# Data Interpretation Exercise

**DIRECTIONS (Qs. 1-5):**Study the following table to answer the given questions:

Percentage of marks obtained by seven students in six subjects

| *Subject* *(Max, Mark* ↓ *Students* | ENG | HIS | Com | Math | Science | Econ |
|---|---|---|---|---|---|---|
| | (100) | (100) | (100) | (100) | (100) | (100) |
| Meera | 100 | 80 | 50 | 90 | 90 | 60 |
| Subodh | 80 | 70 | 80 | 100 | 80 | 40 |
| Kunal | 90 | 70 | 60 | 90 | 70 | 70 |
| *Soni* | 60 | 60 | 65 | 80 | 80 | 80 |
| Richu | 50 | 90 | 62 | 80 | 85 | 95 |
| Irene | 40 | 60 | 64 | 70 | 65 | 85 |
| *Vgay* | 80 | 80 | 35 | 65 | 50 | 75 |

1.  What is the total marks obtained by Meera in all the subject?
    (a) 448 (b) 580
    (c) 470 (d) 74.67
2.  What is the average marks obtained by these seven studentsin History? (rounded off to two digits)
    (a) 72.86 (b) 27.32
    (c) 24.86 (d) 29.14
3.  How many students have got 60S or more marks in all thesubjects?
    (a) One (b) Two
    (c) Three (d) Four
4.  What is the overall percentage ofKunal?
    (a) 64 (b) 65

    (c) 75 (d) 64.24
5.  In which subject is the overall percentage the best?
    (a) Maths (b) Economics
    (c) History (d) Science

**DIRECTIONS (Qs. 6-10):** Study the following graph carefully and answer the questions given below:

**The following graph shows the percentage growth of Branded and Assembled PCs**
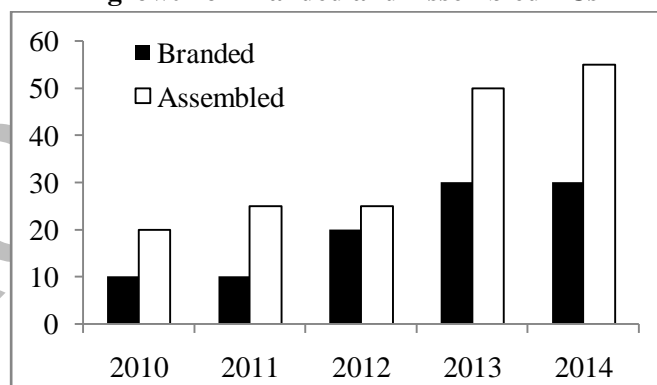


6.  What is the average percentage growth of sales of Assembled PCs for the given years?
    (a) 30 (b) 20
    (c) 40 (d) 35
7.  If the Branded PCs sold in 2011 were 100000, how many Branded PCs were sold in 2014?
    (a) 202800 (b) 156000
    (c) 234000 (d) 300000
8.  What is the difference between total Branded and total Assembled PCs sold for the given years?
    (a) 75000 (b) 750000
    (c) 175000
    (d) Cannot be determined
9.  In which year is the difference in the growth between Branded and Assembled PCs lowest'?
    (a) 2010 (b) 2013
    (c) 2014 (d) None of these

10. For Assembled PCs sale, which year is the per cent growth the highest compared to previous year'?
   (a) 2014          (b) 2011
   (c) 2013
   (d) Cannot be determined

**DIRECTIONS (Qs. 11-15):** Read the following table and answer the questions.

| Year | Government | Private |
|------|-----------|---------|
| 2007-2008 | 3900 | - |
| 2008-2009 | 29400 | - |
| 2009-2010 | 90000 | - |
| 2010-2011 | 230000 | 12000 |
| 2011-2012 | 520000 | 120000 |
| 2012-2013 | 1060000 | 450000 |
| 2013-2014 | 1550000 | 950000 |

11. In which period the percentage increase in the total internet owners is least to that over the earlier period?
   (a) 2009-2010          (b) 20102011
   (c) 2011-2012          (d) 2013-2014

12. What is the total number of fresh internet owners in the period 2013-14?
   (a) 54900          (b) 549000
   (c) 990000          (d) 99000

13. What is (be proportion of Government internet owners to the Private Internet owners in the period 2011-12?
   (a) 13:4          (b) 13:3
   (c) 3:13          (d) 4:13

14. What is the approximate percentage increase in the Private internet owners in the period 2013-14 over that in the period 2010-11?
   (a) 5000          (b) 6000
   (c) 8000          (d) 4000

15. What is the approximate percentage of Private interne towners in the total internet owners in 2010-117

(a) 20          (b) 5
(c) 10          (d) 15

**DIRECTIONS (Qs. 16-21):** Study the following table to answer the given questions:
Production (in crore units) of six companies over the year

| Company | Years | | | | | | Total |
|---------|------|------|------|------|------|------|-------|
| Tp | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | |
| | 103 | 150 | 105 | 107 | 110 | 132 | 707 |
| ZIR | 75 | 80 | 83 | 86 | 90 | 91 | 505 |
| AVC | 300 | 300 | 300 | 360 | 370 | 340 | 1970 |
| CTU | 275 | 280 | 281 | 280 | 285 | 287 | 1688 |
| PEN | 25 | 30 | 35 | 40 | 42 | 45 | 217 |
| SIO | 85 | 87 | 89 | 91 | 92 | 96 | 540 |
| Total | 863 | 927 | 893 | 964 | 989 | 991 | 5627 |

16. The production of Company AVC in 2012 is approximately what per cent of its average production over the given years?
   (a) 300 (b) 110 (c) 136 (d) 18.25

17. For SIO, which year was the per cent increase of decrease in production from the previous year, the highest?
   (a) 2013          (b) 2010
   (c) 2014          (d) 2012

18. Which company has less average production in the last three years compared to that of first three year?
   (a) No company          (b) CTU
   (c) ZIR          (d) Non of these

19. The total production of the six companies in the first two given years is what per cent of

that of last two given years? (round off up to two decimal places)

(a) 87.08      (b) 10455

(c) 90.40      (d) 10.62

20. For ZIR, which of the following is the difference between production in2014 and that in 2013?

(a) 10,00,00,000      (b) 1,00,00,000

(c) 10,00,000      (d) 40,00,000

21. For how many companies did the production increase every year from that of the previous year?

(a) One (b)      (b) Two

(c) Three      (d) Four

**DIRECTIONS (Qs. 22-26):** These questions are based on the graph given below:

**Per cent profit earned by six companies during 2013 and 2014**

Profit = Income – Expenditure

$$\% \text{ Profit} = \frac{\text{Income} - \text{Expenditure}}{\text{Expenditure}} \times 100$$
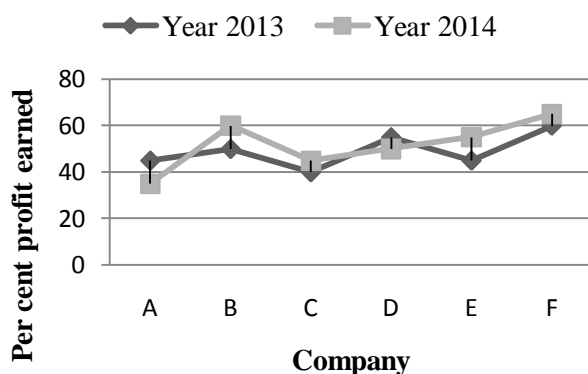
◆ Year 2013    ■ Year 2014



22. If the income of company C in the year 2013 was Rs 35 lakhs, what was its expenditure in that year?

(a) Rs 24 lakhs      (b) Rs 21 lakhs

(c) Rs 25 lakhs      (d) Cant's be determined

23. If, in the year 2014, total expenditure of companies B and C was Rs 48 lakhs, then what was their total income in the same year?

(a) Rs 32 lakhs      (b) Rs 28.6 lakhs

(c) Rs 34.2 lakhs      (d) Cant's be determined

24. If, in the year 2013, expenditureof Company C was Rs 32 lakhs, what was the income the company in the same year?

(a) Rs 44.2 lakhs      (b) Rs 44.80 lakhs

(c) Rs 46.4 lakhs      (d) Cant's be determined

25. If the expenditures of Company E in the years 2013 and 2014 were the what was the ratio of the incomes of the company in the same years respectively?

(a) 19:21      (b) 11:12

(c) 29:31      (d) 9:11

26. The income of Company D In the year 2013 was Rs 31 lakhs. What was the earned profit?

(a) Rs 11 lakhs      (b) Rs 20lakhs

(c) Rs 17 lakhs      (d) Rs 12 lakhs

**DIRECTIONS (Qs. 27-31):** Study the following table c are fully and answer the questions given below:

**Number of students studying in different faculties in a institutions**

| Institution | Arts | Comm-erce | Science | Engin-eering | Mana-gement |
|---|---|---|---|---|---|
| A | 125 | 187 | 216 | 98 | 74 |
| B | 96 | 152 | 198 | 157 | 147 |
| C | 144 | 235 | 110 | 164 | 127 |
| D | 163 | 138 | 245 | 66 | 36 |
| E | 215 | 196 | 287 | 86 | 66 |
| F | 184 | 212 | 195 | 112 | 97 |
| G | 255 | 206 | 182 | 138 | 89 |

27. What is the percentage of students studying science in the institute G with respect to the total number of students studying in the institute G?

(a) 1720       (b) 12.70

(c) $21\frac{1}{3}$      (d) $21\frac{2}{3}$

28. Out of the total students of the institute 'D', approximately what percentage of students study Management?

(a) 6        (b) 8

(c) 12       (d) 10

29. The total number of students studying Arts in institutes A,B and C together is approximately what per cent of the total number of students studying commerce in institutes D, E,F and G together?

(a) 50       (b) 45

(c) 42       (d) 55

30. What is the percentage of students studying Engineering in Institute C with respect to the total students of all institutions studying Engineering? (rounded to the nearest integer)

(a) 19       (b) 20

(c) 18       (d) 21

31. In which institution, Commerce with respect to is maximum?

(a) F        (b) E

(c) C        (d) A

**DIRECTIONS (Qs. 32-36):** These questions art to be answered on the basis of the pie chart given below showing how a person's monthly salary is distributed over different expense heads.



Food, 15%; Petrol, 10%; House Rent, 30%; Entertainment, 15%; Savings, 23%; Clothes, 7%
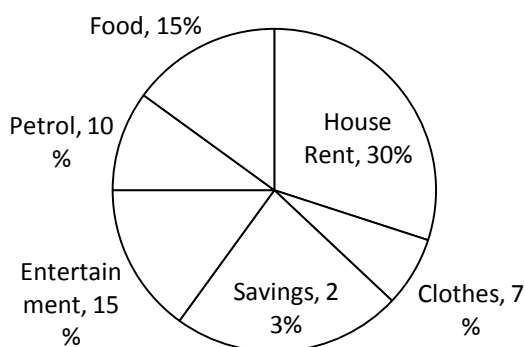
32. For a person, whose monthly salary is Rs 6,000 p.m., how many items are there on

which he has to spend more than Rs 1,000 p.m?

(a) 1        (b) 2

(0 3        (d) 4

33. The annual saving for such a person will be approximately:

(a) Rs 5,000      (b) Rs 10,000

(c) Rs 15,000     (d) Rs 16,560

34. The monthly salary for a person who follows the same expense pattern, but has a petrol expense of Rs 500 p.m., is

(a) Rs 2,500      (b) Rs 3,000

(c) Rs 5,000      (d) Rs 6,500

35. The percentage of money spent on clothes and savings is equal to which other single item of expense?

(a) Petrol       (b) House rent

(c) Food        (d) Entertainment

36. The angle made at the centre of the pie chart by the sector representing the expense on petrol is:

(a) 30°       (b) 45°

(c) 36°       (d) 90°

**DIRECTION'S (Qs. 37 - 40):** In the chart given below, A. B, C, D and E represent the costs of paper, printing, binding, miscellaneous and the royalty, respectively in publishing a book.



E 15%; A 20%; D 10%; B 25%; C 30%
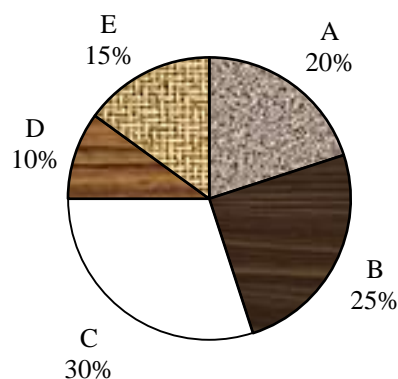
37. What is the angle of the pie chart showing the expenditure incurred on royalty?

(a) 15°       (b) 24°

(c) 48°       (d) 54°

38. The marked price of the book is 20% more than the CP. If the marked price of the book is Rs.30,then what is the cost of die paper used in a single copy of the book?
(a) Rs.6       (b) Rs.5
(c) Rs.45       (d) Rs.6.50

39. Which two expenditures together will form an angle of 108° at the centre of the diagram?
(a) A and E       (b) B and E
(c) A and D       (d) D and E

40. If the difference between the two expenditures are represented by 18 degrees in the diagram, then these expenditures must be:
(a) B and E       (b) A and C
(c) A and D       (d) D and E

**DIRECTIONS (Qs. 41 - 44)**: Study the following pie-charts carefully to answer the questions that follow:

Percentage of Students in a College, studying in various subjects and the percentage of girls out of these

**Tout students: 1800 (1200 girls + 600 boys)**
Percentage of students in various subjects
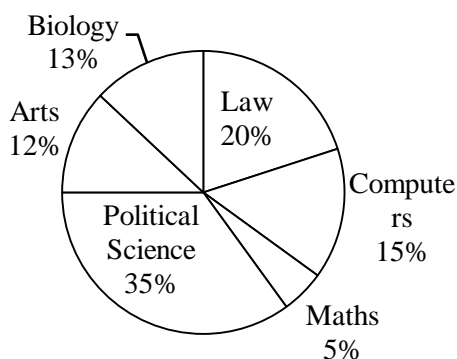


Total Girls: 1200
**Percentage of girls in various subjects**

41. The number of girls studying art in college is
(a) 242       (b) 168
(c) 120       (d) 276

42. For which subject is the number of boy the minimum?
(a) Law       (b) Biology

(c) Arts       (d) Maths

43. For Political Science, what is the respective ratio of boy and girls?
(a) 4:3       (b) 3:4
(c) 2:3       (d) 4:3

44. The number of girls studying art is what per cent more than the number of boys studying art?
(a) 170%       (b) 150%
(c) 80%       (d) 250%

**DIRECTION (Qs. 45-48):** Answer the Questions based on the Pie chart.
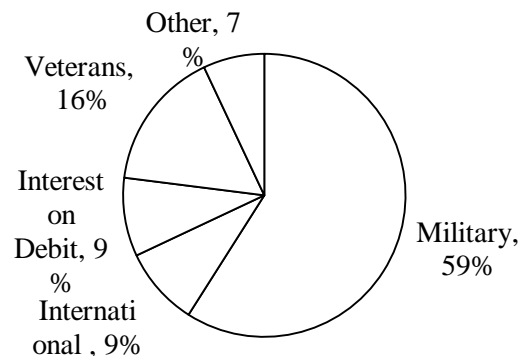


45. Approximately how many degree should there be in the angle of the sector for military expenditure?
(a) 312.4       (b) 341.4
(c) 241.4       (d) 212.4

46. What is the ratio of military expenditure to veterans expenditure approximately?
(a) 59:6       (b) 1:10
(c) 54:10       (d) None of these

47. If India had a total expenditure of Rs. 120 billion, approximately how many billions did it spend on interest on debt?
(a) Rs.8.10 billion       (b) Rs.12.9 billion
(c) Rs.10.8 billion       (d) Rs.11.12 billion

48. If Rs.9 billion were spent for veterans, what would have been the total expenditure for that year?
(a) Rs.150 billion       (b) Rs.56.25 billion
(c) Rs.140 billion       (d) Rs.145 billion

**DIRECTIONS (Qs. 49-53):** Study the following graph carefully and answer the questions given below:

■ #REF! ■ #REF! ■ #REF!
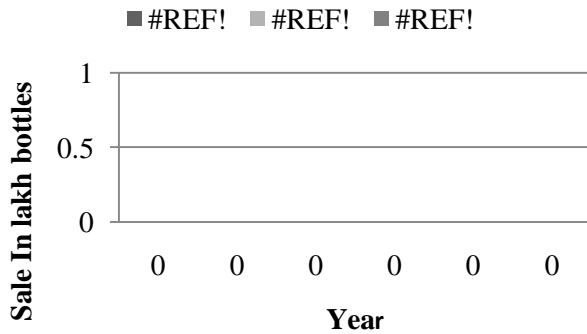


49. In which year was the sale of 'Pep-up' the maximum?
(a) 2011      (b) 2012
(c) 2013      (d) 2010

50. In the case of which soft drink was the average annual sale maximum in the given period?
(a) Pep-up only      (b) Cool-sip only
(c) Dew-drop only
(d) Cool-rip and Dew-drop

51. In the case of Cool-rip drink, what was the approximate per cent increase in sale in 2013 over its sale in 2012?
(a) Less than 20      (b) 20-25
(c) 25      (d) 31-35

52. In the year 2011, what was the difference between the number of 'Pep-up' and 'Cool-sip' bottles sold?
(a) 50,00,000      (b) 5,00,000
(c) 50,000      (d) 10,00,000

53. What was the approximate per cent drop in sale of Pep-up in 2011 over its sale in 2010?
(a) 5      (b) 12
(c) 14      (d) 20

**DIRECTIONS (Qs. 54 - 58):** The following pie-chart shows the monthly expenditure of a family on food, house rent, clothing, education, fuel and miscellaneous. Study the pie-chart and answer questions that follow:

0
0%

54. If the expenditure for food is Rs. 9000, then the expenditure for education is
(a) Rs.5000      (b) Rs.5200
(c) Rs.5400      (d) Rs.6000

55. The central angle of the sector for the expenditure on fuel (in degrees) is
(a) 50.4      (b) 54
(c) 57.6      (d) 72

56. If the expenditure on fuel is Rs.3000, then the total expenditure excluding expenditure on house rent and education is
(a) Rs.11600      (b) Rs.12000
(c) Rs.12400      (d) Rs.12500

57. If the percentage of expenditure on food is x% of the total percentage of expenditure on clothing, education and fuel, then x equals
(a) 66      (b) $66\frac{1}{3}$
(c) $66\frac{2}{3}$      (d) 67

58. Total percentage of expenditure on house rent, clothing and fuel is greater than the percentage of expenditure food by
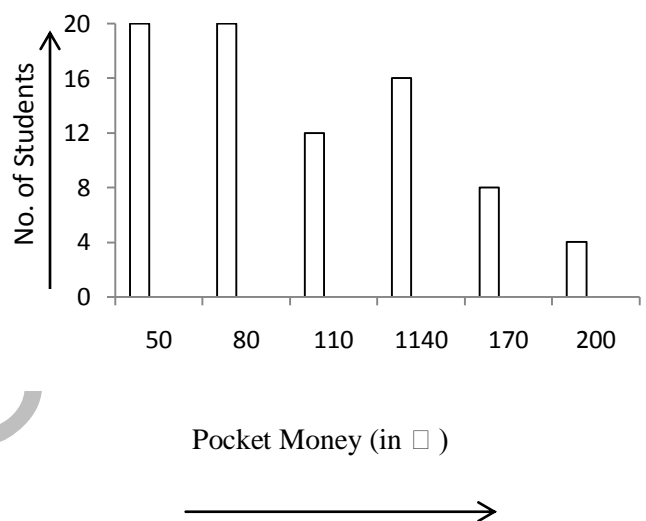(a) 16      (b) 17
(c) 18      (d) 20

**DIRECTIONS (Qs. 59-61):** The following graph shows the expenditure incurred in bringing a book, by a magazine producer. Study the graph and answer question.

0%

59. What should be the central angle of the sector for the cost of the paper?
(a) 57.6°  (b) 54.4°
(c) 56.7°  (d) 54.8°

60. If the miscellaneous charges are Rs.6,000, the cost of paper is
(a) Rs.12,000  (b) Rs.18.000
(c) Rs.15,000  (d) Rs.24,000

61. If 5500 copies are published, miscellaneous expenditures amount to Rs.1,848, find the cost price of 1 copy.
(a) Rs.10.40  (b) Rs.9.40
(c) Rs.12.40  (d) Rs.8.40

**DIRECTIONS (Qs. 62-63):** The pass percentage for an examination in a school is shown in the adjoining bar diagram, for males and females separately for four years. Study the diagram and answer the question.



62. The maximum percentage of students passed in the year is
(a) 2007  (b) 2008
(c) 2009  (d) 2010

63. The year in which the difference of pass percentage between male and female is maximum, is
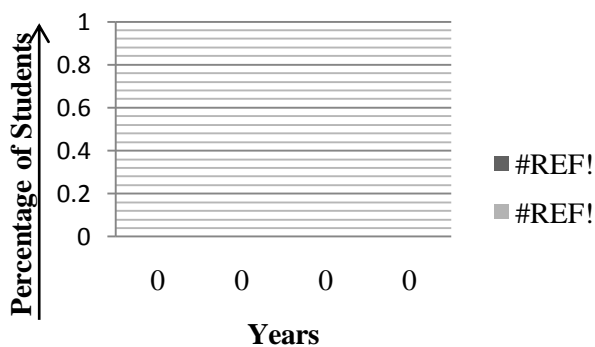
(a) 2010  (b)2009
(c) 2008  (d) 2007

**DIRECTIONS (Qs. 64-65):** The adjacent histogram shows the average pocket money received by 60 students for a span of one month. Study the diagram and answer the question.



Pocket Money (in □ )

64. Maximum number of students received pocket money between
(a) 50- 80  (b) 140-170
(c) 80-110  (d) 110-140

65. The number of students who received pocket money upto Rs.140 is
(a) 20  (b) 32
(c) 48  (d) 56

**DIRECTIONS (Qs. 66-68):** Study the following table and answer the questions that follow:

| School | No. of students scoring marks less than 50% | Percentage of students scoring marks more than 50% | No. of students appeared |
|--------|------|------|------|
| A | 240 | 55 | 600 |

| | | | |
|---|---|---|---|
| B | 220 | 40 | 400 |
| C | 300 | 20 | 375 |
| D | 280 | 10 | 350 |
| E | 210 | 25 | 300 |

66. The ratio of the total number of students scoring marks less than 50% to that of of scoring marks exactly 50% is
   (a) 50:3         (b) 25:2
   (c) 23:4         (d) 35:2

67. Which school has the highest number or students scoring exactly 50% marks?
   (a) D         (b) B
   (c) B         (d) A

68. The total number of students scoring 50% or more marks is
   (a) 1250         (b) 875
   (c) 775         (d) 675

# DIRECTIONS (Qs. 69-72): Study the following graph which shows income and expenditure of a company over the years 2005-2009 and answer questions.



**(Rs. in Crores)**

1.5

1

0.5

0
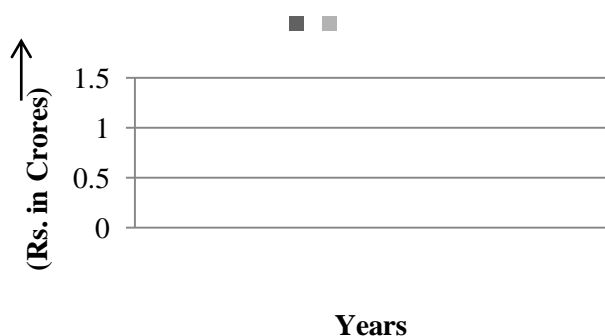
**Years**

69. The difference in profit (Rs. in crores) of the company during 2006 and 2007 is
   (a) 10         (b) 15
   (c) 20         (d) 25

70. In how many years was the income of the company less than the average income of the given years?
   (a) 4         (b) 3

(c) 2         (d) 1

71. The percentage increase in expenditure of the company from 2007 to 2008 is
   (a) 20         (b) 25
   (c) 30         (d) 35

72. Profit of the company was maximum in the year
   (a) 2009         (b) 2008
   (c) 2006         (d) 2005

**DIRECTIONS (Qs. 73-77):** The following pie-chart represents the profits earned by a certain company in seven consecutive years. Study the pie-chart carefully and answer the question.

| | |
|---|---|
| 42° | 1991 |
| 24° | 1992 |
| 42° | 1993 |
| 60° | 1994 |
| 54° | 1995 |
| 72° | 1996 |

73. If the expenditure in the year 1993 was 30% more than the expenditure in the year 1991, then the income in the year 1993 exceeds the income in the year 1991 by 30% of
   (a) the income in the year 1991
   (b) the expenditure in the year 1993
   (c) the income in the year 1993
   (d) the expenditure in the year 1991

74. If x% of the total of profits earned in all the given years is same as the profit earned in the year 1994, then x is
   (a) $16\frac{2}{3}$         (b) $33\frac{1}{3}$
   (c) $12\frac{1}{2}$  (d) $11\frac{2}{3}$

75. The ratios of expenditures and incomes in the years 1992, 1994 and 19% are given to be 6:5:8 and 2:3:4 respectively. The ratio of the income in the year 1996 to the total expenditure in the years 1992 and 1994 is
   (a) 40:11         (b) 10:7
   (c) 20:11         (d) 20:13

76. The year in which the profit is nearest to the average of the profits earned in all the given yean is
    (a) 1991            (b) 1995
    (c) 1993            (d) 1994

77. If the income in the year 1997 was 5 times the expenditure made in the same year, then the ratio of the profit earned in the year 1991 to die expenditure in the year 1997 was
    (a) 11:28           (b) 44:7
    (c) 28:11           (d) 7:44

| 21. (c) | 22. (c) | 23. (d) | 24. (b) | 25. (c) |
|---------|---------|---------|---------|---------|
| 26. (a) | 27. (d) | 28. (a) | 29. (a) | 30. (b) |
| 31. (c) | 32. (b) | 33. (d) | 34. (c) | 35. (b) |
| 36. (c) | 37. (d) | 38. (b) | 39. (c) | 40. (d) |
| 41. (b) | 42. (a) | 43. (b) | 44. (d) | 45. (d) |
| 46. (d) | 47. (c) | 48. (c) | 49. (d) | 50. (a) |
| 51. (c) | 52. (d) | 53. (c) | 54. (c) | 55. (b) |
| 56. (c) | 57. (c) | 58. (b) | 59. (a) | 60. (d) |
| 61. (d) | 62. (c) | 63. (d) | 64. (a) | 65. (c) |
| 66. (b) | 67. (c) | 68. (b) | 69. (c) | 70. (c) |
| 71. (b) | 72. (c) | 73. (d) | 74. (a) | 75. (c) |
| 76. (b) | 77. (c) |         |         |         |

| ANSWER KEY | | | | |
|---------|---------|---------|---------|---------|
| 1. (c)  | 2. (a)  | 3. (a)  | 4. (c)  | 5. (a)  |
| 6. (d)  | 7. (d)  | 8. (d)  | 9. (d)  | 10. (c) |
| 11. (d) | 12. (b) | 13. (b) | 14. (c) | 15. (b) |
| 16. (b) | 17. (c) | 18. (d) | 19. (c) | 20. (b) |

# HINTS & EXPLANATIONS

1. (c) Total marks obtained by Meera = 100+80+50+90+90+60=470

2. (a) Average marks obtained by seven students in History
$$= \frac{80+70+70+60+90+60+80}{7} = 72 - 86$$

3. (a) Only kunal and Soni got 60% or more marks in all the subjects.

4. (c) Average percentage of kunal
$$= \frac{90+70+60+90+70+70}{6} = 75\%$$

5. (d) Average percentage growth of assemble PCs $= \frac{20+25+25+50+55}{5} = \frac{175}{5} = 35\%$

6. (d) Number of branded PCs sold in 2014 $=10000 \times \frac{30}{10} = 300000$

7. (d) Difference between Assembled and branded PCs

| 2010 | 2011 | 2012 | 2013 | 2014 |
|------|------|------|------|------|
| 10%  | 15%  | 5%   | 20%  | 25%  |

8. (c) percent growth of Assembled PCs is

| 1996 | 1997      | 1998 | 1999 |
|------|-----------|------|------|
| 5%   | No change | 25%  | 5%   |

9. (d) percentage increase in the total internet owners

| 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---------|---------|---------|---------|---------|---------|
| 653.85  | 206.12  | 168.89  | 164.46  | 135.94  | 65.56   |

10. (c) reqd numbers
=(1550000+950000)-(1060000+450000)=990000

11. (b) reqd ratio = 520000:120000=13:3

12. (c) reqd percentage increase
$$= \frac{950000 - 12000}{12000} \times 100 \approx 8000\%$$

| | | |
|---|---|---|
| SIO | 261 | 279 |

13. (b) Read percentage $= \frac{12000}{230000+12000} 100 \approx 5\%$

14. (b) Production of company AVC in 2012=360 crore units Average production of AVC over the given years $= \frac{1970}{6}$

Hence, required percent $= \frac{360 \times 6}{1970} \times 100$

=109.64%=110%

15. (c) Approximate percent increase of decrease in production from the previous year for SIO are as follows:

$2010 = \frac{2}{85} \times 100 = 2.35\%$

$2011 = \frac{2 \times 100}{87} = 2.29\%$

$2012 = \frac{2 \times 100}{89} = 2.24\%$

$2013 = \frac{1 \times 100}{91} = 1.09\%$

$2014 = \frac{4 \times 100}{92} = 4.35\%$

You can solve it simple rough work. See the difference of produced units between two consecutive years. The difference is maximum for 2013 to 2014, and production during all these years is almost same. Hence, in the year 2014 SIO registered maximum increase in production over the previous years.

16. (d) Sum of the productions of the companies in first three years and the last three years in ` crore is as follows:

| Company | First three years | Last three years |
|---|---|---|
| TP | 358 | 349 |
| ZIR | 238 | 267 |
| AVC | 900 | 1070 |
| CTU | 836 | 852 |
| PEN | 90 | 127 |

17. (c) Total production of the companies in first two given years =863+927=1790

Again, total production of the six companies in last two given years = 989+991=1980

Therefore, required percent $= \frac{1790 \times 100}{1980} = 90.40\%$

18. (b)The required difference

19. = (91-90) crore units = 1 × 10000000 = 10000000 units

20. (c) Those companies are:

ZIR PEN and SIO

21. (c) Expenditure of Company C in 2013 = $35 \times \frac{100}{140} = Rs$ 25 lakhs

22. (d) Here, the percentage profits of Companies B and C in 2014 were not the same. Therefore, can't be determined is the correct choice.

23. (b) Income of Company C in 2013 $= 32 \times \frac{140}{100} = `$ 44.80 lakhs

24. (c) Reqd ratio = 145:155 = 29:31

25. (a) Expenditure of Company D in 2013 $= 31 \times \frac{100}{155} = `$20 lakhs

Profit = Income – expenditure = 31 – 20 = `11 lakhs

26. (d) Total no of students studying in institute G = 225 + 206 + 182 + 138 +8 9 = 840

Reqd% $= \frac{182}{840} \times 100 = 21\frac{2}{3}\%$

27. Total students in institute D =165 + 138 + 245 + 66 + 36 = 650

Reqd % $= \frac{36}{650} \times 100 = 6\%$

28. (a) Reqd % $= \frac{125+96+144}{138+196+212+206} \times 100 = 48.50\%$

29. (b) Reqd % $= \frac{164}{821} \times 100 = 20\%$

30. (c) Percentage of institute A $= \frac{187}{700} \times 100 = 20.71\%$

% of institute B $= \frac{152}{705} \times 100 = 20.26\%$

% of institute C = 30.12%

% of institute D = 21.23%

% of institute E = 23.05%

% of institute F = 26.5% and G = 23.67%

Hence, maximum % is in institute C

| Subjects | Students | Girls | Boys |
|---|---|---|---|
| Political Science | 630 | 360 | 270 |
| Total | 1800 | 1200 | 600 |

31.   (b) On two items, savings and house rent, he has to invest more than Rs 1000.

32.   (d) Savings per month = $6000 \times 23\%$ = Rs 1380

Annual Savings = $1380 \times 12$ = Rs16,560

33.   (c) 10% = 500 → 100% = Rs.5000

34.   (b) Money spent on clothes + Savings = Money spent on house rent.

35.   (c) Angle subtended by the Petrol sector
$= \frac{10}{100} \times 360° = 36°$

36.   (d) % of Royalty =15%

Angle made by Royalty $= \frac{15}{100} \times 360° = 54°$

37.   (b) Marked price = 1.2 x cost price

⇨   Cost price $= \frac{30}{1.2}$ = Rs. 25

⇨   Cost of paper = 25x20%=Rs 5

38.   (c) We have, $360° = 100\%$

$$108° = \frac{100\%}{360} \times 108° = 30\%$$

From the given pie chart (A+D) = 30%

39.   (d) $18° = \frac{18°}{360°} \times 100\% = 5\%$

So, the difference in percentages of expenditures be 5%

Thus, required expenditures are C and B or D and E. or A and B and E.

For$(Q_5, 41 - 44)$

| Subjects | Students | Girls | Boys |
|---|---|---|---|
| Art | 216 | 168 | 48 |
| Biology | 234 | 168 | 66 |
| Law | 360 | 360 | Nil |
| Computers | 270 | 120 | 150 |
| Maths | 90 | 24 | 66 |

40.   (b) 168

41.   (a) There is no boy studying Law in the college.

42.   (b) Required ratio = 270 : 360 = 3 : 4

43.   (d) Required percentage =
$$\frac{168 - 48}{48} \times 100 = 250\%$$

44.   (d) Required degree $= \frac{59}{100} \times 360 = 212.4$

45.   (d) Required ratio $= \frac{59}{16} = 59: 16$

46.   (c) Spend on interest on debt $= 120 \times \frac{9}{100} = 10.8 \, billion$

47.   (b) Total expenditure $= \frac{9}{16} \times 100 = 56.25$ billion

48.   (d) Sale of Pep-up was the maximum in the year 2010.

49.   (a) Avg annual sale of Dew-drop
$= \frac{10+15+25+15+30+25}{6} = 20$ lakhs

Avg. annual sale of Cool –sip
$= \frac{25+7+20+20+25+30}{6} = 21.16$ lakhs

Avg, annual sale of Pep-up
$= \frac{30+35+30+25+20+20}{6}$ 26.66 lakhs

50.   (c) Reqd % $= \frac{25-20}{20} \times 100 = 25\%$

51.   (d) Reqd no = 30- 20 = 1000000

52.   (c) Reqd % drop $= \frac{35-30}{35} \times 100 = 14\%$

53.   (c) Expendicture for education =
$\frac{9000}{30} \times 18$ = Rs 5,400

54.   (b) Central angle of the sector for the expenditure on fuel =
$$\frac{360}{100} \times 15 = 54°$$

55.   (c) Expenditure excluding rent and education $= \frac{3000}{15} \times (100 - 20 - 18)$

= 200 x 62

= `12400

56. (c) $30 = x\%$ of $(12 + 18 + 15)$

$30 = \frac{x}{100} \times 45$

$x = \frac{200}{3} \times 66\frac{2}{3}$

57. (b) Required difference $= (20 + 12 + 15) - 30$

$= 47 - 30$

$= 17$

58. (a) Central angle of the sector for cost of the paper

$= \frac{cost\ of\ paper\ \%}{100} \times 360°$

$= \frac{16}{100} \times 360° = 57.6°$

59. (d) If the cost of paper = Rs x, there form the given pie chart

$\frac{Cost\ of\ paper}{Miscellaneous\ charges} = \frac{16\%}{4\%}$

$\Rightarrow \frac{x}{6000} = \frac{16}{4} \rightarrow x = \frac{16 \times 6000}{4} = `24000$

60. (c) By observing the graph, we can say that yr. 2009 has maximum percentage of students passed in the year.

61. (d) Year 2007.

62. (c) $20 + 12 + 16 = 48$

63. (b) Number of student scoring less than 50%

$= (240 + 220 + 300 + 280 + 210) = 1250$

Number of students scoring exact 50%

$= (30 + 20 + 0 + 35 + 15) = 100$

Ratio $= 1250 : 100 = 25 : 2$

64. (c) Number of students scoring 50% or more marks

$= (600 - 240) + (400 - 220) + (375 - 300) + (350 - 280) + (300 - 210)$

$= 360 + 180 + 75 + 70 + 90 = 775$

65. (b) Profit during 2006 $= (60 - 35) = 25$

Profit during 2007 $(50 - 40) = 10$

Difference $= 25 - 10 = 15$

66. (c) Average Income $= \frac{40 + 60 + 50 + 65 + 70}{5}$

$= \frac{285}{5} = 57$

Income during 2005 and 2007 is less than average

67. (b) Required % $= \frac{50 - 40}{40} \times 100 = 25\%$

68. (c) It is clear from the graph

For Qs 73-77

Profit percentage in given years.

$1991 \Rightarrow \frac{42}{360} \times 100 = 11.67\%$

$1992 \Rightarrow \frac{24}{360} \times 100 = 6.67\%$

$1993 \Rightarrow \frac{42}{360} \times 100 = 11.67\%$

$1994 \Rightarrow \frac{60}{360} \times 100 = 16.67\%$

$1995 \Rightarrow \frac{54}{360} \times 100 = 15\%$

$1996 \Rightarrow \frac{72}{360} \times 100 = 20\%$

$1997 \Rightarrow \frac{66}{360} \times 100 = 18.33\%$

69. (a) $x\%$ of $100 = 16.67\%$

$\Rightarrow x = 16\frac{2}{3}\%$

70. (b) Average of years 1995

$= \frac{11.67 + 6.67 + 16.67 + 15 + 20 + 18.33}{7}$

$= 14.28\% = 15\%$