spent on education} = \frac{38}{100} \times 30,000$$

$$= \text{Rs. } 11,400$$

$$\therefore \text{Required difference} = \text{Rs. } 8600$$

79. (a); Asked expenditure in February except education

$$= \frac{(100-20)}{100} \times 30000 = \text{Rs. } 24,000$$

$$80. (e); \text{Required ratio} = \frac{\frac{20}{100} \times 30,000}{50,000} = \frac{3}{25}$$

**ENGLISH LANGUAGE**

81. (a); Refer the first sentence of the second paragraph, "The greatest concern of European specialists is the increasing number of young people who take their own lives."
82. (e); Refer the first two sentences of the third paragraph, "Experts see the transformation of European society as the key to the recent increases in European suicides. The modernization of the workforce, the increasing social and geographical mobility and the consequent breakdown of old family structures and support networks all play a role."
83. (b); Refer the third sentence of the third paragraph, "In a comparative study of suicide in 20 European countries over two decades, it was found that factors such as divorce, unemployment, the number of working women in a society, the number of children and the prevalence of religion, combined with the presence of violent crimes and alcohol abuse, are useful in predicting the rise and fall of suicide rates."
84. (b); Refer the third sentence of the first paragraph, "While the traditionally high suicide rates in Austria, Hungary, Switzerland and Scandinavia have remained relatively stable, the low rates in Latin and Catholic countries have begun to grow dramatically in the last 20 years."
85. (a); Refer the third last sentence of the first paragraph, "In parts of Hungary, which holds Europe's record for suicides with a rate of 41 a year per one lakh people, the rate among the elderly is 300."
86. (e); Refer the third sentence of the last paragraph, "More and more people are beginning to consider the way they die as an equally personal choice."
87. (b); According to the last sentence of the second paragraph, one-third of the Danish people, who die, kill themselves.
88. (d); Refer the second last sentence of the third paragraph, "As European Southern tier becomes more prosperous, families are becoming smaller, relationship less stable and suicides are increasing."
89. (b); Sentence (b) is not true in the context of the passage.
90. (a); Refer the first sentence of the last paragraph "In a world where the old maxim 'one technology one industry' no longer applies, a singular breakthrough strategy is inadequate; companies need to include both the breakthrough and fusion approaches in their technology strategy."
91. (d); Here 'Phase' is going correctly and similar with the word 'generation' in the context of the passage.
92. (d); The author has highlighted the two approaches that have been described in the entire passage.
93. (c); The author wanted to highlight the widespread of technological innovations, as indicated in the first sentence of the passage, "From 'apparel to aerospace', 'steel to software', the pace of technological innovation is quickening."
94. (a); Refer the third sentence of the first paragraph "Adding to the pressure, innovations are increasingly crossing industry boundaries; a new fiber developed by the textile industry has potential for building materials and medical equipment."
95. (b); Refer the second sentence of the first paragraph "No longer can companies afford to miss generation of technology and expect to remain competitive."
96. (d); Economical and extravagant are opposite in meaning. Extravagant means lacking restraint in spending money or using resources.
97. (c); Vivid and evocative are similar in meaning. Vivid means producing powerful feelings or strong, clear images in the mind. Evocative means bringing strong images, memories, or feelings to mind.
98. (c); Desultory and pertinent are opposite in meaning. Desultory means lacking a plan, purpose, or enthusiasm. Pertinent means relevant or applicable to a particular matter; apposite.
99. (c); Erudite and sagacious are similar in meaning. Erudite means having or showing great knowledge or learning. Sagacious means having or showing keen mental discernment and good judgement; wise or shrewd.
100. (a); Awkward is an antonym of Debonair. Debonair means (of a man) confident, stylish, and charming.
101. (c); "To add insult to injury" is the right choice which means 'to make a situation worse'.
102. (e); 'A piece of cake' is the right choice which means something is very easy.
103. (a); 'Let the cat out of bag' is the correct choice which means to accidentally reveal a secret.
104. (d); The conjunction 'BECAUSE' is used to introduce a word or phrase that stands for a clause expressing an explanation or reason. "The federal department has twice rejected LePage's requests for centralization because he didn't work in collaboration with federal department."

- 105. (d);** The phrase “BY THE TIME” is used for saying what has already happened at the time that something else happens. The phrase can be used to connect only the sentences (D) and (B) to frame a coherent sentence. Other alternatives would alter the intended meaning of the sentences so formed. Hence option (d) is the correct choice.  
By the time storm reaches New England, it’s expected to gust with strong 30 to 50 mph winds, bringing dangerous, power line-snapping blizzard conditions and coastal flooding.”
- 106. (e);** Option (e) is a correct choice as other options tell us about what digital radio is and where it stands in comparison to FM while option (e) is in stark contrast and gives us information about the shortcomings of DAB . Hence option (e) is correct.
- 107. (d);** Option (d) is not a part of coherent paragraph. As other options tell us about election campaigning system with their logical sequence being BCAE, option (d) tell us about the state funding which is different from the central theme of the paragraph. Hence option (d) is true.
- 108. (a);** Option (a) is not a part of coherent paragraph. Other options tell us about the U.S. intervention in South China Sea and their logical sequence is CEBD while option (a) is not in harmony with the theme of the paragraph.
- 109. (e);** All the given sentences are grammatically correct.
- 110. (e);** In this sentence, use of ‘He’ is superfluous as the subject of ‘Being’ is ‘Gopal’. It is to be noted that whenever a sentence containing Participle is used with only one Subject which does dual work, then a Subject is not required before Participle.  
e.g. Being tired, he sat down. [= As he was tired, he sat down.]
- 111. (e);** greater
- 112. (b);** unhealthy
- 113. (c);** generates
- 114. (d);** deterioration
- 115. (a);**
- 116. (c);** “defining” is the correct word replacement as it means state or describe exactly the nature, scope, or meaning of. Here, defining is used to describe a whistle-blower. Other options do not fit into sentence in context of their meanings.
- 117. (d);** “expose” is the correct word replacement as it means make (something) visible by uncovering it. It is to be noted that the verb it requires should be plural as the Subject it denotes is Plural (government officials). Hence based on Subject-Verb agreement and its meaning, option (d) is the correct choice.
- 118. (a);** “progressive” is the correct word replacement as it means happening or developing gradually or in stages. The phrase “progressive expansion” adds meaning to the paragraph. Hence option (a) is the correct choice.
- 119. (b);** “information” is the correct word replacement as it means what is conveyed or represented by a particular arrangement or sequence of things. Options (a), (c) and (d) can be easily eliminated as they can’t be obtained under RTI Act. Hence “on the basis of information they obtained under the Right to Information (RTI) Act” makes a good choice.
- 120. (d);** “empowered” is the correct word replacement as it means make (someone) stronger and more confident, especially in controlling their life and claiming their rights. Other options are neglected on the basis of their usage.