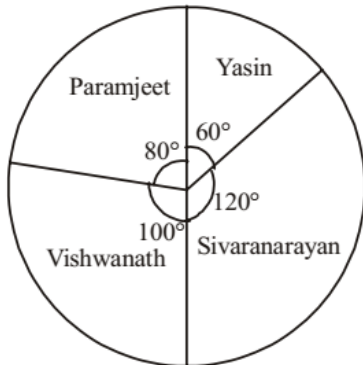


**DIRECTIONS (Qs. 1-3) :** The pie chart, given here, represents the number of valid votes obtained by four students who contested election for school leadership. The total number of valid votes polled was 720.

Observe the chart and answer the questions based on it.

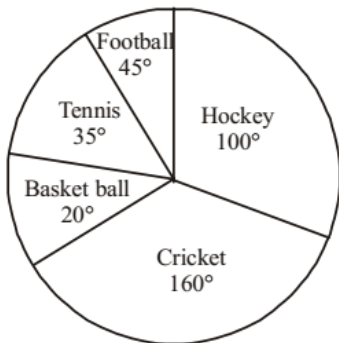
(SSC CGL 1<sup>st</sup> Sit. 2010)



- What was the minimum number of votes obtained by any candidate?  
 (a) 100 (b) 110  
 (c) 120 (d) 130
- Who was the winner....?  
 (a) Sivaraman (b) Paramjeet  
 (c) Yasin (d) Vishwanath
- By how many votes did the winner defeat his nearest rival ?  
 (a) 40 (b) 45 (c) 48 (d) 50

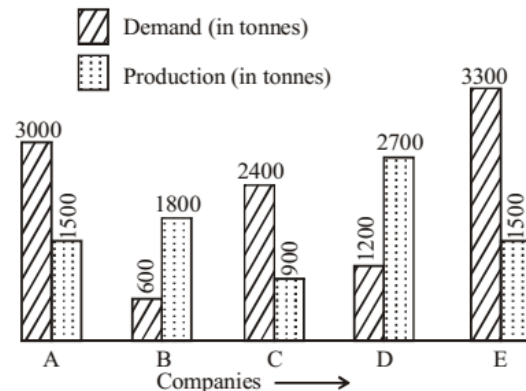
**DIRECTIONS (Qs. 4-6) :** The pie chart, given here, shows the amount of money spent on various sports by a school administration in a particular year.

Observe the pie chart and answer the questions based on this graph.  
 (SSC CGL 2<sup>nd</sup> Sit.2010)



- If the money spent on football was ₹ 9,000 how much more money was spent on hockey than on football ?  
 (a) ₹ 11,000 (b) ₹ 11,500  
 (c) ₹ 12,000 (d) ₹ 12,500
- If the money spent on football was ₹ 9,000, what amount was spent on Cricket ?  
 (a) ₹ 31,000 (b) ₹ 31,500  
 (c) ₹ 32,000 (d) ₹ 32,500
- If the money spent on football is ₹ 9,000, then what was the total amount spent on all sports ?  
 (a) ₹ 73,000 (b) ₹ 72,800  
 (c) ₹ 72,500 (d) ₹ 72,000

**DIRECTIONS (Qs. 7-10) :** The following graph shows the demand and production of cotton by 5 companies A, B, C, D and E. Study the graph and answer questions.

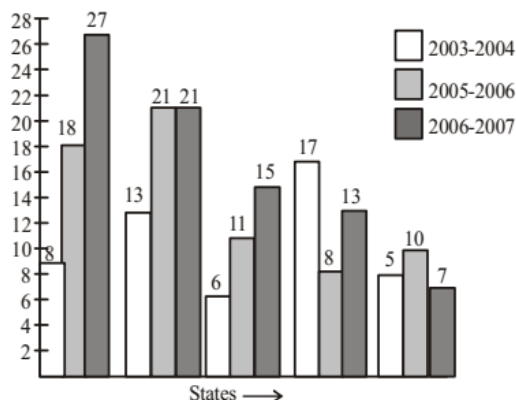


(SSC CGL 1<sup>st</sup> Sit.2011)

- What is the ratio of companies having more demand than production to those having more production than demand?  
 (a) 2 : 3 (b) 4 : 1  
 (c) 3 : 2 (d) 1 : 4
- What is the difference (in tonnes) between average demand and average production of the five companies taken together?  
 (a) 320 (b) 420  
 (c) 2100 (d) 1050
- The production of company D is how many times that of the production of the company A?  
 (a) 1.8 (b) 1.5  
 (c) 0.5 (d) 0.4
- The demand for company B is what percent of the demand for company C?  
 (a) 1.5 (b) 2.5 (c) 25 (d) 30

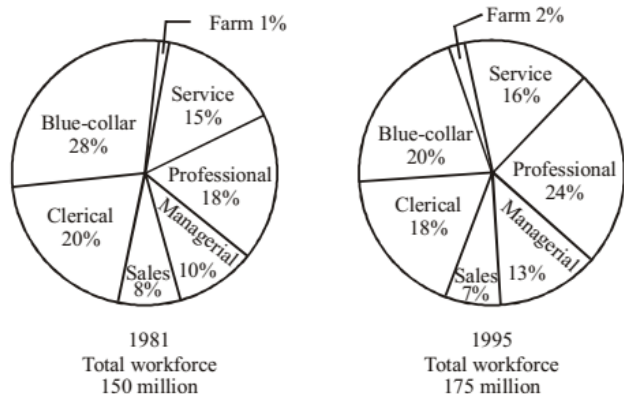
**DIRECTIONS (Qs. 11-14) :** The following graph shows the production of cotton bales of 100 kg each in lakhs by different states A, B, C, D and E over the years. Study the graph and answer Question Nos. 11 to 14.

(SSC CGL 2<sup>nd</sup> Sit.2011)



- The production of State C in 2003–2004 is how many times its production in 2006–2007?  
(a) 2.5 (b) 1.85 (c) 1.5 (d) 0.4
- In which State(s) is there a steady increase in the production of cotton during the given period?  
(a) A and B (b) B and D  
(c) A and C (d) D and E
- How many kg of cotton was produced by State C during the given period?  
(a) 32,00,00,000 kg (b) 42,50,00,000 kg  
(c) 33,00,00,000 kg (d) 35,00,00,000 kg
- The number of States for which the production of cotton in 2005–2006 is less than or equal to the preceding year is  
(a) 3 (b) 2  
(c) 1 (d) There is no such states

**DIRECTIONS (Qs. 15-19) :** The pie-chart given below shows the distribution of workforce by occupational category for country X in 1981 and 1995. Study the chart and answer the questions no. 15 to 19.

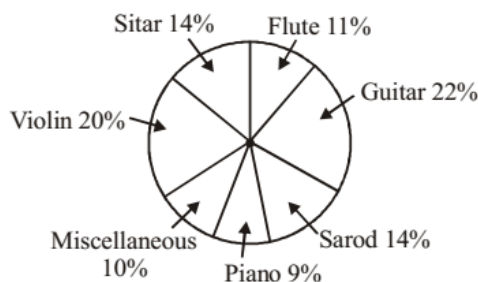


(SSC Sub. Ins. 2012)

- In 1981, the number of Service workers in the workforce, in millions, was  
(a) 15.0 (b) 20.5 (c) 22.5 (d) 28.0
- In 1981, the number of categories which comprised of more than 25 million workers each, is  
(a) two (b) three (c) four (d) five
- The ratio of the number of workers in the Professional category in 1981 to the number of such workers in 1995 is  
(a) 4 : 9 (b) 5 : 14 (c) 9 : 14 (d) 14 : 9
- The increase in the number of Clerical workers in the workforce of country X from 1981 to 1995 (in millions) is  
(a) 0.75 (b) 1.5 (c) 0.5 (d) 1.25
- The percentage decrease in the number of Blue-Collar workers in the workforce of country X from 1981 to 1995 is  
(a)  $42\frac{1}{2}$  (b) 35 (c) 20 (d)  $16\frac{2}{3}$

**DIRECTIONS (Qs. 20-24) :** Read the following chart and answer the questions that follows :

The following pie-chart shows the preference of musical instruments of 60,000 people surveyed over whole India.

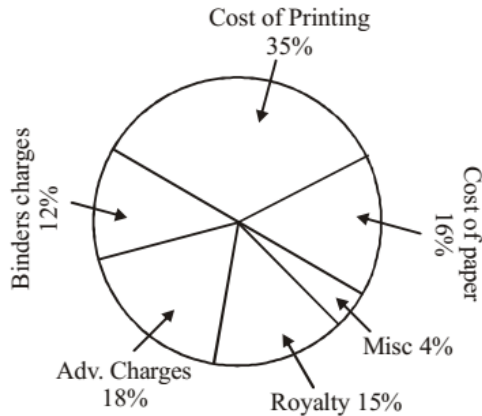


(SSC CHSL 2012)

- If 2100 people be less from the number of people who prefer Flute, the percentage of people who prefer Flute would have been:  
(a) 9.5% (b) 6.5%  
(c) 7.5% (d) 8.5%
- The total number of people who prefer either Sarod or Guitar, is greater than the total number of people who prefer either Violin or Sitar by :  
(a) 1200 (b) 1600  
(c) 1100 (d) 1400
- The number of people who prefer the musical instrument Sarod is :  
(a) 7400 (b) 8400  
(c) 6400 (d) 8600
- If  $16\frac{2}{3}\%$  of the people who prefer Piano, would go with the people who prefers Flute, the percentage of people who prefer Flute would have been :  
(a) 13.5% (b) 14.5%  
(c) 15.5% (d) 12.5%
- The number of people who prefer Guitar is greater than the total number of people who prefer either Flute or Piano by :  
(a) 1200 (b) 1100  
(c) 1300 (d) 1400

**DIRECTIONS (Qs 25-29) :** Study the graph and answer the questions that follows :

Circle graph given below shows the expenditure incurred in bringing out a book by a publisher.

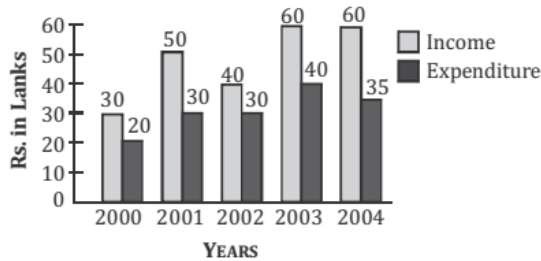


(SSC CHSL 2012)

25. The central angle of the sector for the cost of the paper is :  
(a)  $22.5^\circ$  (b)  $16^\circ$  (c)  $54.8^\circ$  (d)  $57.6^\circ$
26. Royalty on the book is less than the Advertisement charges by:  
(a) 3% (b) 25% (c) 20% (d)  $16\frac{2}{3}\%$
27. If 5500 copies are published, Miscellaneous expenditures amounts to ₹ 1848 and publisher's profit is 25%, then marked price of each copy is :  
(a) ₹ 12.50 (b) ₹ 10.50 (c) ₹ 10 (d) ₹ 8.40
28. If the cost of printing is ₹ 17,500, the Royalty is:  
(a) ₹ 8750 (b) ₹ 6300 (c) ₹ 7500 (d) ₹ 3150
29. If the Miscellaneous charges is ₹ 6,000, the Advertisement charges are:  
(a) ₹ 27,000 (b) ₹ 90,000 (c) ₹ 12,000 (d) ₹ 1,333.33

**DIRECTIONS (Qs. 30-34) :** The graph shows Income and Expenditure of a company. Study the graph and answer the questions.

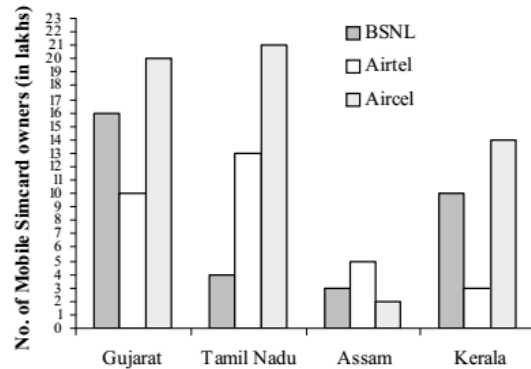
(SSC CGL 1<sup>st</sup> Sit.2012)



30. The expenditure from 2002 to 2003 increased by  
(a)  $33\frac{1}{3}\%$  (b) 40% (c) 10% (d) 20%
31. The income in 2002 was equal to the expenditure in the year  
(a) 2003 (b) 2004 (c) 2000 (d) 2001
32. The profit was maximum in the year  
(a) 2003 (b) 2004 (c) 2001 (d) 2002

33. The difference in profit between 2001 and 2002 is  
(a) ₹ 25 lakhs (b) No difference  
(c) ₹ 10 lakhs (d) ₹ 20 lakhs
34. The number of years in which the income exceeds the average income is  
(a) three (b) four (c) one (d) two

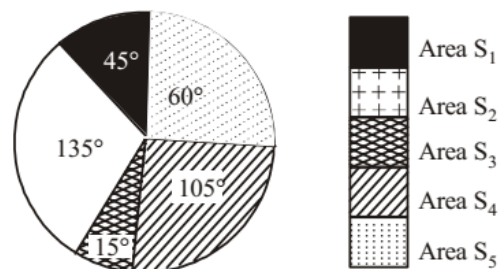
**DIRECTIONS (Qs. 35-39) :** The number of mobile simcards in 4 states are given in multiple bar diagrams. Study the diagram and answer the questions below.



(SSC CGL 2<sup>nd</sup> Sit.2012)

35. In Assam, the ratio of Aircel simcard and Airtel simcard sold is:  
(a) 3 : 2 (b) 2 : 5 (c) 5 : 2 (d) 2 : 3
36. In which state are there the largest number of owners of Airtel simcard?  
(a) Tamil Nadu (b) Gujarat  
(c) Kerala (d) Assam
37. Average of simcard sold in the four states in lakhs is  
(a) 30.25 (b) 40.5 (c) 35 (d) 33.75
38. The range of BSNL simcard sold in the 4 states in lakhs is:  
(a) 12 (b) 15 (c) 14 (d) 13
39. Of all the simcards sold in all the four states, the number of simcards sold in Gujarat is (approx)  
(a) 40% (b) 38% (c) 35% (d) 42%

**DIRECTIONS (Qs. 40-44):** Population of five adjacent areas of a town, in the year of 2010, are represented in the following Pie-chart. the ratio of the numbers of males to that of females in these areas are stated in the table below. The total of the population in all the five areas is 72 lakh. Study the Pie-chart and the table and then answer the questions.



Ratio of numbers of males (M) to females (F)

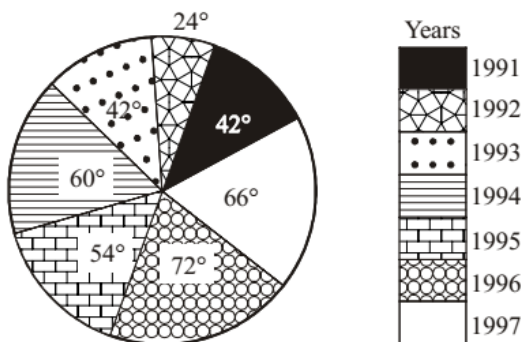
Areas	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>
Ratio M : F	3 : 2	4 : 1	7 : 3	2 : 3	13 : 7

(SSC CGL 1<sup>st</sup> Sit. 2012)

40. 12 lakh is the population of the area  
 (a) S<sub>1</sub> (b) S<sub>3</sub> (c) S<sub>5</sub> (d) S<sub>4</sub>
41. The number of males in the areas S<sub>1</sub> and S<sub>4</sub> together is  
 (a) 13.8 lakh (b) 8.2 lakh (c) 16.2 lakh (d) 15.8 lakh
42. The ratio of number of females in the area S<sub>2</sub> to that in the area S<sub>5</sub> is  
 (a) 108 : 35 (b) 36 : 13 (c) 9 : 7 (d) 13 : 36
43. If, in the year 2010, there was an increase of 5% population in the area S<sub>1</sub> and 8% increase in population of the area S<sub>3</sub> compared to the previous year, then the ratio of population in the areas S<sub>1</sub> and S<sub>3</sub> in the year 2009 was  
 (a) 108 : 35 (b) 27 : 10 (c) 27 : 70 (d) 10 : 3
44. The average of female population in all the five areas is lower than the female population in each of the areas  
 (a) S<sub>1</sub> and S<sub>2</sub> (b) S<sub>2</sub> and S<sub>5</sub>  
 (c) S<sub>2</sub> and S<sub>4</sub> (d) S<sub>4</sub> and S<sub>5</sub>

**DIRECTIONS (Qs. 45-49) :** 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.

(SSC CGL 2<sup>nd</sup> Sit. 2012)

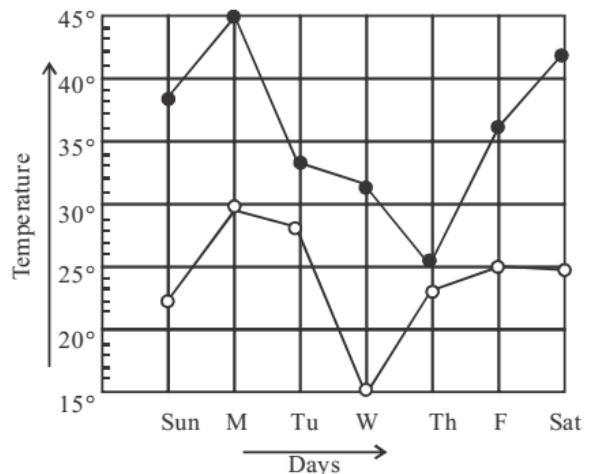


45. If the expenditure in the year 1993 was 30% more than the expenditure in the year 1991, then the income in the year 1993 exceeds the income in the year 1991 by 30% of  
 (a) the income in the year 1991  
 (b) the expenditure in the year 1993  
 (c) the income in the year 1993  
 (d) the expenditure in the year 1991
46. 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)  $11\frac{2}{3}$
47. The ratios of expenditures and incomes in the years 1992, 1994 and 1996 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
48. The year in which the profit is nearest to the average of the profits earned in all the given years is  
 (a) 1991 (b) 1995  
 (c) 1993 (d) 1994
49. 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 the expenditure in the year 1997 was  
 (a) 11 : 28 (b) 44 : 7  
 (c) 28 : 11 (d) 7 : 44
50. The following graph represents the maximum and minimum temperature recorded every day in a certain week. The day on which the difference between the maximum and minimum temperature was maximum is (SSC Multitasking 2013)

- Maximum temperature
- Minimum temperature



- (a) Monday (b) Wednesday  
 (c) Saturday (d) Sunday
51. Different choices made by a group of 200 students are given below in percentage. The number of students who have taken neither Science nor Commerce is (SSC Multitasking 2013)

Percentage of Students in different streams	
Name of Streams	Percentage
Science	29%
Arts	29%
Commerce	31%
Home Science	6%
Others	5%

- (a) 40 (b) 80  
 (c) 120 (d) 60

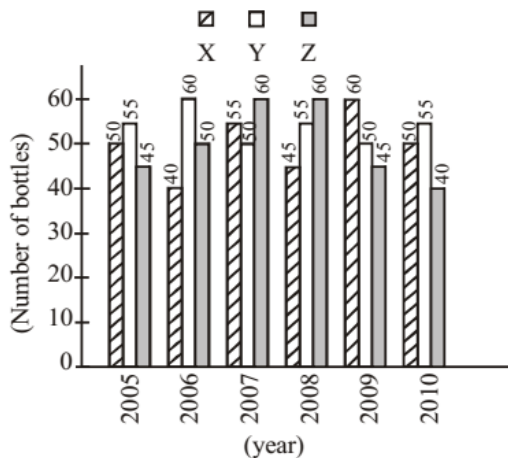
**DIRECTIONS (Qs. 52-55) :** The following table shows the productions of food-grains (in million tons) in a state for the period 1999 - 2000 to 2003 - 2004. Read the table and answer the questions.

Year	Production (in million tons)			
	Wheat	Rice	Barley	Other cereals
1999-2000	680	270	250	450
2000-2001	800	420	440	300
2001-2002	680	350	320	460
2002-2003	720	400	380	500
2003-2004	820	560	410	690

(SSC Sub. Ins. 2013)

52. In 2002 - 2003, the percentage increase in the production of barley as compared to the previous year was:  
 (a) 14.20 (b) 17.85 (c) 18.75 (d) 7.90
53. During the period 1999 - 2000 to 2003 - 2004,  $x$  per cent of the total production is production of wheat. The value of  $x$  is about:  
 (a) 12.6 (b) 37.4 (c) 37.8 (d) 20.2
54. In the year 2003 - 2004, the increase in production was maximum over the previous year for:  
 (a) Rice (b) Barley  
 (c) Other cereals (d) Wheat
55. The difference of average production of rice and the average production of barley over the years is :  
 (a) 50 (b) 60 (c) 80 (d) 40

**DIRECTIONS (Qs. 56-60) :** Production of three different flavours soft drinks X, Y and Z for a period of six years has been expressed in the following graph. Study the graph and answer the questions.

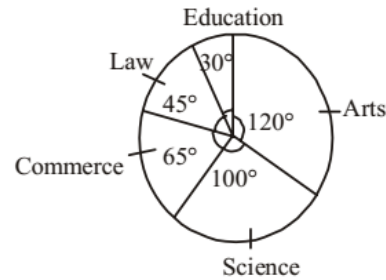


(SSC Sub. Ins. 2013)

56. The approximate decline in the production of flavour Z in 2010 as compared to the production in 2008 is:  
 (a) 33% (b) 22.5% (c) 42% (d) 25%
57. The average annual production was maximum in the given period for the flavour:  
 (a) Y only (b) Z only  
 (c) X and Z (d) X only
58. What percent of the total production of flavour X in 2005 and 2006 combined is the total production of flavour Z in 2007 and 2008 combined?  
 (a) 102.25 (b) 115.57 (c) 133.33 (d) 96.67

59. The percentage of rise/fall in production from the previous year is maximum for the flavour Y in this year:  
 (a) 2007 (b) 2008 (c) 2009 (d) 2006
60. The difference (in lakh bottles) between the average production of flavour X in 2005, 2006, 2007 and the average production of flavour Y in 2008, 2009 and 2010 is :  
 (a) 2.4 (b) 0.5 (c) 1.5 (d) 5

**DIRECTIONS (Qs. 61-63) :** The following pie-chart shows the number of students admitted in different faculties of a college. Study the chart and answer the question.

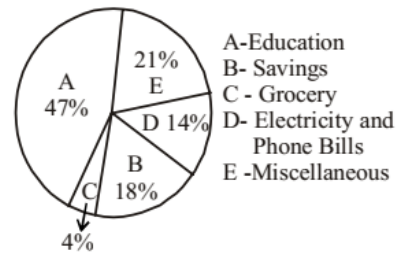


(SSC CGL 1<sup>st</sup> Sit. 2013)

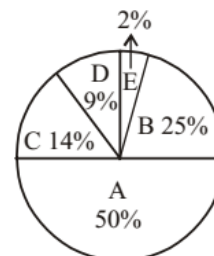
61. If 1000 students are admitted in science, what is the total number of students ?  
 (a) 360 (b) 180 (c) 1800 (d) 3600
62. If 1000 students are admitted in science, what is the ratio of students in science and arts ?  
 (a) 5 : 6 (b) 6 : 5 (c) 7 : 5 (d) 7 : 6
63. How many students are more in commerce than in law if 1000 students are in science ?  
 (a) 20 (b) 200 (c) 2000 (d) 500

**DIRECTIONS (Qs. 64-67) :** Study the two pie-charts and answer the questions.

April month's salary : ` 24000/-

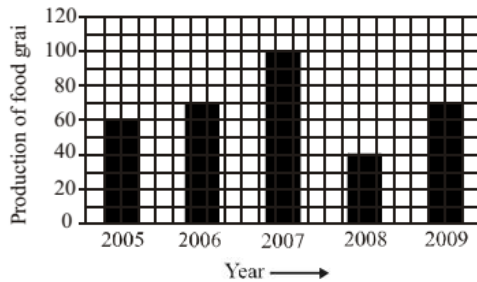


May month's salary : ` 25000/-



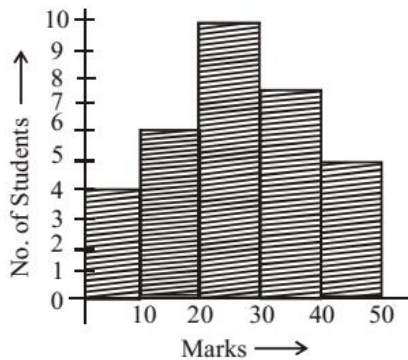
(SSC CGL 1<sup>st</sup> Sit. 2013)

64. The average amount spent on Education, Grocery and Savings from April month's salary is :  
 (a) ` 5520 (b) ` 5800 (c) ` 6000 (d) ` 6325
65. From the salary of May, the amount spent on Grocery and Electricity are :  
 (a) ` 2160, ` 480 (b) ` 6250, ` 3360  
 (c) ` 960, ` 5040 (d) ` 3500, ` 2250
66. The ratio of amount spent for savings in April month's salary and miscellaneous in May month's salary is :  
 (a) 235 : 50 (b) 216 : 25 (c) 217 : 26 (d) 205 : 13
67. What is the percent increase in Education in May month than April month ?  
 (a) 10.82% (b) 9.56% (c) 12.35% (d) 20%
68. Study the above bar graph showing the production of food grains (in million tons). (SSC CGL 2<sup>nd</sup> Sit.2013)  
 What is the ratio between the maximum production and the minimum production during the given period?



- (a) 1 : 2 (b) 2 : 3 (c) 3 : 4 (d) 5 : 2

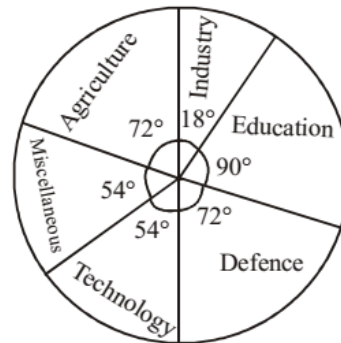
**DIRECTIONS (Qs. 69-74):** Study the following histogram and answer the following.



(SSC CGL 2<sup>nd</sup> Sit.2013)

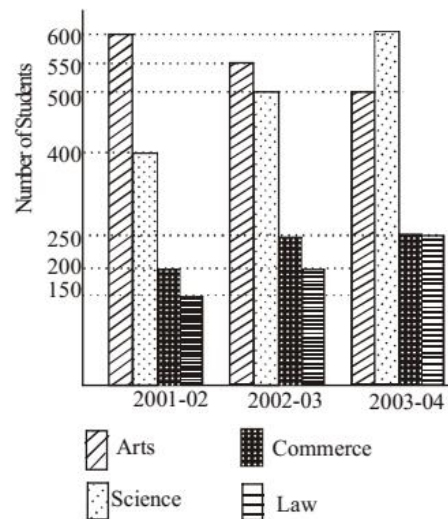
69. The total number of students involved in the data is  
 (a) 33 (b) 32 (c) 43 (d) 42
70. The maximum number of students got the marks in the interval of  
 (a) 10-20 (b) 20-30  
 (c) 30-40 (d) 40-50
71. The least number of students got the marks in the interval  
 (a) 40-50 (b) 20-30  
 (c) 10-20 (d) 0-10
72. The ratio of the students obtaining marks in the first and the last interval is  
 (a) 5 : 4 (b) 6 : 5 (c) 4 : 5 (d) 3 : 4

73. The difference in the amount estimated by the family on interior decoration and architect's fees is  
 (a) ` 10000 (b) ` 9500  
 (c) ` 7200 (d) ` 9600
74. In a certain country, allocations to various sectors of the yearly budget per ` 1000 crores are represented by this pie-diagram. The expenditure (in `) on Agriculture is



- (a) 250 crores (b) 150 crores  
 (c) 300 crores (d) 200 crores

**DIRECTIONS (Qs. 75-77):** Shown below is the multiple bar diagram depicting the changes in the roll strength of a college in four faculties from 2001-02 to 2003-04.

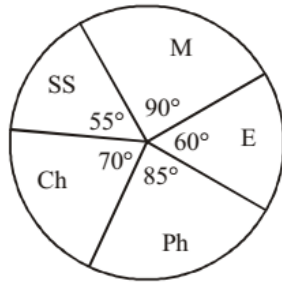


(SSC CGL 1<sup>st</sup> Sit.2013)

75. The percentage of students in Science faculty in 2001-2002 is  
 (a) 27.8% (b) 29.6%  
 (c) 30.2% (d) 26.9%
76. The percentage of students in Law faculty in 2003-04 is  
 (a) 15.6% (b) 16.7%  
 (c) 14.8% (d) 18.5%
77. Percentage of increase in Science students in 2003-04 over 2001-2002 is  
 (a) 150% (b)  $66\frac{2}{3}\%$  (c) 75% (d) 50%

**DIRECTIONS (Qs. 78-81):** The following pie-chart shows the marks scored by a student in different subject - viz. Physics (Ph), Chemistry (Ch), Mathematical (M), Social Science (SS) and English (E) in an examination. Assuming that total marks obtained for the examination in 810, answer the questions given below.

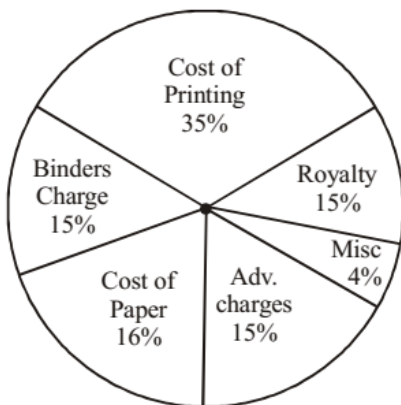
(SSC CGL 1<sup>st</sup> Sit. 2013)



78. The subject in which the student obtained 135 marks is  
 (a) Chemistry (b) Mathematics  
 (c) English (d) Physics
79. The marks obtained in English, Physics and Social Science exceed the marks obtained in Mathematics and Chemistry by  
 (a)  $10\frac{1}{9}\%$  (b) 25% (c)  $11\frac{1}{9}\%$  (d) 20%
80. The difference of marks between Physics and Chemistry is same as that between  
 (a) Mathematics and English  
 (b) English and Social Science  
 (c) Chemistry and Social Science  
 (d) Physics and English
81. The marks obtained in Mathematics and Chemistry exceed the marks obtained in Physics and Social Science by  
 (a) 40 (b) 45 (c) 50 (d) 30

**DIRECTIONS (Qs. 82-84) :** The following graph shows the expenditure incurred in bringing a book, by a magazine producer. Study the graph and answer question.

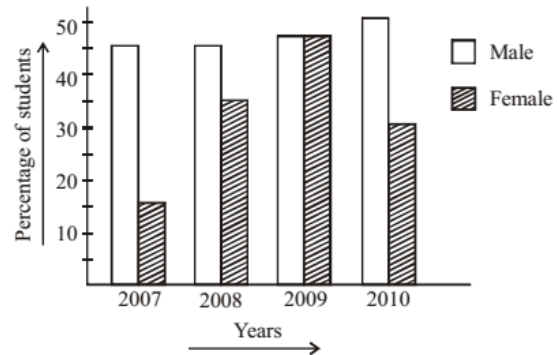
(SSC CGL 1<sup>st</sup> Sit. 2013)



82. What should be the central angle of the sector for the cost of the paper ?  
 (a)  $57.6^\circ$  (b)  $54.4^\circ$  (c)  $56.7^\circ$  (d)  $54.8^\circ$
83. If the miscellaneous charges are ₹ 6,000, the cost of paper is  
 (a) ₹ 12,000 (b) ₹ 18,000 (c) ₹ 15,000 (d) ₹ 24,000
84. If 5500 copies are published, miscellaneous expenditures amount to ₹ 1,848, find the cost price of 1 copy.  
 (a) ₹ 10.40 (b) ₹ 9.40 (c) ₹ 12.40 (d) ₹ 8.40

**DIRECTIONS (Qs. 85-86) :** 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.

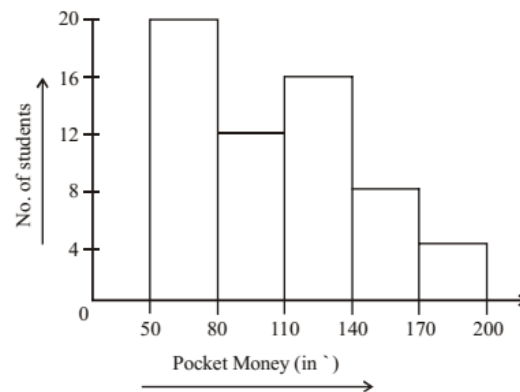
(SSC CGL 1<sup>st</sup> Sit. 2013)



85. The maximum percentage of students passed in the year is  
 (a) 2007 (b) 2008  
 (c) 2009 (d) 2010
86. 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. 87-88) :** 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.

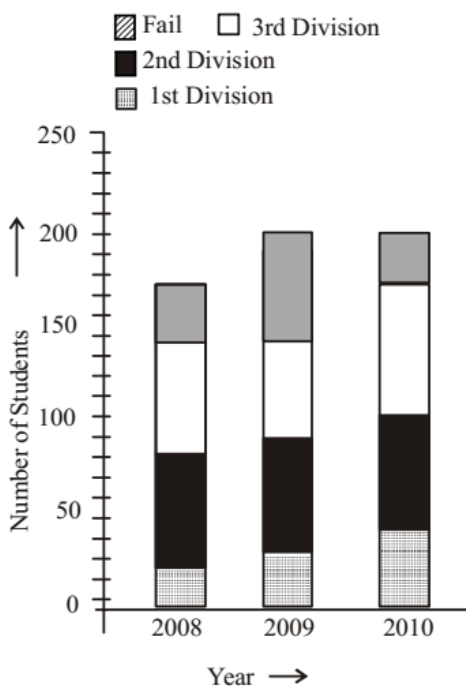
(SSC CGL 1<sup>st</sup> Sit. 2013)



87. Maximum number of students received pocket money between  
 (a) 50–80 (b) 140–170  
 (c) 80–110 (d) 110–140
88. The number of students who received pocket money upto ₹ 140 is  
 (a) 20 (b) 32 (c) 48 (d) 56

**DIRECTIONS (Qs. 89-93) :** The sub divided bar diagram given below depicts H.S. Students of a school for three years. Study the diagram and answer the questions.

(SSC CGL 1<sup>st</sup> Sit. 2013)

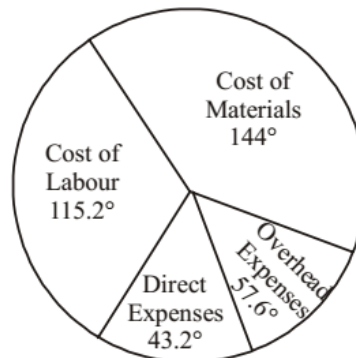


89. The percentage passed in 1st division in 2008 was  
 (a) 27% (b) 32% (c)  $15\frac{3}{8}\%$  (d)  $11\frac{13}{17}\%$
90. The pass percentage in 2008 was  
 (a) 67% (b) 73% (c)  $79\frac{2}{3}\%$  (d)  $82\frac{6}{17}\%$
91. In which year the school had the best result for H.S. in respect of percentage of pass candidates ?  
 (a) 2008  
 (b) 2009  
 (c) 2010  
 (d) The percentage of pass candidates are same for the three years.
92. The number of students passed in third division in the year 2008 was  
 (a) 50 (b) 60 (c) 70 (d) 80

93. The percentage of the students passed in 2nd division in the year 2010 was  
 (a) 30% (b) 40%  
 (c) 50% (d) 60%

**DIRECTIONS (Qs. 94-95) :** Following figure is Pie-chart representing itemwise cost of manufacturing certain product. Study the chart and answer the questions.

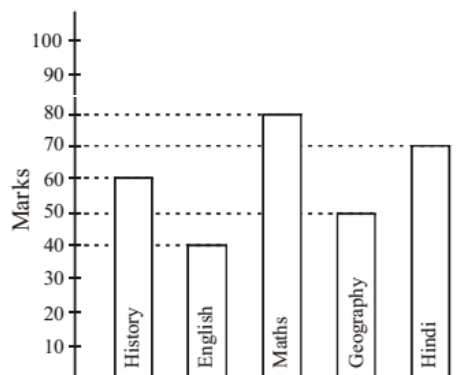
(SSC CGL 1<sup>st</sup> Sit. 2013)



94. Total manufacturing cost is ₹ 96,000. Then, cost of labour is  
 (a) ₹ 30,720 (b) ₹ 38,400  
 (c) ₹ 11,520 (d) ₹ 15,000
95. The difference of cost of material and direct expenses is  
 (a) ₹ 26,000 (b) ₹ 10,000  
 (c) ₹ 26,500 (d) ₹ 26,880

**DIRECTIONS (Qs. 96-97) :** The bar graph shows the marks obtained by a student in an examination out of 100 marks in each subject. Study the diagram and answer the questions.

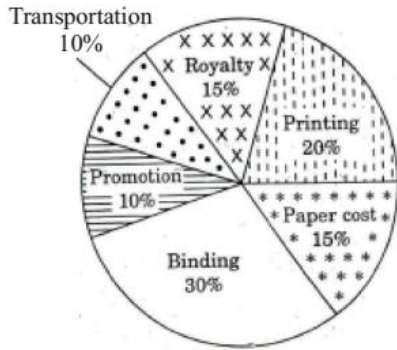
(SSC CHSL 2013)



96. The average marks of Hindi and English is  
 (a) 60 (b) 65  
 (c) 50 (d) 55
97. The ratio of the marks of Maths and History is  
 (a) 4 : 3 (b) 6 : 5  
 (c) 8 : 5 (d) 3 : 4

**DIRECTIONS (Qs. 98-99) :** Various expenditures incurred by a publishing company for publishing a book in 2011 are given below. Study the chart and answer the questions.





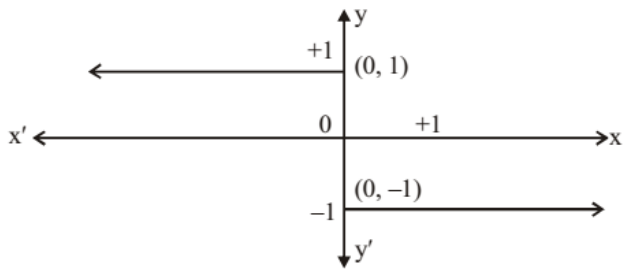
(SSC CHSL 2013)

98. Royalty of a book is less than the printing cost by  
 (a) 20% (b) 25% (c) 5% (d)  $33\frac{1}{3}\%$
99. Price of a book is 20% above cost price. If the marked price is ₹ 180, then the cost of paper for a single copy, in ₹, is  
 (a) 42 (b) 44.25 (c) 36 (d) 22.50
100. Using the pie-chart answer the following :



If the annual income of the family is ₹ 60,000, then the savings is  
 (SSC Multitasking 2014)

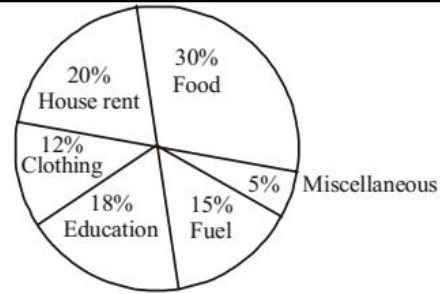
- (a) ₹ 7,500 (b) ₹ 9,000 (c) ₹ 3,000 (d) ₹ 6,000
101. The equation of the graph shown here is



(SSC Multitasking 2014)

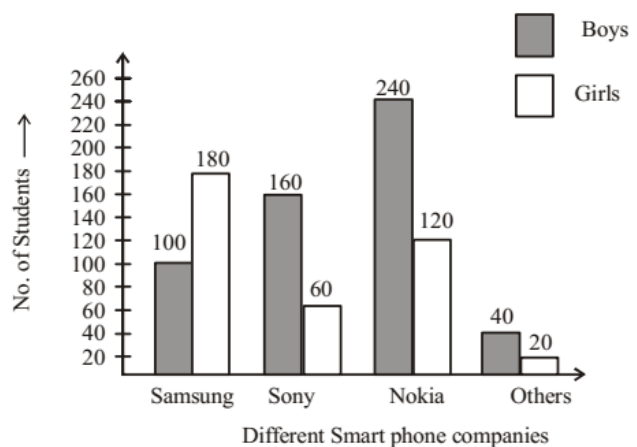
- (a) when  $x \neq 0, y = +1$   
 when  $x > 0, y = -1$
- (b) when  $x < 0, y = +1$   
 when  $x > 0, y = -1$
- (c) when  $x < 0, y = +1$   
 when  $x > 0, y = -1$
- (d) when  $x < 0, y = -1$   
 when  $x > 0, y = +1$

**DIRECTIONS (Qs. 102-106) :** 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.



102. If the expenditure for food is ₹ 9000, then the expenditure for education is  
 (SSC Sub. Ins. 2014)  
 (a) ₹ 5000 (b) ₹ 5200 (c) ₹ 5400 (d) ₹ 6000
103. The central angle of the sector for the expenditure on fuel (in degrees) is  
 (SSC Sub. Ins. 2014)  
 (a) 50.4 (b) 54 (c) 57.6 (d) 72
104. If the expenditure on fuel is ₹ 3000, then the total expenditure excluding expenditure on house rent and education is  
 (SSC Sub. Ins. 2014)  
 (a) ₹ 11600 (b) ₹ 12000 (c) ₹ 12400 (d) ₹ 12500
105. If the percentage of expenditure on food is  $x\%$  of the total percentage of expenditure on clothing, education and fuel, then  $x$  equals  
 (SSC Sub. Ins. 2014)  
 (a) 66 (b)  $66\frac{1}{3}$  (c)  $66\frac{2}{3}$  (d) 67
106. Total percentage of expenditure on house rent, clothing and fuel is greater than the percentage of expenditure on food by  
 (SSC Sub. Ins. 2014)  
 (a) 16 (b) 17 (c) 18 (d) 20

**DIRECTIONS (Qs. 107-110) :** The bar chart representing the number of first year B.Com. students of St. Xavier's College using different companies' smart phones. Study bar chart and answer the question that follow:

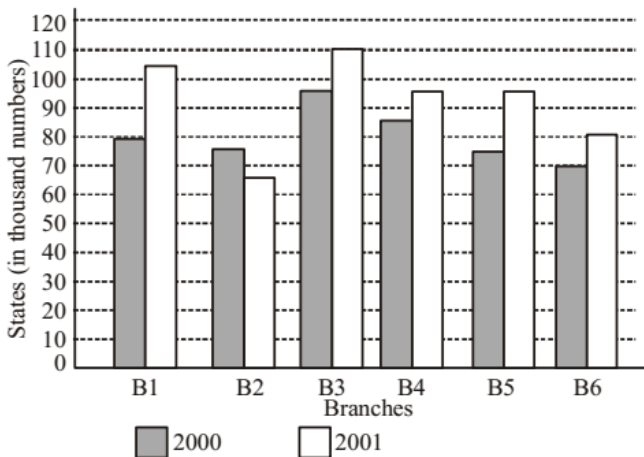


**The bar chart representing the no. of students using different smart phones. (SSC Sub. Ins. 2014)**

- 107.** The ratio of the number of boys to the number of girls using the smart phones of Samsung and Sony together is  
 (a) 12 : 13 (b) 13 : 12 (c) 14 : 11 (d) 11 : 14
- 108.** What percentage of boys are using the smart phones of Samsung ?  
 (a) 16.52% (b) 17.52% (c) 18.52% (d) 15.52%
- 109.** What percentage of girls are using the smart phones of Nokia ?  
 (a) 33.58% (b) 32.58% (c) 30.58% (d) 31.58%
- 110.** The difference between the total number of students using smart phones of Samsung combined together and the total number of students using smart phone of Sony taken together is  
 (a) 20 (b) 60 (c) 80 (d) 40
- 111.** Find the difference between the average sale of branches B5 and B6 in 2000 and 2001.  
 (a) 15 (b) 18 (c) 20.2 (d) 31

**DIRECTIONS (Qs. 112-115):** Sales of Books (in thousand numbers) from Six Branches - B1, B2, B3, B4, B5 and B6 of a Publishing Company in 2000 and 2001. Study the graph and answer the question that follow:

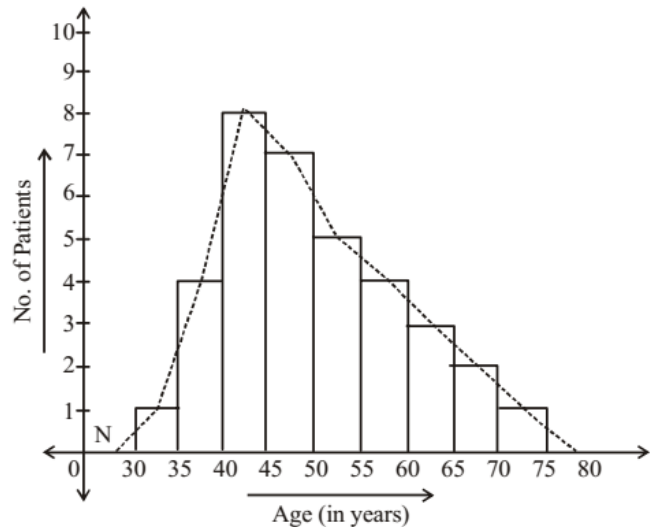
(SSC CHSL 2014)



- 112.** Total sale of branches B1, B3 and B5 together for both the years (in thousand numbers) is  
 (a) 250 (b) 310 (c) 435 (d) 560
- 113.** Find the ratio of the total sales of branch B2 for both years to the total sales of branch B4 for both years.  
 (a) 2 : 3 (b) 3 : 5 (c) 4 : 5 (d) 7 : 9
- 114.** Percentage of the average sale of branches B1, B2 and B3 in 2001 and the average sale of branches B1, B3 and B6 in 2000  
 (a) 87.5 (b) 75 (c) 77.5 (d) 82.5
- 115.** Find the percentage increase in the sales of books of branch B3 in the year 2001 than the branch B2.  
 (a) 69.2 (b) 50.8 (c) 40.9 (d) 65.7

**DIRECTIONS (Qs. 116-120):** The diagram shows the age distribution of the patients admitted to a hospital in a particular day. Study the diagram and answer

(SSC CHSL 2014)



- 116.** Number of patients of age between 55 years to 60 years, who got admitted to the hospital on that day is  
 (a) 6 (b) 4  
 (c) 24 (d) 8
- 117.** Total number of patients of age more than 55 years, who got admitted to the hospital is  
 (a) 4 (b) 7  
 (c) 9 (d) 10
- 118.** Number of patients of age more than 40 years and less than 55 years, who got admitted to the hospital on that day is  
 (a) 20 (b) 30  
 (c) 15 (d) 12
- 119.** Percentage of patients of age less than 45 years, who got admitted to the hospital on that day is approximately equal to  
 (a) 14% (b) 20%  
 (c) 37% (d) 62%
- 120.** About 11% of the patients who got admitted to the hospital on that particular day were of age  
 (a) either between 35 years and 40 years or between 55 years and 60 years  
 (b) between 60 years and 65 years  
 (c) between 35 years and 40 years  
 (d) between 35 years and 40 years and between 55 years and 60 years

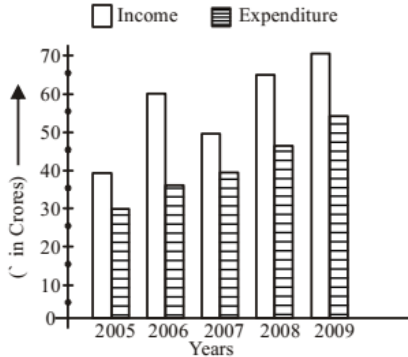
**DIRECTIONS (Qs. 121-123):** Study the following table and answer question.

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

(SSC CGL 1<sup>st</sup> Sit. 2014)

121. The ratio of the total number of students scoring marks less than 50% to that of scoring marks exactly 50% is  
 (a) 50 : 3 (b) 25 : 2  
 (c) 25 : 4 (d) 35 : 2
122. Which school has the highest number of students scoring exactly 50% marks?  
 (a) D (b) E  
 (c) B (d) A
123. The total number of students scoring 50% or more marks is  
 (a) 1250 (b) 875  
 (c) 775 (d) 675

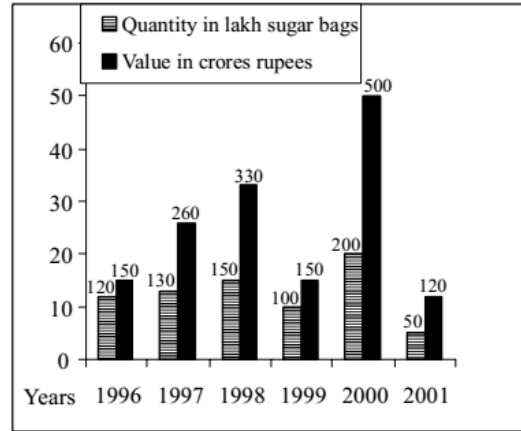
**DIRECTIONS (Qs. 124-127):** Study the following graph which shows income and expenditure of a company over the years 2005-2009 and answer questions.



(SSC CGL 1<sup>st</sup> Sit. 2014)

124. The difference in profit (₹ in crores) of the company during 2006 and 2007 is  
 (a) 10 (b) 15 (c) 20 (d) 25
125. 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
126. The percentage increase in expenditure of the company from 2007 to 2008 is  
 (a) 20 (b) 25 (c) 30 (d) 35
127. Profit of the company was maximum in the year  
 (a) 2009 (b) 2008 (c) 2006 (d) 2005

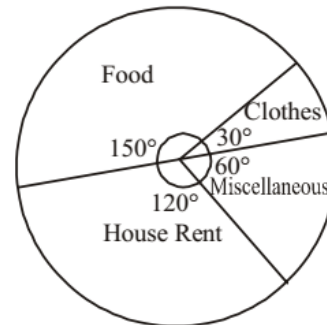
**DIRECTIONS (Qs. 128-131) :** Study the bar graph and answer the question.



(SSC Sub. Ins. 2015)

128. The approximate percentage increase in quantity from 1997 to 1998 was :  
 (a) 27.3% (b) 27.8%  
 (c) 26.5% (d) 26.9%
129. Percentage fall in value from 2000 to 2001 in :  
 (a) 50% (b) 75%  
 (c) 25% (d) 40%
130. The difference between the bags exported in 1999 and 2000 was.  
 (a) 50,000,00 (b) 1,00,000,00  
 (c) 1,50,000,00 (d) 2,00,000,00
131. Value per bag was minimum in the year:  
 (a) 2001 (b) 1999  
 (c) 1996 (d) 1997

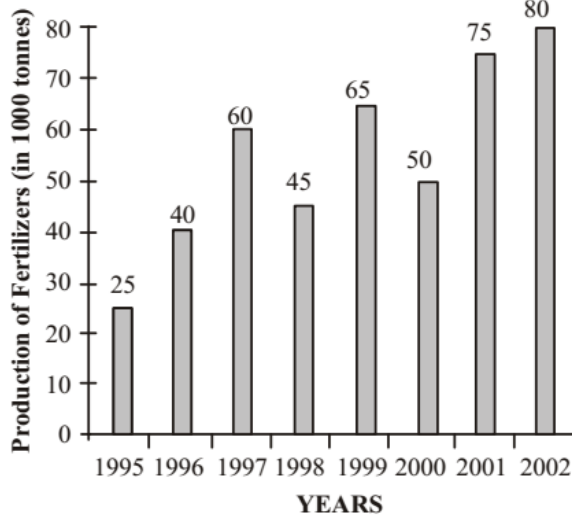
**DIRECTIONS (Qs. 132-135):** The Expenditure of a family in a month is represented by a Pie-chart. Read it and answer these questions. (SSC CHSL 2015)



132. The ratio of the amount spent on food and clothes ?  
 (a) 2 : 5 (b) 4 : 1  
 (c) 4 : 5 (d) 5 : 1
133. The % money spent on food compared to house rent is by?  
 (a) 12.5% (b) None of the options  
 (c) 25% (d) 50%

134. The total money spent on clothes and miscellaneous items are :  
 (a) None of the options (b) ` 3600  
 (c) ` 900 (d) ` 2000
135. If the total amount spent is ` 7,200. Find the amount spent on food ?  
 (a) ` 3000 (b) ` 4500  
 (c) ` 6000 (d) ` 1500

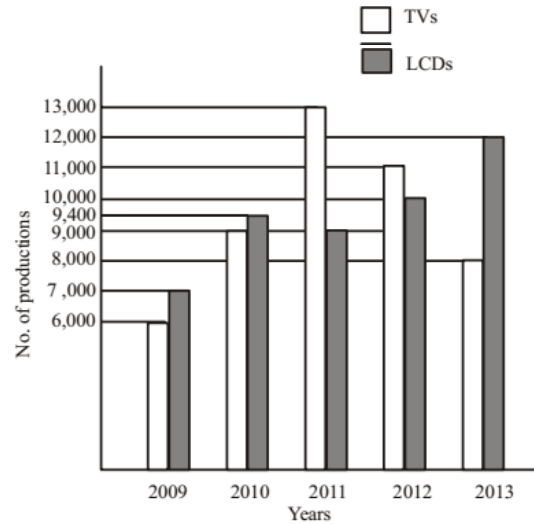
**DIRECTIONS (Qs. 136-140):** Study the following bar graph and answer the questions. (SSC CHSL 2015)



136. The number of years, the production of fertilizers was more than average production of the given years is :  
 (a) 2 (b) 1  
 (c) 3 (d) 4
137. The percentage increase in production of fertilizers in 2002 compared to that in 1995 is :  
 (a) 200% (b) 180%  
 (c) 220% (d) 240%
138. The percentage decline in the production of fertilizers from 1997 to 1998 is :  
 (a) 27.5% (b) 25%  
 (c) 26% (d) 23%
139. The average production of 1996 and 1997 is exactly equal to the average production of the years ?  
 (a) 2000 and 2001 (b) 1999 and 2000  
 (c) 1995 and 2001 (d) 1995 and 1999
140. The percentage increase in production as compared to previous year is maximum in year :  
 (a) 1999 (b) 1996 (c) 1997 (d) 2002

**DIRECTIONS (Qs. 141-144) :** Study the following bar diagram carefully and answer the following four Questions.

The number of the production of electronic items (TVs and LCDs) in a factory during the period from 2009 to 2013.  
 (SSC CGL 1<sup>st</sup> Sit. 2015)



141. The total number of production of electronic items is maximum in the year  
 (a) 2009 (b) 2010 (c) 2011 (d) 2013
142. The ratio of production of LCDs in the year 2011 and 2013 is  
 (a) 3 : 4 (b) 4 : 3 (c) 2 : 3 (d) 1 : 4
143. The difference between averages of production of TVs and LCDs from 2009 to 2012 is  
 (a) 600 (b) 700 (c) 800 (d) 900
144. The ratio of production of TVs in the years 2009 and 2010 is  
 (a) 7 : 6 (b) 6 : 7 (c) 2 : 3 (d) 3 : 2

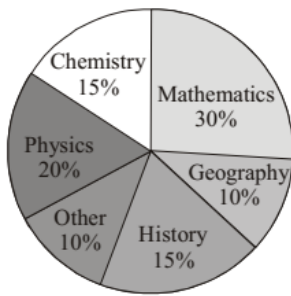
**DIRECTIONS (Qs. 145-147):** The pie-chart given here shows expenditure incurred by a family on various items and their savings. Study the chart and answer the questions based on the pie-chart



(SSC CGL 1<sup>st</sup> Sit. 2015)

145. If the monthly income is ` 36000 then the yearly savings is:  
 (a) ` 72000 (b) ` 60000  
 (c) ` 74000 (d) ` 70000
146. If the expenditure on education is ` 1600 more than that of housing then the expenditure on food is:  
 (a) ` 6000 (b) ` 12000  
 (c) ` 7000 (d) ` 3333
147. The ratio of expenditure on food to savings is :  
 (a) 2 : 1 (b) 3 : 1 (c) 3 : 2 (d) 10 : 9

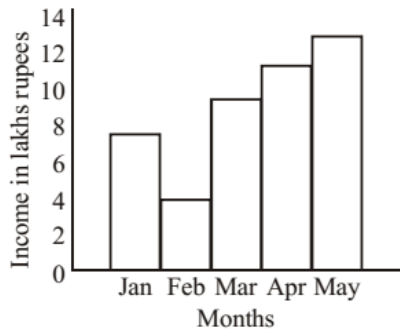
**DIRECTIONS (Qs. 148-151):** The following piechart shows the study time of different subjects of a student in a day . Study the pie chart and answer the following questions.



(SSC CGL 1<sup>st</sup> Sit. 2016)

148. The time spent to study history and chemistry is 4 hours 30 minutes, Then the student studied physics for
- (a) 1 hour 30 min (b) 2.9 hour (approx.)  
 (c) 2 hours (d) 3 hours
149. If the student studied chemistry for 3 hours, then he / she studied geography for
- (a) 1 hour (b) 2 hours  
 (c) 1 hour 30 minutes (d) 2 hour 30 minutes
150. If the student studied 10 hours in a day , then he/ she studied mathematics for.
- (a) 3 hour (b) 10/3 hour  
 (c) 1/3 hour (d) 3/10 hour
151. Instead of 10% , if the student spends 15% to study other subjects and the time is taken from the time scheduled to study mathematics and if he/ she used to study 20 hours per day , then the difference of time for studying mathematics per day is
- (a) 30 minutes (b) 45 minutes  
 (c) 1 hour (d) 1 hour 30 minutes

**DIRECTIONS (Qs. 152-155) :** The bar graph given indicates the income of a firm. Study the graph and answer the questions given.



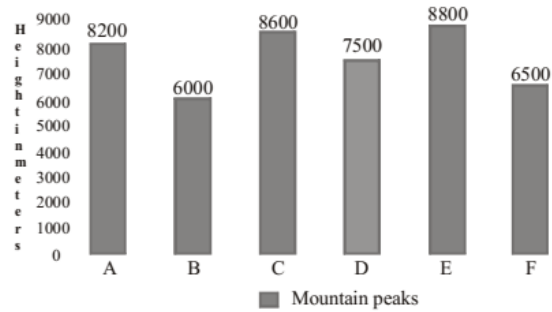
(SSC CGL 1<sup>st</sup> Sit. 2016)

152. Which period shows a steady increase of income?
- (a) March to May  
 (b) February to April  
 (c) February to May  
 (d) Insufficient data to predict

153. During which month, the ratio of the income to that of the previous month is the largest ?

- (a) February (b) March  
 (c) April (d) May
154. The income of May is how many times to that of February?
- (a) 3.25 (b) 4  
 (c) 3.5 (d) 5
155. The average monthly income of the firm (in lakh rupees) is
- (a) 7.6 (b) 6  
 (c) 8.8 (d) None of these

**DIRECTIONS (Qs. 156-159) :** A bar graph showing the heights of six mountain peaks. Study the bar graph and answer questions



(SSC CGL 1<sup>st</sup> Sit. 2016)

156. The average height of all the peaks (in meters) is
- (a) 7601.5 (b) 7600 (c) 7599.5 (d) 7610
157. Which peak is the second highest?
- (a) B (b) C (c) A (d) E
158. Write the ratio of the heights of the highest peak and the lowest peak
- (a) 22 : 15 (b) 15 : 22 (c) 20 : 13 (d) 13 : 22
159. When the heights of the given peaks are written in ascending order, what is the average of the middle two peaks?
- (a) 7950m (b) 7560m (c) 7650m (d) 7850m

**DIRECTIONS (Qs. 160-164):** Study the following table which shows the amount of money invested (Rupees in crore) in the core infrastructure areas of two districts. A and B of a State, and answer the below five questions.

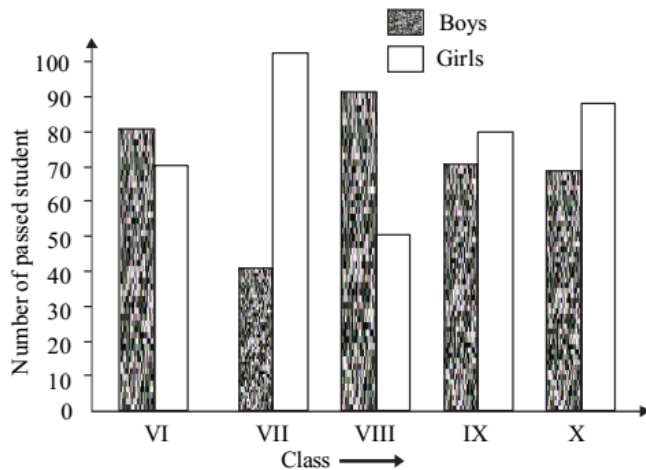
	District A		District B	
	1995	1996	1995	1996
<b>Core Area</b>				
<b>Electricity</b>	815.2	1054.7	2065.8	2365.1
<b>Chemical</b>	389.5	476.7	745.3	986.4
<b>Thermal</b>	632.4	565.9	1232.7	1026.3
<b>Solar</b>	468.1	598.6	1363.5	1792.1
<b>Nuclear</b>	617.9	803.1	1674.3	2182.1
<b>Total</b>	2923.1	3489.5	7081.6	8352.0

(SSC Sub Ins. 2016)

160. By approximately what percent was the total investment in the two districts A and B more in 1996 as compared to 1995?  
 (a) 18% (b) 14% (c) 21% (d) 24%
161. The total investment in electricity and thermal energy in 1995, in these two districts A and B formed approximately what percent of the total investment made in that year?  
 (a) 55% (b) 41% (c) 52% (d) 47%
162. In district B, the investment in which area in 1996 did show the highest percentage increase over the investment in that area in 1995?  
 (a) Nuclear (b) Electricity  
 (c) Chemical (d) Solar
163. Approximately how many times was the total investment in 1995 and 1996 in district B was that of total investment of district A in the same years?  
 (a) 1.7 (b) 2.8  
 (c) 2.4 (d) 1.9
164. If the total investment in district B shows the same rate of increase in 1997, as it had shown from 1995 to 1996, what approximately would be the total investment in B in 1997?  
 (a) ` 9850 crore (b) ` 10020 crore  
 (c) ` 8540 crore (d) ` 9170 crore

**DIRECTIONS (Qs. 165-168):** The bar graph shows the results of an annual examination in a secondary school in a certain year.

(SSC Sub Ins. 2016)



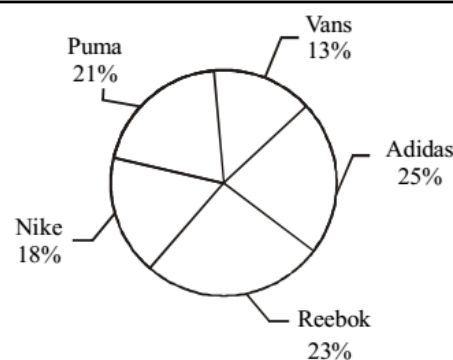
165. The ratio of the total number of boys passed to the total number of girls passed in the three classes VII, VIII and IX is  
 (a) 20 : 23 (b) 18 : 21 (c) 21 : 26 (d) 19 : 25
166. The average number of boys passed per class is  
 (a) 75 (b) 78 (c) 70 (d) 72
167. The class having the highest number of passed student is  
 (a) IX (b) X (c) VIII (d) VII
168. The class in which the number of boys passed is nearest to the average number of girls passed per class, is  
 (a) VIII (b) X (c) VI (d) IX

**DIRECTIONS (Qs. 169-172):** Study the following table carefully to answer these questions: (SSC CGL 2017)

Institute	Discipline				
	Arts	Commerce	Science	Management	Computer science
A	350	260	450	140	300
B	240	320	400	180	320
C	460	300	360	160	380
D	440	480	420	120	340
E	280	360	340	200	330

169. What is the average number of students studying Commerce from all the Institutes together?  
 (a) 356 (b) 360  
 (c) 348 (d) 344
170. Total number of students studying Arts from Institutes A and B together is approximately what per cent of the total number of students studying computer Science from these two Institutes?  
 (a) 84 (b) 95  
 (c) 88 (d) 90
171. What is the ratio between total number of students studying Science from Institutes C and D together and the total number of students studying Computers Science from these two Institutes together respectively?  
 (a) 13 : 12 (b) 12 : 13  
 (c) 13 : 15 (d) 15 : 13
172. What is the average number of students studying all disciplines together from institute E?  
 (a) 312 (b) 310  
 (c) 302 (d) 304

**DIRECTIONS (Qs. 173-176):** The pie chart given below shows the number of shoes of 5 different brands in a multi brand store. There are total 1200 shoes. (SSC CGL 2017)

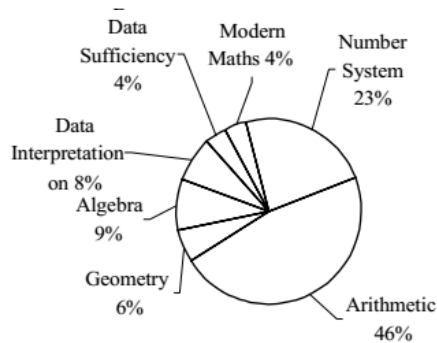


173. How many shoes are there of Reebok brand?  
 (a) 230 (b) 276 (c) 286 (d) 216
174. What is the difference in number of shoes of Puma and Vans?  
 (a) 96 (b) 156 (c) 84 (d) 112

175. The difference between the number of shoes of Reebok and Nike is same as the difference between which of the following two brands?  
 (a) Puma and Adidas  
 (b) Reebok and Adidas  
 (c) Vans and Nike  
 (d) Nike and Adidas
176. Puma shoes are how much percent more than the Nike shoes?  
 (a) 14.28 (b) 16.66  
 (c) 25 (d) 21.33

**DIRECTIONS (Qs. 177-180) :** The pie chart given below shows the break – up of number of hours of teaching various subjects at an institute by Mr. Raghav.

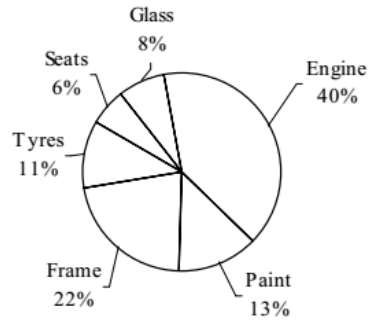
(SSC CGL 2017)



177. If Mr. Raghav taught a total of 500 hours, then what is the difference in number of hours of teaching algebra and modern Maths?  
 (a) 15 (b) 20  
 (c) 25 (d) 40
178. Mr. Raghav taught Geometry for 36 hours. If the time taken in teaching Ratio constitutes one-fourth of the time for Arithmetic, then for how much time (in hours) did he taught the topic Ratio?  
 (a) 46 (b) 51.75  
 (c) 69 (d) 103.5
179. If Data Interpretation and Modern Maths were taught for a combined time of 96 hours, then for how much time (in hours) were Number system and Geometry taught?  
 (a) 136 (b) 184  
 (c) 216 (d) 232
180. A new topic named Problem Solving was also introduced and it was decided that 10% time of all topics except Arithmetic will be devoted to it. What will be the central angle (in degrees) made by Problem Solving in the new pie chart?  
 (a) 17.28 (b) 18 (c) 19.44 (d) 36

**DIRECTIONS (Qs. 181-184) :** The pie chart given below shows the percentage of time taken by different processes in making a car.

(SSC CGL 2017)



181. If total time taken to make a car is 300 hours, then what is the total time (in hours) taken in paint and frame?  
 (a) 99 (b) 72 (c) 105 (d) 66
182. If time taken in seats is 192 hours, then what is the time taken (in hours) in glass?  
 (a) 256 (b) 352  
 (c) 416 (d) 278
183. If total time taken in engine and tyres is 127.5 hours, then what is the difference (in hours) in time taken by frame and glass respectively?  
 (a) 27.5 (b) 12.5  
 (c) 40 (d) 35
184. 15% of total time is spent on quality check and this time is equally taken from all other processes. So What will be the new sectorial angle (in degrees) made by total time of seats and glass?  
 (a) 28.6 (b) 32.4  
 (c) 35.8 (d) 31.6

**DIRECTION (Q. 185):** Refer the below data table and answer following Question. (SSC CHSL 2017)

	Number of employees	Annual salary (in lakhs)	Bonus as percent of annual salary
Manager	3	30	30%
Executive	8	16	20%
Trainee	4	2	20%

185. What is the average bonus (in rupees)?  
 (a) 5419995 (b) 160000  
 (c) 361333 (d) 126000
186. Refer the below data table and answer the following Questions:- (SSC CHSL 2017)

	2011	2012	2013	2014	2015
Company A	3000	5000	4000	5000	5000
Company B	1000	1000	1000	2000	2000
Company C	4000	2000	2000	2000	3000

- For which of the following pairs of years the total exports from the three Companies together are equal?  
 (a) 2011 & 2012 (b) 2013 & 2015  
 (c) 2011 & 2014 (d) 2014 & 2015

**DIRECTIONS (Qs. 187-188):** Refer the below data table and answer the following Question. (SSC CHSL 2017)

Year	Profit or (-Loss) in Rs Crore
2011	-10
2012	5
2013	10
2014	-15
2015	-5

187. What was the total Profit or Loss of the company in last 5 years?

- (a) Profit of ` 15 crores (b) Loss of ` 5 crores  
(c) Loss of ` 15 crores (d) Profit of ` 25 crores

188. Refer the below data table and answer following Question.

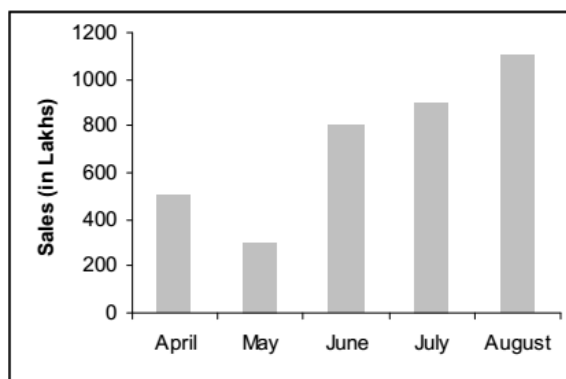
India's exports in 2015	Value in million US\$
Jewellery	675
Software	500
Cotton	525
Steel	575
Electronics	725

Jewellery was what percent of total exports?

- (a) 25 percent (b) 27.5 percent  
(c) 22.5 percent (d) 20 percent

**DIRECTIONS (Qs. 189-190):** The following bar diagram graph depicts the sales of items (in lakhs) in a departmental store from April to August in the current year. Study the graph and answer the following questions using the data provided here.

(SSC MTS 2017)



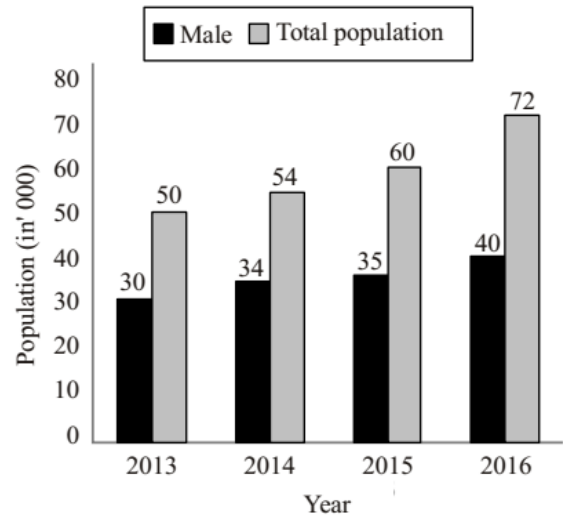
189. The sales in July is how many times to sales in May?

- (a) 300 (b) 3 (c) 2.5 (d) 2

190. The average monthly sale (in lakhs) is:

- (a) 600 (b) 780 (c) 650 (d) 720

**DIRECTIONS (Qs. 191-194):** The bar graph given below represents the total population and male population (in '000) of a city, during the period of 2013 to 2016. (SSC Sub. Ins. 2017)



191. What is the ratio of male and female population respectively in 2015?

- (a) 12 : 7 (b) 5 : 7 (c) 7 : 5 (d) 5 : 3

192. In 2016 male population is how much percent more than the female population?

- (a) 25 (b) 20 (c) 23 (d) 28

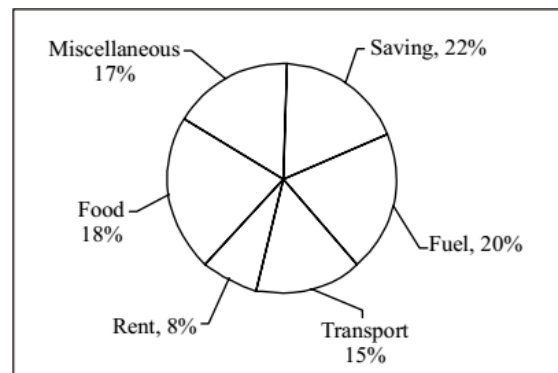
193. In 2014 female population is what percent of total population?

- (a) 62.96 (b) 37.03 (c) 20 (d) 31.13

194. Female population in 2015 is what percent of female population in 2014?

- (a) 25 (b) 80 (c) 150 (d) 125

**DIRECTIONS (Qs. 195-199):** The pie chart given below shows the expenditure (in percentage) of Mahesh. The monthly income of Mahesh is ` 26000. (SSC Sub. Ins. 2017)



195. How much does he spend (in `) on Rent?

- (a) 2080 (b) 2275 (c) 2470 (d) 2840

196. How much more does he spend (in `) on the saving and fuel taken together than transport?

- (a) 5850 (b) 6060 (c) 7020 (d) 8420

197. Had his income been ` 22,000, how much less he would have spend on Miscellaneous (in `)?

- (a) 510 (b) 680 (c) 765 (d) 935

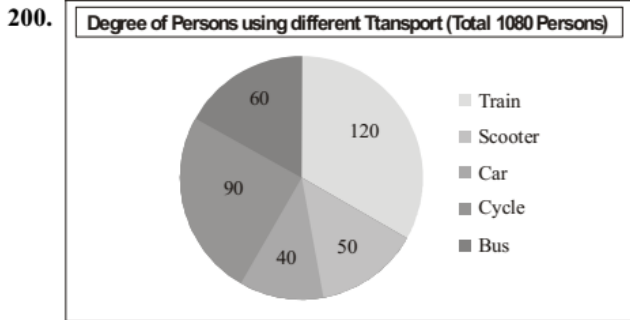


198. If he invests 65% of his savings on purchasing gold then how much amount (in ₹) does he spend on gold?

- (a) 3312 (b) 4124 (c) 3522 (d) 3718

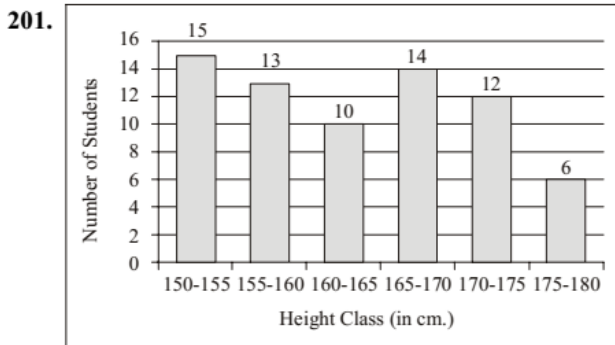
199. What will be the approximate difference (in ₹) between the average expenditure on saving, rent and fuel and average expenditure on food, transport and savings?

- (a) 433 (b) 444 (c) 417 (d) 467



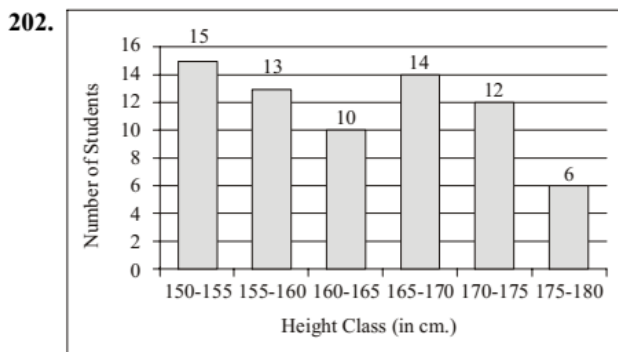
In the given pie-chart, how many persons are using train to reach their workplace? (SSC Sub. Ins. 2018)

- (a) 380 (b) 360  
(c) 320 (d) 400



In the given histogram, which class is the median class? (SSC Sub. Ins. 2018)

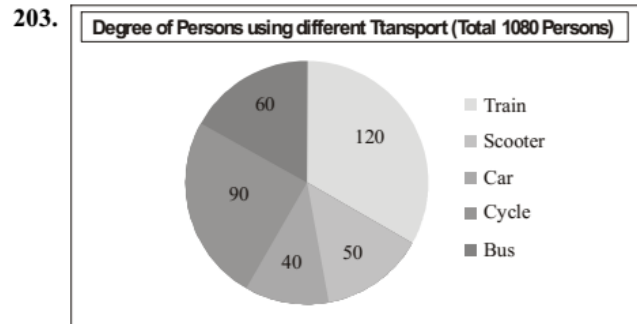
- (a) 165 - 175 (b) 150 - 155  
(c) 155 - 160 (d) 160 - 165



In the given histogram, the number of students whose height is in the class interval 175 - 180 is, what percent less than the

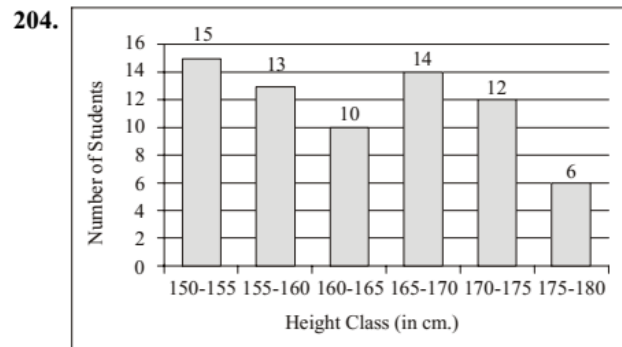
number of students whose height is in the class interval 160 - 165? (SSC Sub. Ins. 2018)

- (a)  $\frac{200}{3}\%$  (b) 60% (c) 40% (d)  $\frac{50}{3}\%$



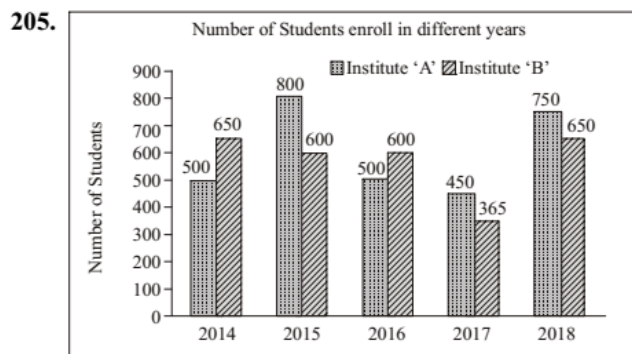
In the given pie-chart, the number of persons using a car is what percentage of persons using a scooter? (SSC Sub. Ins. 2018)

- (a) 75% (b) 50% (c) 80% (d) 60%



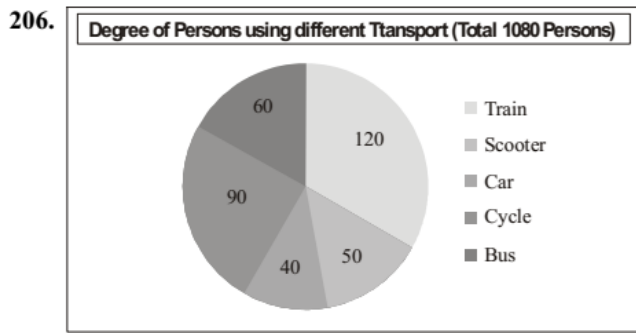
In the given histogram, what is the percentage of students whose height is in the class interval 165-170? (SSC Sub. Ins. 2018)

- (a) 18% (b) 20% (c) 25% (d) 15%



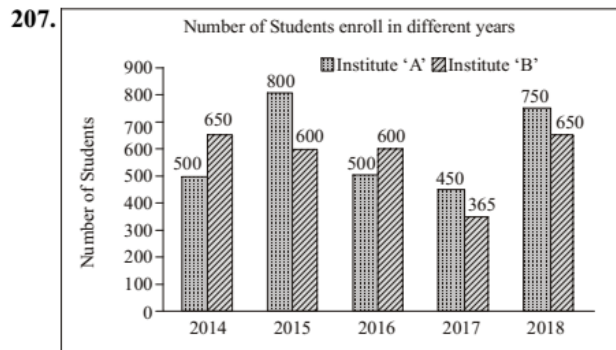
In the given bar graph, what is the ratio of students of A and B in the combine strength from 2016 to 2018? (SSC Sub. Ins. 2018)

- (a) 21 : 23 (b) 20 : 19  
(c) 23 : 21 (d) 19 : 20



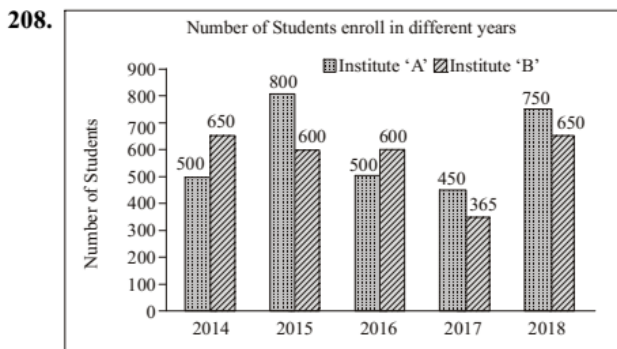
In the given pie-chart, what is the ratio of the total number of persons using train and car together to the total number of persons using other modes of transport to reach their workplace? (SSC Sub. Ins. 2018)

- (a) 5 : 6
- (b) 5 : 3
- (c) 4 : 5
- (d) 3 : 5



In the given bar graph, the percentage decrease in the number of students in Institute A in 2016 is what percent of students in 2015. (SSC Sub. Ins. 2018)

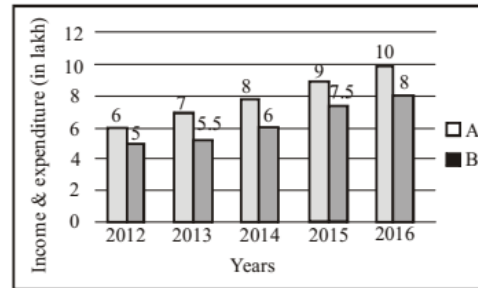
- (a) 37.5%
- (b) 40.5%
- (c) 35.5%
- (d) 39.5%



In the given bar graph, the number of students enrolled in institute B in the year 2016 is what percentage of students enrolled in institute A in 2016? (SSC Sub. Ins. 2018)

- (a) 120%
- (b)  $\frac{250}{3}\%$
- (c) 85%
- (d)  $\frac{325}{6}\%$

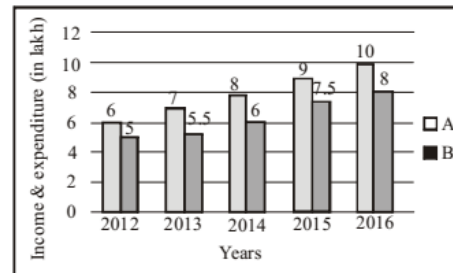
209. The given Bar Graph presents the data of annual income (A) and annual expenditure (B) of an IT officer in a multi-national company during the years 2012 to 2016.



For which pair of years, the ratio of savings to expenditure is equal? (SSC CHSL-2018)

- (a) 2012, 2013
- (b) 2013, 2014
- (c) 2014, 2015
- (d) 2012, 2015

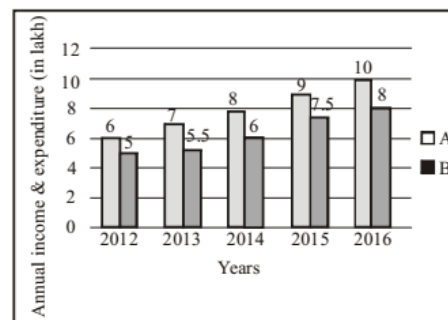
210. The given Bar Graph presents the data of annual income (A) and annual expenditure (B) of an IT officer in a multi-national company during the years 2012 to 2016.



What was his average monthly savings (in `) in 2015 and 2016, taken together (correct to two decimal places)? (SSC CHSL-2018)

- (a) 14,506.33
- (b) 14,967.67
- (c) 13,687.67
- (d) 14,583.33

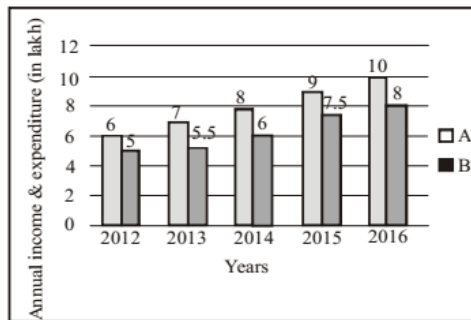
211. The given Bar Graph presents the data of annual income (A) and annual expenditure (B) of an IT officer in a multinational company during the years 2012 to 2016. (SSC CHSL-2018)



What is the percentage of his total savings with reference to his total income for the period 2012-15? (SSC CHSL-2018)

- (a) 30% (b) 27.5% (c) 25% (d) 20%

212. The given Bar Graph presents the data of annual income (A) and annual expenditure (B) of an IT officer in a multinational company during the years 2012 to 2016.



What is the ratio between the ratios of Savings to Expenditure, respectively for the periods 2012-13 and 2015-16?

(SSC CHSL-2018)

- (a) 146 : 135 (b) 155 : 147  
(c) 21 : 34 (d) 25 : 36

**DIRECTIONS (Qs. 213-216) :** The table below shows the number of students enrolled in five colleges over the five years (2010 to 2014).

Colleges Year	A	B	C	D	E
2010	400	270	350	430	470
2011	430	300	330	450	490
2012	370	250	360	470	410
2013	410	310	370	420	430
2014	420	290	340	480	480

(SSC CGL-2018)

213. In the year 2014, what percent of students were enrolled in college C (correct to one decimal place)?  
(a) 16.9% (b) 17.3%  
(c) 16.7% (d) 17.1%
214. What is the ratio of the total students enrolled in colleges A and B in the year 2012 to the total students enrolled in colleges D and E in the year 2013?  
(a) 62 : 85 (b) 62 : 88  
(c) 63 : 86 (d) 58 : 63
215. The number of students studying in college E in the year 2013 is approximately what percent of the number of students studying in colleges B, C and D taken together in the year 2013 (nearest to one decimal place)?  
(a) 38.2% (b) 38.6% (c) 39.1% (d) 39.4%
216. What is the average number of students studying in college D over the given years?  
(a) 450 (b) 420 (c) 430 (d) 440

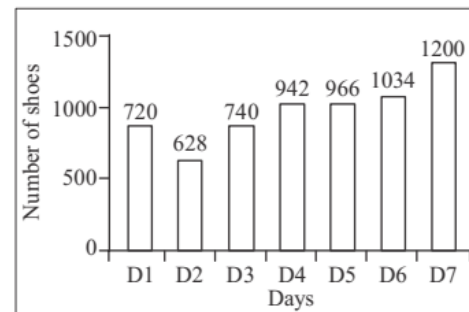
**DIRECTIONS (Qs. 217-220) :** In the following questions, select the related word pair from the given alternatives.

The Table shows the number of cars sold by three showrooms over a period of six years.

Show-room	Year					
	2011	2012	2013	2014	2015	2016
A	500	480	520	620	650	630
B	450	420	530	480	520	400
C	400	450	460	520	540	430

(SSC CGL-2018)

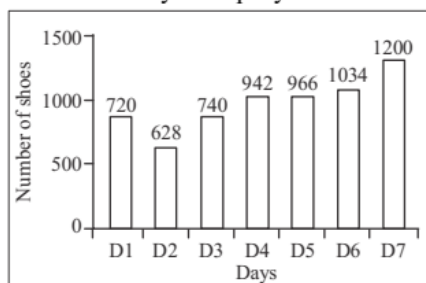
217. If the total number of cars sold by all three showrooms over the years is represented as a pie-chart, what is the central angle of the sector representing the total number of cars sold in the year 2013 (to the nearest whole number)?  
(a) 58° (b) 62°  
(c) 60° (d) 56°
218. What is the ratio of the total cars sold by showroom B during the years 2014 and 2016 and the total cars sold by showroom C during 2015 and 2016?  
(a) 86 : 97 (b) 88 : 97  
(c) 85 : 97 (d) 88 : 95
219. By what percent did the total number of cars sold by all three showrooms decrease during the year 2016, as compared to that in the year 2015 (nearest to one decimal place)?  
(a) 14.6% (b) 14.8%  
(c) 14.4% (d) 14.9%
220. What is the average number of cars sold by showroom A over the given six years (nearest to one decimal place)?  
(a) 586.7 (b) 566.7  
(c) 594.7 (d) 592.7
221. The Bar graph given below presents the number of shoes manufactured by a company on the different days of a week.



What is the total number of shoes manufactured by the company on all seven days together? (SSC MTS 2018)

- (a) 5930 (b) 6030  
(c) 6130 (d) 6230

222. The Bar graph given below presents the number of shoes manufactured by a company on the different days of a week.

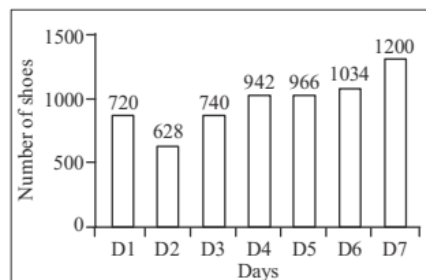


The number of shoes manufactured on D5 is how much more than the average number of shoes manufactured per day?

(SSC MTS 2018)

- (a) 72 (b) 64 (c) 76 (d) 68

223. The Bar graph given below presents the number of shoes manufactured by a company on the different days of a week.



The number of shoes manufactured on D1 is what percentage of shoes manufactured on D7?

(SSC MTS 2018)

- (a) 80.45 (b) 60 (c) 80 (d) 70.25

224. The given table shows the number (in thousands) of cars of five different models A, B, C, D and E produced during Years 2012-2017. Study the table and answer the question that follow.

	A	B	C	D	E	Total
2012	18	26	22	23	31	120
2013	22	18	32	40	18	130
2014	32	43	26	35	34	170
2015	18	22	26	14	20	100
2016	36	12	44	38	50	180
2017	12	48	40	22	28	150

In the year 2015, which type of car constitutes exactly 20% of the total number of cars produced that year?

(SSC CGL 2019-20)

- (a) E (b) A (c) D (d) B

225. The given table shows the number (in thousands) of cars of five different models A, B, C, D and E produced during Years 2012-2017. Study the table and answer the question that follow.

	A	B	C	D	E	Total
2012	18	26	22	23	31	120
2013	22	18	32	40	18	130
2014	32	43	26	35	34	170
2015	18	22	26	14	20	100
2016	36	12	44	38	50	180
2017	12	48	40	22	28	150

If 2013 and 2014 are put together, which type of cars constitute exactly 25% of the total number of car produced in those 2 years?

(SSC CGL 2019-20)

- (a) B (b) E (c) C (d) D

226. The given table shows the number (in thousands) of cars of five different models, A, B, C, D and E produced during Years 2012-2017. Study the table and answer the question that follow.

	A	B	C	D	E	Total
2012	18	26	22	23	31	120
2013	22	18	32	40	18	130
2014	32	43	26	35	34	170
2015	18	22	26	14	20	100
2016	36	12	44	38	50	180
2017	12	48	40	22	28	150

The percentage increase in the total cars in 2016 over 2012, is:

(SSC CGL 2019-20)

- (a) 33.33% (b) 45% (c) 50% (d) 62.33%

227. The given table shows the number (in thousands) of cars of five different models A, B, C, D and E produced during Years 2012-2017. Study the table and answer the question that follow.

	A	B	C	D	E	Total
2012	18	26	22	23	31	120
2013	22	18	32	40	18	130
2014	32	43	26	35	34	170
2015	18	22	26	14	20	100
2016	36	12	44	38	50	180
2017	12	48	40	22	28	150

The percentage decrease in the production of which type of car in 2017, with reference to 2016, was the maximum ?

(SSC CGL 2019-20)

- (a) C (b) E (c) A (d) D

228. The table given below presents the number of books on different subjects kept on separate shelves. Subjects with odd and even numbers are of Arts and Science respectively.

Subject	Number of books
S1	26
S2	29
S3	31
S4	34
S5	36
S6	38
S7	44

What is the ratio of the number of books of S1 and the average number of books per subject?

(SSC MTS 2019-20)

- (a) 13:17 (b) 18:13 (c) 14:17 (d) 14:13

229. The table given below presents the number books on different subjects kept on separate shelves. Subjects with odd and even numbers are of Arts and Science respectively.

Subject	Number of books
S1	26
S2	29
S3	31
S4	34
S5	36
S6	38
S7	44

The number books of S3 is what percent (correct to one decimal place) of the average number of Science books?

(SSC MTS 2019-20)

- (a) 92.1 (b) 91.2 (c) 93.1 (d) 90.7

230. The Table given below presents the number of books on different subjects kept on separate shelves. Subjects with odd and even numbers are of Arts and Science respectively.

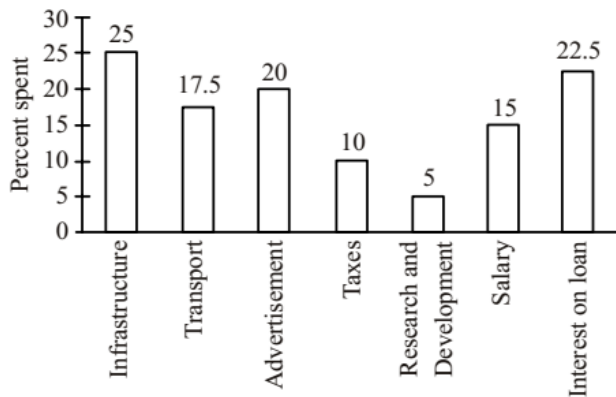
Subject	Number of books
S1	26
S2	29
S3	31
S4	34
S5	36
S6	38
S7	44

What is the ratio of the total number of books on Arts to that of Science?

(SSC MTS 2019-20)

- (a) 141:97 (b) 145:93 (c) 137:101 (d) 149:89

231. The given graph represents the percentage distribution of the total expenditure of a company. Study the graph and answer the question that follows.

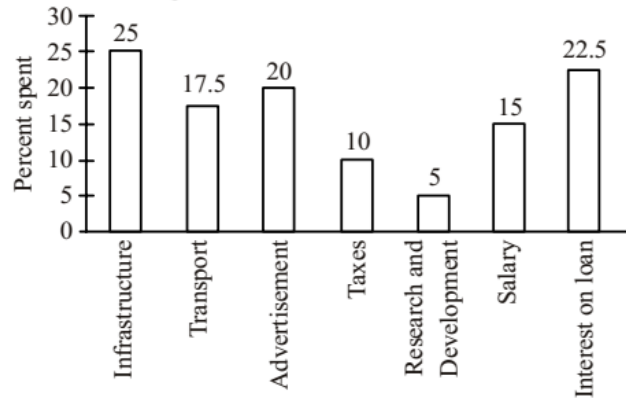


What is the ratio of the total expenditure on 'Infrastructure' and 'Transport' to the total expenditure on 'Taxes' and 'Interest on Loans'?

(SSC CHSL-2019-20)

- (a) 16:13 (b) 15:13 (c) 17:13 (d) 14:13

232. The given graph represents the percentage distribution of the total expenditure of a company. Study the graph and answer the question that follows.

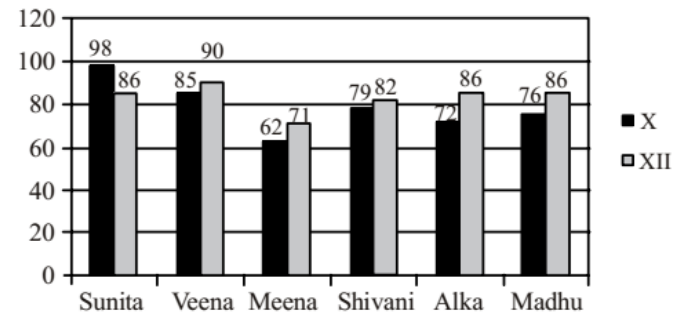


The expenditure on 'Interest on loans' is what percentage more than the expenditure on 'Transport'?

(SSC CHSL-2019-20)

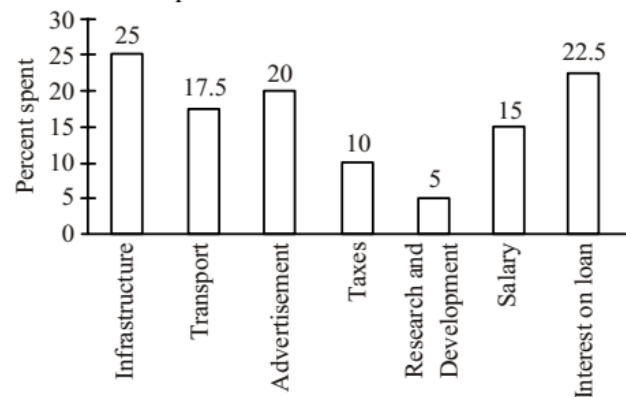
- (a) 5% (b) 2% (c) 4% (d) 3%

233. The following graph shows the performance in aggregate marks of 2 board examinations of a group of friends. On the basis of the graph, identify the girl who has shown the maximum improvement from class X to class XII.



- (a) Veena (b) Alka (c) Meena (d) Madhu

234. The given graph represents the percentage distribution of the total expenditure of a company. Study the graph and answer the question that follows.



The total expenditure of the company is how many times the total expenditure on 'Research and Development' and 'Salary'?

(SSC CHSL-2019-20)

- (a) 5.75 (b) 8.75 (c) 7.75 (d) 6.75

235. The following table shows day-wise number of seats occupied of different classes in a train. Numbers in bracket represent the total seats available in a particular class.

Day	Second Class Non-AC (900)	First Class Non-AC (500)	AC-III Tier (500)	AC-II Tier (250)	AC-Ist Class (150)
Monday	850	460	480	240	145
Tuesday	840	400	450	230	120
Wednesday	830	390	480	220	130
Thursday	790	480	490	250	125
Friday	840	470	500	210	130

How many seats remained vacant taking all the days together in non-AC classes? (SSC CGL 2020-21)

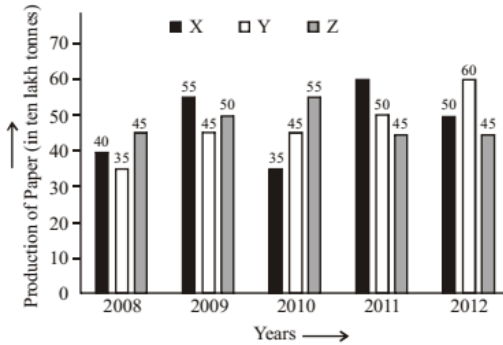
- (a) 650 (b) 715 (c) 600 (d) 585

236. Study the given bar graph and answer the question.

The bar graph given below represents the data of the Production of Paper (in ten lakh tonnes) by three different companies X, Y and Z during the years 2008 to 2012. The x-axis shows the Years and the y-axis represents the Production of Paper (in ten lakh tonnes).

(Note: The data shown below is only for mathematical exercise. They do not represent the actual figures.)

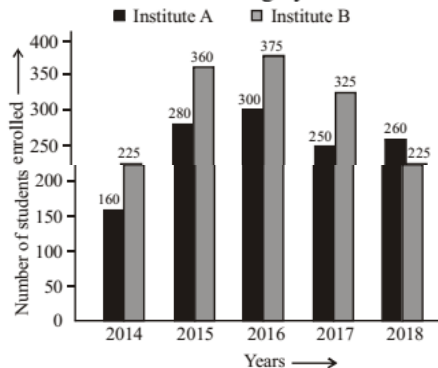
**Production of Paper (in ten lakh tonner) by Three Companies X, Y and Z during the Year 2008-2012**



What company/companies had the maximum average production for the given five years period? (SSC CGL 2020-21)

- (a) Y and Z both (b) X and Z both  
(c) Y (d) X

237. Bar graph shows the number of students enrolled for a vocational course in institutes A and B during 5 years from 2014 to 2018.



In which year the number of students enrolled in institute A six % less, where  $25 < x < 30$ , than the number of students enrolled in institute B in the same year? (SSC CGL 2020-21)

- (a) 2017 (b) 2016 (c) 2015 (d) 2014

238. The data given in the table shows the number of boys and girls enrolled in three different streams in a school over 5 years.

Years	Arts		Science		Commerce	
	Boys	Girls	Boys	Girls	Boys	Girls
2012	48	36	40	35	35	45
2014	42	43	42	32	32	42
2016	45	42	38	30	36	38
2018	39	46	41	23	28	34
2020	36	43	39	30	39	41

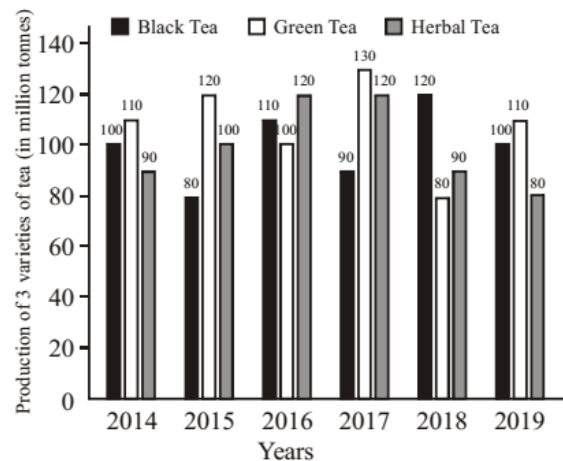
The number of boys in Science stream in the years 2012 and 2016 taken together is what percent of the number of girls for all the years in the Commerce stream? (SSC CGL 2020-21)

- (a) 32.5 (b) 39 (c) 35 (d) 45.5

239. Study the given graph and answer the question that follows.

A tea plantation company produces three varieties of tea—black tea, green tea and herbal tea. The production of three varieties (in million tonnes) over a period of six years from 2014 to 2019, has been shown in the bar graph here. The X-axis represents the years and the Y-axis displays the production of the three varieties in million tonnes.

**Production of Three Different Varieties Black, Green and Herbal Tea by a Tea Plantation Company over the years (in million tonnes)**



The average production of black tea in 2014, 2015 and 2018 is how much more or less (in million tonnes) than the average production of green tea in 2016, 2017 and 2019?

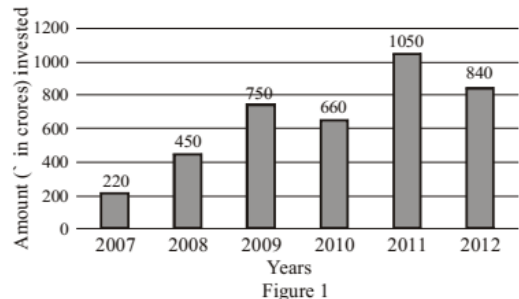
(SSC CHSL 2020-21)

- (a) Less, 12.33 (b) Less, 13.33  
(c) More, 12.33 (d) More, 13.33

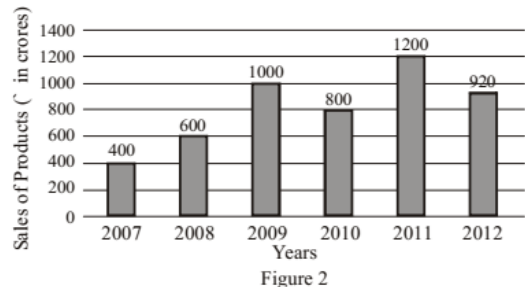
240. Study the given bar graphs and answer the question that follows.

The bar graphs represent the amount invested in raw materials (in ₹ crore) and the sale of the products, by a textile company in the years 2007-2012. The X-axis represent the years. The Y-axis represents the amount invested in raw materials (in ₹ crore) in figure 1 and sale of products in figure 2, respectively.

**Amount (₹ in crores) invested in raw material by a textile company from 2007 to 2012**



**Sales of Products (₹ in crores) of a textile company from 2007 to 2012**



In which year was there a maximum percentage increase in the sales of products as compared to the previous year?

(SSC CHSL 2020-21)

- (a) 2008 (b) 2010 (c) 2011 (d) 2009

241. The given pie charts represent the distribution of candidates who enrolled for a bank clerical examination and the candidates (out of those enrolled) who passed the examination, from five different institutes P, Q, R, S and T.

Study the pie chart and answer the question that follows.

- (i) Total number of candidates who enrolled for the examination from five institutes = 5500

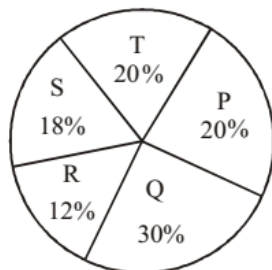


Fig. (i)

- (ii) Total number of candidates who passed the examination from five institutes = 3300

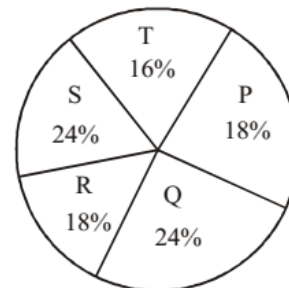


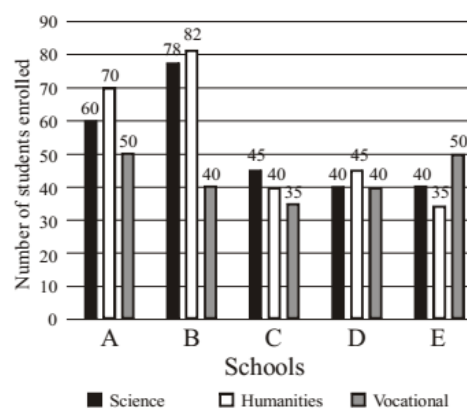
Fig. (ii)

Which institute(s) has/have the highest percentage of candidates passed to the candidates enrolled? (SSC CHSL 2020-21)

- (a) S (b) Q and T (c) P (d) R

242. The number of students enrolled in different streams at Senior Secondary level in five schools is shown in the given bar graph.

Number of students in different streams in a year

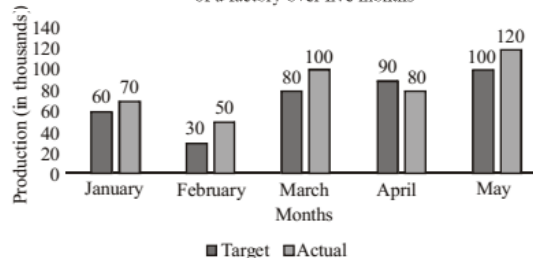


What is the total number of students enrolled in the Science stream in all the schools? (SSC CHSL 2020-21)

- (a) 267 (b) 268 (c) 263 (d) 257

**DIRECTIONS: (Qs. 243-245):** Study the following graph and answer the question that follows.

Target and Actual Production of AC's (in thousands) of a factory over five months



243. The actual production of ACs in March is what percentage more than the average target production of ACs over the period of 5 months (correct to the nearest integer)? (SSC Multi-Tasking 2020-21)

- (a) 40% (b) 39% (c) 38% (d) 41%

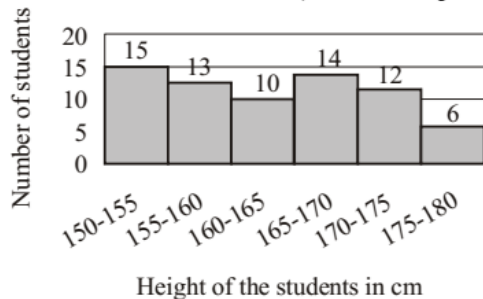
244. In which month is the actual production of ACs 20% more than the target production? (SSC Multi-Tasking 2020-21)

- (a) February (b) May (c) April (d) March

245. The ratio of the actual production of ACs in March and April to that combined target production of ACs in January and April, is: (SSC MTS 2020-21)

- (a) 5 : 6 (b) 2 : 5 (c) 5 : 2 (d) 6 : 5

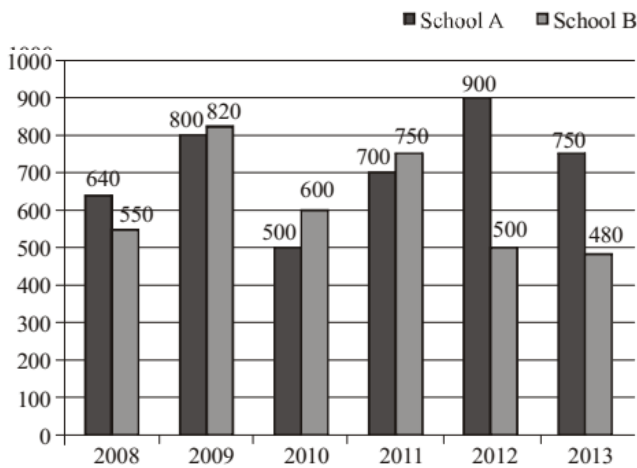
246. The given histogram shows the height of the students. (SSC Sub-Inspector 2020-21)



The number of students whose height is in the class interval 170-175 is what per cent less than the number of students whose height is in the interval 165-170? (correct to one decimal place)

- (a) 14.3% (b) 19.5% (c) 11.5% (d) 17.3%

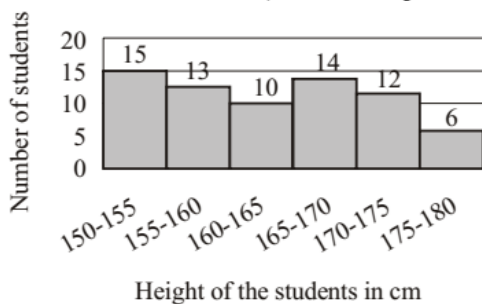
247. The given bar graph shows the number of students of two schools over a period of six years. (SSC Sub-Inspector 2020-21)



In the bar graph, what is the ratio of the average of the total students from school A to the average of the total students from school B?

- (a) 429 : 799 (b) 429 : 370  
(c) 799 : 429 (d) 370 : 429

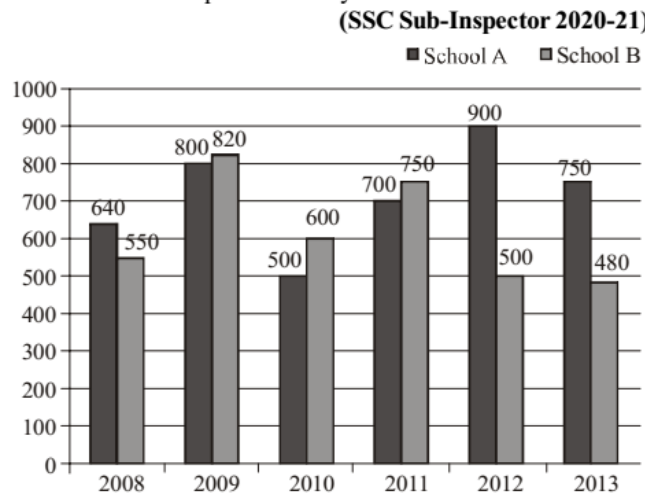
248. The given histogram show's the height of the students. (SSC Sub-Inspector 2020-21)



The difference between the number of students whose height is between 150-155 cm and the number of students whose height lies between 175-180 cm is:

- (a) 8 (b) 9 (c) 3 (d) 7

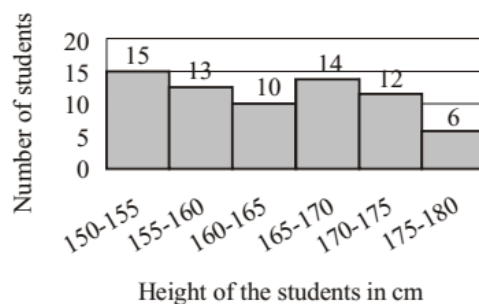
249. The given bar graph shows the number of students of two schools over a period of six years. (SSC Sub-Inspector 2020-21)



In the bar graph, what is the ratio of the students taken for the years 2009, 2011, 2013 together from school A to the students taken for the years 2008, 2012, 2013 together from school B?

- (a) 17 : 25 (b) 18 : 25 (c) 25 : 17 (d) 25 : 18

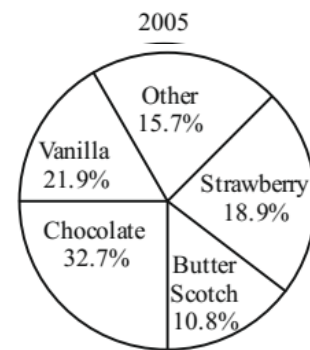
250. The given histogram shows the height of the students. (SSC Sub-Inspector 2020-21)



What is the percentage of students whose height is in the class interval 160-170 ? (correct to the nearest integer)

- (a) 51 (b) 34 (c) 25 (d) 39

251. The given pie chart represents the popularity of ice-cream flavours in the year 2005. (SSC Sub-Inspector 2020-21)



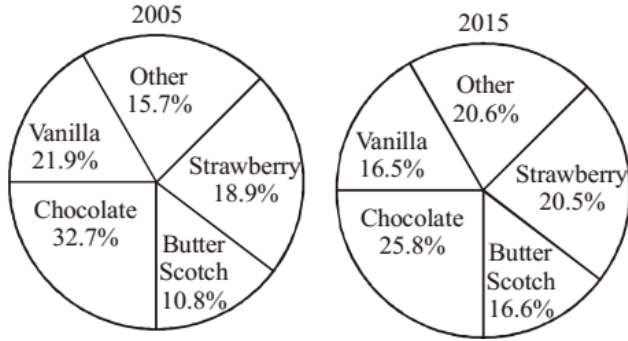


In 2005, if 10% of the 'other' category is mix fruit flavour and 1570 people surveyed preferred mix fruit flavour, then how many people were surveyed?

(a) 1,75,000 (b) 4,00,000 (c) 1,50,000 (d) 1,00,000

252. The given pie charts represent the popularity of ice-cream flavours in the years 2005 and 2015.

(SSC Sub-Inspector 2020-21)

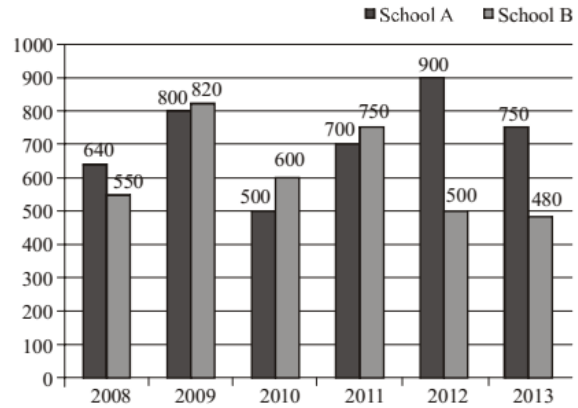


If a percentage point shift results in annual additional sales of ₹ 10,000, how much (in ₹), did the combined annual strawberry and butterscotch sales increase from 2005 to 2015?

(a) ₹ 74,000 (b) ₹ 37,000  
(c) ₹ 65,000 (d) ₹ 10,000

253. The given bar graph shows the number of students of two schools over a period of six years.

(SSC Sub-Inspector 2020-21)

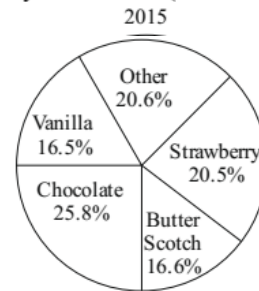


In the bar graph, in which year is the sum of the students of schools A and B taken together, the minimum?

(a) 2010 (b) 2013 (c) 2011 (d) 2012

254. The given pie chart represents the popularity of ice-cream flavours in the year 2015.

(SSC Sub-Inspector 2020-21)



In 2015, if the total sale of vanilla flavour is for ₹ 3,500, then the total sale (in ₹) for chocolate flavour is:

(a) ₹ 3,320 (b) ₹ 4,120 (c) ₹ 4,100 (d) ₹ 5,160

## HINTS & EXPLANATIONS

1. (c) yasin got the minimum votes.

$$\therefore 360^\circ \equiv 720$$

$$\therefore 60^\circ \equiv \frac{720}{360} \times 60 = 120$$

2. (a) Sivaraman got the maximum votes. i.e.

$$\frac{720}{360} \times 120 = 240 \text{ votes}$$

He was the winner.

3. (a) Angles of the difference of votes of the winner and the nearest rival =  $120 - 100 = 20^\circ$

$$\therefore 360^\circ \equiv 720$$

$$\therefore 20^\circ \equiv \frac{720}{360} \times 20 = 40$$

4. (a)  $\therefore 45^\circ \equiv \text{₹ } 9000$

$$\therefore 55^\circ \equiv \frac{9000}{45^\circ} \times 55^\circ = \text{₹ } 11000$$

5. (c)  $\therefore 45^\circ \equiv \text{₹ } 9000$

$$\therefore 160^\circ \equiv \frac{9000}{45^\circ} \times 160^\circ = \text{₹ } 32000$$

6. (d)  $\therefore 45^\circ \equiv \text{₹ } 9000$

$$\therefore 360^\circ \equiv \frac{9000}{45} \times 360^\circ = \text{₹ } 72000$$

7. (c) Required ratio = 3 : 2

8. (b) Required difference

$$= \left( \frac{3000 + 600 + 2400 + 1200 + 3300}{5} \right) - \left( \frac{1500 + 1800 + 900 + 2700 + 1500}{5} \right)$$

$$= 2100 - 1680 = 420 \text{ tonnes}$$

9. (a) Required value =  $\frac{2700}{1500} = 1.8$

- 10 (c) Required percentage =  $\frac{600}{2400} \times 100 = 25\%$

11. (d) Required answer =  $\frac{6}{15} = 0.4$
12. (c) It is obvious from the graph.
13. (a) Total cotton production in state  
 $C = (6 + 11 + 15) \text{ lac} \times 100 \text{ kg} = 320000000 \text{ kg}$
14. (c) Only one state is production of cotton in (2005 – 2006) is less than the previous year.
15. (c) In 1981, no. of service workers  
 $= 15\% \text{ of } 150 = 22.5 \text{ million}$
16. (b) In 1981, no. of categories more than 25 million workers i.e. more than 16% of 150.  
 More than 16% is  $\rightarrow$  Professional, clerical, Blue collar i.e. 3.
17. (c) Ratio of workers to professional in 1981 to 1995  
 Professional in 1981  $\rightarrow 18\%$   
 $\Rightarrow 18\% \text{ of } 150 = 27$   
 Professional in 1995  $\rightarrow 24\%$   
 $\Rightarrow 24\% \text{ of } 175 = 42$   
 $\text{Ratio} = \frac{27}{42} = \frac{9}{14} \Rightarrow 9 : 14$
18. (b) Clerical % in country X in 1981 = 20% of 150 = 30  
 Clerical % in country X in 1995 = 18% of 175 = 31.5  
 So, increase = 1.5 million
19. (d) % of Blue collar workers in 1981 = 28% of 150 = 42  
 % of Blue collar workers in 1995  
 $= 20\% \text{ of } 175 = 35$   
 $\% \text{ decrease} = \frac{42 - 35}{42} \times 100 = 16\frac{2}{3}\%$
20. (c) No. of people who prefer flute = 11% of 60,000  
 $= \frac{11}{100} \times 60000 = 6600$   
 2100 people be less from the people who prefer flute.  
 Therefore,  $6600 - 2100 = 4500$   
 $\text{Required percentage} = \frac{4500}{60000} \times 100 = 7.5\%$
21. (a) Total number of people who prefer either Sarod or Guitar  
 $= 14\% \text{ of } 60000 + 22\% \text{ of } 60000$   
 $\Rightarrow 8400 + 13200 = 21600$   
 Total number of people of who prefer violin or Sitar  
 $= 20\% \text{ of } 60000 + 14\% \text{ of } 60000$   
 $\Rightarrow 12000 + 8400 = 20400$   
 Required difference =  $21600 - 20400 = 1200$
22. (b) Required number =  $14\% \text{ of } 60000 = \frac{14}{100} \times 60000 = 8400$
23. (d) No. of people who prefer piano = 9% of 60000 = 5400  
 According to question,  $16\frac{2}{3}\%$  no. of the people who prefer piano would go with flute.  
 Therefore,  $\frac{50}{3}\%$  of 5400 = 900  
 Hence, the required percentage  
 $= \frac{900 + 11\% \text{ of } 60000}{60000} \times 100$   
 $= \frac{900 + 6600}{60000} \times 100 = 12.5\%$
24. (a) No. of people who prefer guitar = 22% of 60000 = 13200  
 No. of people who prefer Flute or Piano = (11 + 9)% of 60000 = 12000  
 Required difference =  $13200 - 12000 = 1200$ .
25. (d)  $\frac{\theta}{360^\circ} \times 100 = 16$   
 $\theta = \frac{16}{100} \times 360 = \frac{576}{10} = 57.6^\circ$
26. (d) Required difference (in % value)  
 $= \frac{18 - 15}{18} \times 100 = \frac{3}{18} \times 100 = 16\frac{2}{3}\%$
27. (b) Given,  
 Miscellaneous expenditure = ` 1848  
 $\Rightarrow 4\% \text{ of the total expenditure cost for publishing 5500 copies} = ` 1848$   
 $\Rightarrow \text{Total expenditure cost of 5500 copies (i.e. 100\%)} = \frac{1848 \times 100}{4} = ` 46200$   
 $\Rightarrow \text{Expenditure cost per copy} = \frac{46200}{5500} = ` 8.40$   
 So, marked price of each copy = ` 8.40 + 25% of 8.40  
 $= ` 10.50$
28. (c) Cost of printing i.e., 35% = 17500  
 So, Royalty i.e., 15% =  $\frac{17500}{35} \times 15 = 7500$
29. (a) Miscellaneous charges i.e. 4% = 6000  
 So, Advertisement charges i.e., 18%  
 $= \frac{6000}{4} \times 18 = 27000$
30. (a) Required percentage increase  
 $= \frac{40 - 30}{30} \times 100 = \frac{100}{3}$   
 $= 33\frac{1}{3}\%$
31. (a) Income of company in 2002 = ` 40 lakhs  
 Expenditure of company in 2003 = ` 40 lakhs
32. (b) Profit of company in 2004 = ` 25 lakhs
33. (c) Required difference =  $20 - 10 = ` 10 \text{ lakhs}$
34. (a) Average income of company  
 $= \frac{30 + 50 + 40 + 60 + 60}{5}$   
 $= \frac{240}{5} = ` 48 \text{ lakhs}$   
 The incomes of company in years 2001, 2003 and 2004 were greater than ` 48 lakhs.
35. (c) Required ratio = 2 : 5
36. (a) It is obvious from the bar diagram.

37. (a) Required average =  $\frac{121}{4} = 30.25$  lakhs
38. (d) Required range =  $16 - 3 = 13$  lakhs
39. (b) Required percentage =  $\frac{46}{121} \times 100 = 38$
40. (c)  $\therefore 72 \text{ lakhs} \equiv 360^\circ$   
 $\therefore 12 \text{ lakhs} \equiv \frac{360}{72} \times 12$   
 $60^\circ = S_5$
41. (a) Population of region  $S_1$   
 $= \frac{45}{360} \times 72 = 9$  lakhs  
 Males =  $\frac{3}{5} \times 9 = 5.4$  lakhs  
 Population of region  $S_4$   
 $= \frac{105}{360} \times 72 = 21$  lakhs  
 Males =  $\frac{2}{5} \times 21 = 8.4$  lakhs  
 Sum =  $5.4 + 8.4 = 13.8$  lakhs
42. (c) Population of region  $S_2$   
 $= \frac{135}{360} \times 72 = 27$  lakhs  
 Females =  $\frac{1}{5} \times 27 = 5.4$  lakhs  
 Population of region  $S_5 = \frac{60}{360} \times 72 = 12$  lakhs  
 Females =  $\frac{7}{20} \times 12 = 4.2$  lakhs  
 Required ratio =  $5.4 : 4.2 = 9 : 7$
43. (a) Population in 2009  
 Region  $S_1 = 72 \times \frac{45}{360} \times \frac{100}{105} = \frac{60}{7}$  lakhs  
 Region  $S_3 = \frac{100}{108} \times \frac{15}{360} \times 72 = \frac{25}{9}$  lakhs  
 $\therefore$  Required ratio =  $\frac{60}{7} : \frac{25}{9} = \frac{12}{7} : \frac{5}{9} = 108 : 35$
44. (c) Number of females :  
 According to above explanation,  
 Region  $S_1 \Rightarrow 9 - 5.4 = 3.6$  lakhs  
 Region  $S_2 \Rightarrow 5.4$  lakhs  
 Region  $S_3 \Rightarrow 3 \times \frac{3}{10} = 0.9$  lakhs  
 Region  $S_4 \Rightarrow 21 - 8.4 = 12.6$  lakhs  
 Region  $S_5 \Rightarrow 4.2$  lakhs  
 Average =  $\frac{(3.6 + 5.4 + 0.9 + 12.6 + 4.2)}{5} = 5.34$  lakhs
45. (d) According to graph, the expenditure in the year 1993 was 30% more than the expenditure in the year 1991, the income in the year 1993 exceeds the income in the year 1991 by 30% of the expenditure in the year 1991.
46. (a) Required value =  $\frac{60}{360} \times 100 = 16\frac{2}{3}\%$
47. (c) Question is wrong.
48. (b) Average profits earned in all the given years  
 $= \frac{42 + 24 + 42 + 60 + 54 + 72 + 66}{7} = \frac{360}{7} = 51.4$   
 This is approximately equal to the profit earned in the year 1995.
49. (c) Question is wrong.
50. (c) According to graph,  
 Difference between the maximum and minimum temperature was maximum on Saturday.
51. (b) Students having both science and commerce  
 $= (29 + 31)\% \text{ of } 200 = \frac{60}{100} \times 200 = 120$   
 Students who have taken neither science nor commerce  
 $= \text{Total students} - \text{Students having both science and commerce}$   
 $= 200 - 120 = 80$
52. (c) Percent increase =  $\frac{380 - 320}{320} \times 100 = 18.75$
53. (b) Total production:  
 Wheat  $\Rightarrow 3700$  million tonnes  
 Rice  $\Rightarrow 2000$  million tonnes  
 Barley  $\Rightarrow 1800$  million tonnes  
 Other cereals  $\Rightarrow 2400$  million tonnes  
 Required answer =  $\frac{3700}{9900} \times 100 = 37.37 \approx 37.4$
54. (a) Percentage increase:  
 Rice =  $\frac{160}{400} \times 100 = 40$   
 Cereals =  $\frac{190}{500} \times 100 = 38$   
 Barley =  $\frac{30}{380} \times 100 = 7.8$   
 Wheat =  $\frac{100}{720} \times 100 = 13.88$   
 So, answer (a) is correct.
55. (d) Required difference  
 $= \frac{2000}{5} - \frac{1800}{5} = 400 - 360 = 40$  million tonnes
56. (a) Percentage decrease  
 $= \frac{60 - 40}{60} \times 100 = \frac{100}{3} = 33\frac{1}{3}\%$
57. (a) Average annual production:  
 Flavour X  $\Rightarrow \frac{1}{6} \times 300 = 50$  lakh bottles  
 Flavour Y  $\Rightarrow \frac{1}{6} \times 325 = 54\frac{1}{6}$  lakh bottles  
 Flavour Z  $\Rightarrow \frac{1}{6} \times 300 = 50$  lakh bottles
58. (c) Total production of flavour X in 2005 and 2006 = 90  
 Total production of flower Z in 2007 and 2008 = 120.  
 Required percentage  
 $= \frac{120}{90} \times 100 = 133.3$

59. (a) Percentage increase/decrease:  
 Year 2007  $\Rightarrow \frac{60-50}{60} \times 100 = 16\%$  decrease  
 Year 2008  $\Rightarrow \frac{55-50}{50} \times 100 = 10\%$  increase  
 Year 2009  $\Rightarrow \frac{55-50}{55} \times 100 = 9\%$  decrease
60. (d) Required difference  
 $= \frac{1}{3}[(55+50+55) - (50+40+55)]$   
 $= \frac{1}{3}(160-145) = \frac{15}{3} = 5$  lakh bottles
61. (d)  $\therefore 100^\circ \equiv 1000$   
 $\therefore 360^\circ \equiv \frac{1000}{100} \times 360 = 3600$
62. (a) Required ratio  
 $= 100 : 120 = 5 : 6$
63. (b) Difference between the angles of students of commerce and science  
 $\therefore 100^\circ = 1000$   
 $\therefore 1^\circ = 10$   
 Difference between commerce and law  $= (65^\circ - 45^\circ) = 20^\circ$   
 $\therefore 20^\circ = \frac{2000}{10} = 200$
64. (a) Required average  
 $= \frac{1}{3} \times 24000 \times (47 + 4 + 18)\%$   
 $= \frac{1}{3} \times \frac{24000 \times 69}{100} = \text{`} 5520$
65. (d) Expenditure on grocery  
 $= \frac{25000 \times 14}{100} = \text{`} 3500$   
 Expenditure on electricity  $= \frac{25000 \times 9}{100} = \text{`} 2250$
66. (b) Required ratio  
 $= \frac{24000 \times 18}{100} : \frac{25000 \times 2}{100}$   
 $= 24 \times 18 : 25 \times 2 = 216 : 25$
67. (a) Expenditure on education in April  
 $= 24000 \times \frac{47}{100} = \text{`} 11280$   
 Expenditure on education in May  
 $= \frac{25000 \times 50}{100} = \text{`} 12500$   
 Percentage increase  
 $= \frac{12500 - 11280}{11280} \times 100 = 10.82\%$
68. (d) Required ratio  $= 100 : 40 = 5 : 2$
69. (a) Required number of students  
 $= 4 + 6 + 10 + 8 + 5 = 33$
70. (b) The maximum number of students got the mark in the interval  
 $\Rightarrow (20 - 30) = 10$
71. (d) The minimum number of students got the mark in the interval  
 $\Rightarrow (0 - 10) = 4$
72. (c) Required ratio  $= 4 : 5$
73. (\*) The question is incomplete.
74. (d) Expenditure on agriculture  
 $= \frac{72}{360} \times 1000$   
 $= \text{`} 200$  crore
75. (b) Total students in 2001 - 2002  $= 1350$   
 $\therefore$  Required percentage  
 $= \frac{400}{1350} \times 100 = 29.6$
76. (a) Total students in 2003 - 04  $= 1600$   
 $\therefore$  Required percentage  
 $= \frac{250}{1600} \times 100 = 15.6\%$
77. (d) Required percentage increase  
 $= \frac{600 - 400}{400} \times 100 = 50\%$
78. (c)  $\frac{135}{x} = \frac{810}{360}$   
 $x = \frac{135 \times 360}{810}$   
 $\Rightarrow 60^\circ$  which is in English
79. (b) English + Physics + Social Science  $= 200^\circ$   
 Maths + Chemistry  $= 160^\circ$   
 Required percentage  
 $= \frac{40}{160} \times 100 = 25\%$
80. (c) Difference of corresponding angles :  
 Physics and Chemistry  $= 85 - 70 = 15^\circ$   
 Chemistry and Social science  $= 70 - 55 = 15^\circ$   
 So, required answer is (c)
81. (b) Sum of corresponding angles of Maths and Chemistry  
 $= 90 + 70 = 160^\circ$   
 Sum of corresponding angles of Physics and Social Science  
 $= 85 + 55 = 140^\circ$   
 Difference  $= 20^\circ$   
 $\therefore 360^\circ \equiv 810$   
 $\therefore 20^\circ \equiv \frac{810}{360} \times 20 = 45$
82. (a) Central angle of the sector for cost of the paper  
 $= \frac{\text{Cost of paper \%}}{100} \times 360^\circ = \frac{16}{100} \times 360^\circ = 57.6^\circ$
83. (d) If the cost of paper  $= \text{`} x$ , then from the given pie-chart  
 $\frac{\text{Cost of paper}}{\text{Miscellaneous charges}} = \frac{16\%}{4\%}$   
 $\Rightarrow \frac{x}{6000} = \frac{16}{4} \Rightarrow x = \frac{16 \times 6000}{4} = \text{`} 24000$

84. (a) Given,  
Miscellaneous expenditure = 1848  
 $\Rightarrow$  4% of the total expenditure cost for publishing 5500 copies = 1848  
 $\Rightarrow$  Total expenditure cost of 5500 copies (i.e. 100%)  
 $\Rightarrow \frac{1848 \times 100}{4} = 46200$   
 $\therefore$  Expenditure cost per copy =  $\frac{46200}{5500} = 8.40$   
 $\therefore$  So, marked price of each copy =  $8.40 + 25\%$  of 8.40  
 $= 8.40 + 2.10 = 10.50$
85. (c) By observing the graph, we can say that yr. 2009 has maximum percentage of students passed in the year.
86. (d) By observing the graph, we can say that difference of pass percentage between male and female is maximum in 2007.
87. (a) By observing the graph, we can say that maximum number of students received pocket money between (50–80)
88. (c) Required answer =  $20 + 12 + 16 = 48$
89. (d) Total students in 2008 = 170  
 Students passed in 1st division = 20  
 $\therefore$  Required percentage  
 $= \frac{20}{170} \times 100 = \frac{200}{17} = 11\frac{13}{17}\%$
90. (d) Total students in 2008 = 170  
 Students fail in 2008 = 30  
 $\therefore$  Total students pass in 2008 =  $170 - 30 = 140$   
 $\therefore$  Required percentage =  $\frac{140}{170} \times 100 = \frac{1400}{17} = 82\frac{6}{17}\%$
91. (c) By observing the graph, we can say that percentage of the best result in 2010.
92. (b) Total number of students passed in third division in the year 2008 = 60
93. (a) Total students passed in 2nd division in 2010 = 60  
 total students in 2010 = 200  
 $\therefore$  Required percentage =  $\frac{60}{200} \times 100 = 30\%$
94. (a) The cost of labour =  $96000 \times \frac{115.2}{360} = 30720$ .
95. (d) Difference of cost of material and direct expenses  
 $= \frac{(144 - 43.2)}{360} \times 96000$   
 $= \frac{100.8}{360} \times 96000 = 26880$ .
96. (d) Marks in Hindi = 70  
 Marks in English = 40  
 $\therefore$  Average marks =  $\frac{\text{Marks in Hindi} + \text{Marks in English}}{2}$   
 Average marks =  $\frac{70 + 40}{2} = 55$
97. (a) Marks in Maths = 80  
 Marks in History = 60  
 $\therefore$  Ratio =  $80 : 60 = 4 : 3$
98. (c) Royalty of book = 15%  
 Printing of book = 20%  
 $\therefore$  Royalty of book is less than printing cost by 5%
99. (d)  $C.P + \frac{20}{100} \times C.P = 180$   
 $\frac{6}{5} C.P = 180$   
 $C.P = 150$   
 Paper cost = 15% of C.P  
 $\frac{15}{100} \times 150 = 22.50$
100. (d) Angle for saving =  $360^\circ - (72^\circ + 72^\circ + 72^\circ + 108^\circ)$   
 $= 360^\circ - 324^\circ = 36^\circ$   
 $\therefore$  Savings =  $\frac{36}{360} \times 60,000 = ₹ 6,000$
101. (a) According to graph, only option (a) is correct.
102. (c) Expenditure for education =  $\frac{9000}{30} \times 18 = ₹ 5,400$
103. (b) Central angle of the sector for the expenditure on fuel =  
 $\frac{360}{100} \times 15 = 54^\circ$
104. (c) Expenditure excluding rent and education  
 $= \frac{3000}{15} \times (100 - 20 - 18)$   
 $= 200 \times 62 = ₹ 12400$
105. (c)  $30 = x\%$  of  $(12 + 18 + 15)$   
 $30 = \frac{x}{100} \times 45$   
 $x = \frac{200}{3} = 66\frac{2}{3}$
106. (b) Required difference =  $(20 + 12 + 15) - 30$   
 $= 47 - 30$   
 $= 17\%$
107. (b) Required ratio =  $(100 + 160) : (180 + 60)$   
 $= 260 : 240 = 13 : 12$
108. (c) Required % =  $\frac{100}{(100 + 160 + 240 + 40)} \times 100$   
 $= \frac{100}{540} \times 100 \approx 18.52\%$
109. (d) Required % =  $\frac{120}{(180 + 60 + 120 + 20)} \times 100 = 31.58\%$
110. (b) Total students using Samsung =  $100 + 180 = 280$   
 Total students using Sony =  $160 + 60 = 220$   
 Difference =  $280 - 220 = 60$
111. (a) Sale of branch B5 in 2000 = 75  
 Sale of branch B6 in 2000 = 70  
 Average sale =  $\frac{75 + 70}{2} = 72.5$   
 and  
 Sale of branch B5 in 2001 = 95  
 Sale of branch B6 in 2001 = 80  
 Average sale =  $\frac{95 + 80}{2} = 87.5$   
 Hence,  
 Difference =  $87.5 - 72.5 = 15$

- 112. (d)** Total sales of branches B1, B3 and B5.  
 $= (80 + 105 + 95 + 110 + 75 + 95) = 560$  thousand
- 113. (d)** Required ratio  $= \frac{75 + 65}{85 + 95} = \frac{140}{180} = \frac{7}{9}$
- 114. (a)** Average sale of B1, B2 and B3 in 2001.  
 $= \frac{105 + 65 + 110}{3} = \frac{280}{3}$   
 Average sale of B1, B3 and B6 in 2000.  
 $= \frac{80 + 95 + 70}{3} = \frac{245}{3}$   
 Required %  $= \frac{\frac{245}{3}}{\frac{280}{3}} \times 100 = 87.5\%$
- 115. (a)** Sales of books B3 in 2001 = 110 thousand  
 Sales of books B2 in 2001 = 65 thousand  
 $\% \text{ increase} = \frac{110 - 65}{65} \times 100 = 69.2$
- 116. (b)** By observing the graph, we can say that number of patient of age between 55 years to 60 years who got admitted to the hospital on that day is 4.
- 117. (d)** More than 55 years  $= 4 + 3 + 2 + 1 = 10$
- 118. (a)** Number of patients of age more than 40 years and less than 55 years  $= 8 + 7 + 5 = 20$
- 119. (c)** Total patients = 35  
 Required %  $= \frac{1 + 4 + 8}{35} \times 100 \approx 37\%$
- 120. (a)**  $11\% \text{ of } 35 = \frac{11}{100} \times 35 \approx 3.8 \approx 4$   
 So, either between 35 years and 40 years or between 55 years and 60 years.
- 121. (b)** Number of students scoring less than 50%  
 $= (240 + 220 + 300 + 280 + 210) = 1250$   
 Number of student scoring exact 50%  
 $= (30 + 20 + 0 + 35 + 15) = 100$   
 Ratio  $= 1250 : 100 = 25 : 2$
- 122. (a)**
- 123. (c)** Number of students scoring 50% or more marks  
 $= (600 - 240) + (400 - 220) + (375 - 300) + (350 - 280) + (300 - 210)$   
 $= 360 + 180 + 75 + 70 + 90 = 775$
- 124. (b)** Profit during 2006  $= (60 - 35) = 25$   
 Profit during 2007  $= (50 - 40) = 10$   
 Difference  $= 25 - 10 = 15$
- 125. (c)** Average Income  $= \frac{40 + 60 + 50 + 65 + 70}{5} = \frac{285}{5} = 57$   
 Income during 2005 and 2007 is less than average
- 126. (b)** Required %  $= \frac{50 - 40}{40} \times 100 = 25\%$
- 127. (c)** It is clear from the graph.
- 128. (\*)** % increase in quantity from 1997 to 1998  
 $= \frac{150 - 130}{130} \times 100 = \frac{200}{13} = 15.4\% \text{ (app.)}$   
 None of the options are correct.  
 Correct answer is 15.4%.
- 129. (\*)** % age fall in value from 2000 to 2001  
 $= \frac{500 - 120}{500} \times 100 = \frac{380}{500} \times 100 = 76\%$   
 None of the options are correct  
 Correct answer is 76%
- 130. (b)** Difference between the bags exported in 1999 and 2000  
 $= 200 - 100 = 100$  lakh = 100,00,000
- 131. (c)** It is clear from bar graph  
 Value per bag is minimum in 1996.
- 132. (d)** Ratio of amount spend on food and clothes  
 $= 150 : 30$   
 $= 5 : 1$
- 133. (b)** % money spent on food compared to house rent  
 $= \frac{150}{120} \times 100 = 125\%$
- 134. (a)** Money spent on clothes and miscellaneous items cannot be determined as total money is not given.
- 135. (a)** Amount spent on food  $= \frac{150}{360} \times 7200 = 3000$
- 136. (d)** Average production of the given years  
 $= \frac{25 + 40 + 60 + 45 + 65 + 50 + 75 + 80}{8}$   
 $= \frac{440}{8} = 55$   
 So, during 1997, 1999, 2001 and 2002 production was more than average production.
- 137. (c)** % increase in production in 2002 compared to that of 1995  
 $1995 = \frac{(80 - 25)}{25} \times 100 = \frac{55}{25} \times 100 = 220\%$
- 138. (b)** % age decline in production from 1997 to 1998 is  
 $\frac{60 - 45}{60} \times 100 = \frac{15}{60} \times 100 = 25\%$
- 139. (c)** Average production of 1996 and 1997  $= \frac{40 + 60}{2} = 50$   
 Average production of years 1995 and 2001  
 $= \frac{25 + 75}{2} = 50$   
 So average production of 1996 and 1997 is equal to average production of 1995 and 2001.
- 140. (b)** Percentage increase in production as compared to previous year is maximum in 1996  $= \frac{40 - 25}{25} \times 100 = 60\%$
- 141. (c)** Production of electronic items is highest in 2011  
 i.e.  $13,000 + 9,000 = 22,000$
- 142. (a)** Production of LCD in 2011 = 9,000  
 Production of LCD in 2013 = 12,000  
 Ratio  $= \frac{9,000}{12,000} = \frac{3}{4}$
- 143. (d)** Total production of TV from 2009 to 2012 = 39,000  
 Average production of TV = 9750  
 Total production of LCD = 35400  
 Average production of LCD = 8850  
 Their difference  $= 9,750 - 8,850 = 900$

144. (c) Ratio of production of TV =  $\frac{6,000}{9,000} = 2 : 3$
145. (a) Monthly savings =  $\frac{60}{360} \times 36000 = \text{` } 6000$   
Yearly savings =  $6000 \times 12 = \text{` } 72000$
146. (b) Let total expenditure be  $\text{` } x$   
 $\frac{x \times (70^\circ - 54^\circ)}{360} = 1600$   
 $\Rightarrow \frac{x \times 16}{360} = 1600$   
 $x = \text{` } 36000$   
 $\therefore$  Expenditure on food =  $\frac{120^\circ}{360} \times 36000$   
 $= \text{` } 12000$
147. (a) Ratio of Expenditure =  $\frac{120}{60} = \frac{2}{1} = 2 : 1$
148. (d) History and Chemistry =  $15\% + 15\% = 30\%$   
Time Spent =  $4\frac{1}{2}$  hr =  $\frac{9}{2}$  hours  
Physics =  $20\%$ , hours-spent in physics =  $x$   
 $\frac{30}{\frac{9}{2}} = \frac{20}{x}$   
 $x = \frac{20}{60} \times 9 = 3$  hr
149. (b)  $\frac{\text{Chemistry}\%}{\text{Chemistry hr}} = \frac{\text{Geography}\%}{\text{Geography hr}}$   
 $\frac{15}{3} = \frac{10}{x}$   
 $x = \frac{30}{15} = 2$  hours
150. (a)  $\frac{\text{Total}\%}{\text{Total hr}} = \frac{\text{Math}\%}{\text{Math hr}}$   
 $\frac{100}{10} = \frac{30}{x}$   
 $x = \frac{300}{100} = 3$  hr
151. (c) Other hours study =  $15\%$   
Then in Math =  $30 - 5 = 25\%$   
Difference =  $5\%$   
 $\frac{\text{Total}\%}{\text{Total hr}} = \frac{\text{Difference}\%}{\text{Difference hr}}$   
 $\frac{100}{20} = \frac{5}{x}$   
 $x = 1$  hr
152. (a) By observing the graph, we can say that study increase of income in March to May.
153. (b) By observing the graph, the ratio of the income to that of the previous month is the largest on March.
154. (a) Income of February =  $4$   
Income of May =  $13$   
 $\therefore$  Required answer =  $\frac{13}{4} = 3.25$
155. (c) Total income of firm =  $7 + 4 + 9 + 11 + 13 = 44$
- $\therefore$  Average monthly income =  $\frac{44}{5} = 8.8$
156. (b) Average height of all the peaks  
 $= \frac{8200 + 6000 + 8600 + 7500 + 8800 + 6500}{6}$   
 $= \frac{45600}{6}$   
 $= 7600$
157. (b) According to bar graph, Peak of C is the second highest.
158. (a) Highest peak =  $8800$   
lowest peak =  $6000$   
Ratio =  $\frac{8800}{6000} = 22 : 15$
159. (d) Ascending order  $6000, 6500, 7500, 8200, 8600, 8800$   
Middle two average =  $\frac{7500 + 8200}{2}$   
 $= \frac{15700}{2} = 7850$  m
160. (a) Percentage increase =  $\frac{11840 - 10000}{10000} \times 100$   
 $= 18.4 = 18$  (approx.)
161. (d) Total investment in Electricity and Thermal energy in 1995  
 $= (815.2 + 632.4 + 2065.8 + 1232.7) = 4746.1$   
Percentage =  $\frac{4746.1 \times 100}{10000} \approx 47.46\%$
162. (c) Using approximation method,  
Electricity =  $\frac{(23 - 20) \times 100}{20} = 15\%$   
Chemical =  $\frac{(98 - 74)}{74} \times 100 = 32\%$   
Solar =  $\frac{(17 - 13)}{13} \times 100 = 30\%$   
Nuclear =  $\frac{(21 - 16)}{16} \times 100 = 31\%$   
 $\therefore$  So, answer (c) is correct.
163. (c) Total investment in District A  
 $= (2923.1 + 3489.5) = 6400$  (approx)  
Total investment in District B  
 $= (7081.6 + 8352) = 15400$  (approx)  
Required answer =  $\frac{15400}{6400} = 2.4$
164. (a) % increase from 95 to 96 = % increase from 96 to 97  
 $\frac{(8352.0 - 7081.6)}{7081.6} = \frac{(x - 8352.0)}{8352}$   
 $\frac{1270.4}{7081.6} = \frac{x - 8352}{8352} \Rightarrow x = 9850$
165. (a) Required ratio =  $\frac{40 + 90 + 70}{100 + 50 + 80} = \frac{200}{230} = 20 : 23$

166. (c) Average =  $\frac{80+40+90+70+70}{5} = 70$
167. (b) The class X has the highest number of passed students
168. (c) Average number of girls =  $\frac{70+100+50+80+90}{5} = 78$   
The number of boys passed in class VI = 80  
 $\therefore$  Required answer = class VI.
169. (d) Required average number  
=  $\frac{(260+320+300+480+360)}{5} = \frac{1720}{5} = 344$ .
170. (b) Required percentage  
=  $\frac{(350+240)}{(300+320)} \times 100 = \frac{5900}{62} \% = 95\%$  (approx)
171. (a) Required ratio =  $\frac{(360+420)}{(380+340)} = \frac{780}{720} = 13 : 12$
172. (c) Required average  
=  $\frac{1}{5} \times (280+360+340+200+330)$   
=  $\frac{1}{5} \times 1510 = 302$ .
173. (b) Total shoes of Reebok brand =  $\frac{1200 \times 23}{100} = 276$
174. (a) Required difference =  $(21\% - 13\%) = 8\%$   
=  $\frac{1200 \times 8}{100} = 96$
175. (c) Difference between number of shoes of Reebok and Nike =  $(23 - 18) = 5\%$   
Similarly, difference between number of shoes of Nike and Vans =  $(18 - 13) = 5\%$   
So, correct answer is (c).
176. (b) Required answer =  $\frac{(21-18)}{18} \times 100$   
=  $\frac{3}{18} \times 100 = 16.66\%$
177. (c) Required difference =  $\frac{500 \times (9-4)}{100}$   
=  $\frac{500 \times 5}{100} = 25$ .
178. (c) Required time =  $\frac{600 \times 46}{4 \times 100}$   
= 69 hours.
179. (d) Required time =  $\frac{800 \times 29}{100}$   
= 232 hours.
180. (c) Required angle =  $\frac{5.4 \times 360^\circ}{100}$   
=  $19.44^\circ$ .
181. (c) Total time taken to make a car = 300 hours  
 $\therefore$  Total time taken in paint and frame  
=  $\frac{300}{100} \times 35 = 105$  hours.
182. (a) Total time taken in glass  
=  $\frac{192}{6} \times 8 = 256$  hours.
183. (d)  $\therefore$  Total time taken in engine and tyres = 127.5 hours  
 $\therefore$  Total time taken to make a car =  $\frac{127.5}{51} \times 100 = 250$  hours.  
 $\therefore$  Required difference  
=  $\left( \frac{250 \times 22}{100} - \frac{250 \times 8}{100} \right)$  hours =  $(55 - 20) = 35$  hours
184. (b) Time spent on quality check = 15%  
As, this time is taken equally from 6 process, thus time in each process will be reduced by =  $\frac{15}{6} = 2.5\%$   
Initial time taken by seats an glass =  $6 + 8 = 14\%$   
New time taken by seats and glass  
=  $(6 - 2.5) + (8 - 2.5) = 9\%$   
 $\therefore$  Sectorial angle =  $\frac{9}{100} \times 360 = 32.4^\circ$
185. (c)  $\therefore$  Number of employees =  $(3 + 8 + 4) = 15$   
 $\therefore$  Total bonus of all employees  
=  $\left( \frac{3 \times 30 \times 30}{100} + \frac{8 \times 16 \times 20}{100} + \frac{4 \times 2 \times 20}{100} \right)$   
=  $27 + 25.6 + 1.6$  lakhs = 54.2 lakhs.  
 $\therefore$  Average bonus =  $\frac{5420000}{15} = 361333.33 \approx 361333$
186. (a) Total exports from the three companies in 2011  
=  $3000 + 1000 + 4000 = 8000$   
Total exports from the three companies in 2012  
=  $5000 + 1000 + 2000 = 8000$   
 $\therefore$  option (b) is correct.
187. (c) Loss of ` 15 crores in last 5 years.
188. (c) Export of Jewellery in 2015 = 675  
Total exports in 2015 =  $(675 + 500 + 525 + 575 + 725) = 3000$   
 $\therefore$  Required percentage =  $\frac{675 \times 100}{3000} = 22.5\%$
189. (b) Total sales in May = 300  
Total sales in July = 900  
 $\therefore$  The sales in July is three time to sales in May.
190. (d) Required average monthly sale  
=  $\frac{(500 + 300 + 800 + 900 + 1100)}{5} = 720$ .



- 191. (c)** Required ratio =  $\frac{35}{25} = \frac{7}{5} = 7 : 5$
- 192. (a)**  $\therefore$  In 2016, Male population = 40 thousands.  
In 2016, Total population = 72 thousands.  
 $\therefore$  In 2016, female population =  $(72 - 40) = 32$  thousands.  
Required percentage  
=  $\frac{(40 - 32)}{32} \times 100 \Rightarrow \left(\frac{8}{32} \times 100\right)\% = 25\%$
- 193. (b)** Required percentage =  $\left(\frac{20 \times 100}{54}\right)\%$   
= 37.03%
- 194. (d)** According to the graph,  
In 2015, Female population =  $(60 - 35)$   
= 25 thousands  
In 2014, female population =  $(54 - 34) = 20$  thousands.  
 $\therefore$  Required percentage =  $\left(\frac{25 \times 100}{20}\right)\% = 125\%$
- 195. (a)** Total money spend on rent  
=  $26000 \times \frac{8}{100} = 2080$
- 196. (c)** Total spend on transport =  $26000 \times \frac{15}{100} = 3900$   
Total spend on saving and fuel  
=  $26000 \times \frac{42}{100} = 10920$   
Required difference =  $(10920 - 3900) = 7020$ .
- 197. (b)** Here,  
Income = 22,000  
Spent of miscellaneous =  $22000 \times \frac{17}{100} = 3740$   
When, Income = 26000  
Spent of miscellaneous =  $26000 \times \frac{17}{100} = 4420$   
Required difference =  $(4420 - 3740) = 680$
- 198. (d)**  $\therefore$  Total income = 26000  
 $\therefore$  Saving =  $26000 \times \frac{22}{100} = 5720$   
 $\therefore$  Spend on gold = 65% of saving  
=  $\frac{65 \times 5720}{100} = 3718$
- 199. (a)** Total expenditure on saving, rent and fuel  
=  $26000 \times \frac{50}{100} = 13000$   
 $\therefore$  Average expenditure on saving, rent and fuel  
=  $\frac{13000}{3}$   
Total expenditure on food, Transport and saving  
=  $2600 \times \frac{55}{100} = 14300$   
 $\therefore$  Average expenditure on food, Transport and saving  
=  $\frac{14300}{3}$   
 $\therefore$  Required difference  
=  $\left(\frac{14300}{3} - \frac{13000}{3}\right) = \frac{1300}{3} = 433$ .
- 200. (b)** Total number of persons = 1080.  
Degree of persons using train =  $120^\circ$ .  
 $\therefore$  Number of persons using train =  $\frac{120}{360} \times 1080 = \boxed{360}$
- 201. (d)** Here from the given histogram, we see the median class is 160 – 165.
- 202. (c)** Number of students whose height is in the class interval 175 – 180 = 6  
Number of students whose height is in the class interval 160 – 165 = 10  
% Difference =  $\frac{10 - 6}{10} \times 100 = \frac{4 \times 100}{10} = 40\%$
- 203. (c)** Number of persons using scooter =  $1080 \times \frac{50}{360} = 150$   
Number of persons using car =  $1080 \times \frac{40}{360} = 120$   
Required percent =  $\frac{120}{150} \times 100 = 80\%$
- 204. (b)** Total number of students =  $15 + 13 + 10 + 14 + 12 + 6 = 70$   
Number of students in class interval 165 – 170 = 14  
Required percent =  $\frac{14}{70} \times 100 = 20\%$
- 205. (b)** Total number of students of A in 2016 to 2018  
=  $500 + 450 + 750 = 1700$   
Total number of students of B in 2016 to 2018  
=  $600 + 365 + 650 = 1615$   
Required ratio =  $\frac{1700}{1615} = \frac{20}{19}$
- 206. (c)** Total number of persons using train and car together  
=  $\left(\frac{120}{360} + \frac{40}{360}\right) \times 1080$   
=  $\frac{160}{360} \times 1080 = 480$   
Total number of person using other mode of transport  
=  $1080 - 480 = 600$   
Required ratio =  $\frac{480}{600} = \frac{4}{5}$
- 207. (a)** Number of student in institute A in 2015 = 800  
Number of student in institute A in 2016 = 500  
Percentage decrease in number  
=  $\left(\frac{800 - 500}{800}\right) \times 100 = 37.5\%$

- 208. (a)** Number of students enrolled in B in 2016 = 600.  
Number of students enrolled in A in 2016 = 500.

$$\text{Required percent} = \frac{600}{500} \times 100 = 120\%$$

- 209. (d)** Saving in 2012 = 6 - 5 = 1.

$$\text{Ratio of saving to expenditure} = \frac{1}{5} = 0.2$$

$$\text{saving in 2015} = 9 - 7.5 = 1.5$$

$$\text{Ratio of saving to expenditure} = \frac{1.5}{7.5} = \frac{1}{5} = 0.2$$

Hence, Ratio are equal in 2012 and 2015.

- 210. (d)** Saving in 2015 = 9 - 7.5 = 1.5

$$\text{Saving in 2016} = 10 - 8 = 2$$

Monthly average saving in 2015 and 2016

$$= \frac{1.5 + 2}{2} = \frac{3.5}{2} \times 10^5$$

$$= ₹ 14583.33$$

- 211. (d)** Total saving from 2012 to 2015

$$= (6 - 5) + (7 - 5.5) + (8 - 6) + (9 - 7.5) + (10 - 8)$$

$$= 1 + 1.5 + 2 + 1.5 + 2 = 8$$

Total income from 2012 to 2015

$$= 6 + 7 + 8 + 9 + 10 = 40$$

$$\text{Required percent} = \frac{8}{40} \times 100 = 20\%$$

- 212. (b)** Saving in 2012 - 13 = (6 - 5) + (7 - 5.5) = 1 + 1.5 = 2.5.  
Saving in 2015 - 16 = (9 - 7.5) + (10 - 8) = 1.5 + 2 = 3.5

$$\text{Ratio in 2012 - 13} = \frac{2.5}{5 + 5.5} = \frac{2.5}{10.5} = \frac{5}{21}$$

$$\text{Ratio in 2015 - 16} = \frac{3.5}{7.5 + 8} = \frac{3.5}{15.5} = \frac{7}{31}$$

$$\text{Required ratio} = \frac{5}{21} \times \frac{31}{7} = \frac{155}{147} = 155 : 147$$

- 213. (a)** Required percent

$$= \frac{\text{Number of student enroll in C in 2014}}{\text{total students enroll in 2014}}$$

$$= \frac{340}{420 + 290 + 340 + 480 + 480} \times 100 = 16.9\%$$

- 214. (a)** Required ratio =  $\frac{370 + 250}{420 + 430} = \frac{620}{850} = \frac{62}{85}$

- 215. (c)** Required percent

$$= \frac{430}{(310 + 370 + 420)} \times 100$$

$$= \frac{480}{1100} \times 100 = 39.1\%$$

- 216. (a)** Average number of students

$$= \frac{\text{Sum of total number of students}}{\text{No. of years}}$$

$$= \frac{430 + 450 + 470 + 420 + 480}{5} = 450$$

- 217. (c)** Central angle made by total number of cars sold in year 2013

$$= \frac{520 + 530 + 460}{1350 + 1350 + 1510 + 1620 + 1710 + 1460} \times 360^\circ$$

$$= \frac{1510}{9000} \times 360^\circ \approx 60^\circ$$

- 218. (b)** Required ratio =  $\frac{480 + 400}{540 + 430} = \frac{880}{970} = \frac{88}{97}$

- 219. (a)** Required percent decrease

$$= \frac{(650 + 520 + 540) - (630 + 400 + 430)}{(650 + 520 + 540)} \times 100$$

$$= \frac{250}{1710} \times 100 = 14.6\%$$

- 220. (b)** Average number of cars sold by A

$$= \frac{500 + 480 + 520 + 620 + 650 + 630}{6}$$

$$= \frac{3400}{6} = 566.7$$

- 221. (d)** The total number of shoes manufactured by the company on all seven days together is

$$\text{Days} = D1 + D2 + D3 + D4 + D5 + D6 + D7$$

$$= 720 + 628 + 740 + 942 + 966 + 1034 + 1200$$

$$= 6230$$

- 222. (c)** The number of shoes manufactured on D5 = 966

Average of shoes manufactured per day

$$= \frac{6230}{7} = 890$$

$$966 - 890 = 76$$

- 223. (b)** The number of shoes manufactured on D1 is = 720

Hence number of shoes manufactured on D7 is = 1200

The number of shoes manufactured on D1 is what percentage of shoes manufactured on D7

the percentage is

$$\Rightarrow \frac{D1}{D7} \times 100$$

$$\Rightarrow \frac{720}{1200} \times 100$$

$$\Rightarrow 60\%$$

- 224. (a)** Total number of car in 2015 = 100

$$20\% \text{ of car in 2015} = 100 \times \frac{20}{100} = 20$$

So, E type of car constitutes exactly 20% of total number of car in 2015.

- 225. (d)** Total number of car in 2013 and 2014  
 $= (130 + 170) = 300$

$$25\% \text{ of car in 2013 and 2014} = \frac{300 \times 25}{100} = 75$$

$\therefore$  D types of cars constitute exactly 25% of the total number of car produced in those 2 years  $= (40 + 35) = 75$ .

- 226. (c)** Required percentage  $= \frac{(180 - 120)}{120} \times 100$

$$\Rightarrow \frac{60}{120} \times 100 = 50\%$$

- 227. (c)** A type of car in 2017 which is decrease maximum.

- 228. (a)** Number of books of  $S_1 = 26$   
 Total number of books  $= 238$

$$\text{Average} = \frac{238}{7} = 34$$

$$\text{Required Ratio} = \frac{26}{34} = 13 : 17$$

- 229. (a)** Number of books of  $S_3 = 31$   
 Total books of science  $= 29 + 34 + 38 = 101$

$$\text{Average} = \frac{101}{3} = 34$$

$$\text{Required percent} = \frac{31}{\frac{101}{3}} \times 100 = 92.07 \approx 92.1$$

- 230. (c)** Number of books on arts  $= 26 + 31 + 36 + 44 = 137$   
 Number of books on Science  $= 29 + 34 + 38 = 101$   
 Required Ratio  $= 137 : 101$

- 231. (c)** Total expenditure on 'infrastructure' and 'transport'  
 $= (25 + 17.5)\% = 42.5\%$   
 Total expenditure on 'taxes' and 'Interest on loans'  
 $= (10 + 22.5)\% = 32.5\%$

$$\therefore \text{Required ratio} = \frac{42.5}{32.5} = \frac{17}{13}$$

- 232. (a)** Required percentage difference  
 $= (22.5 - 17.5)\% = 5\%$

- 233. (b)** Improvement in term of percent from class X to XII of following student,

$$\text{Veena} = \left( \frac{90 - 85}{85} \right) \times 100 = 5.88\%$$

$$\text{Alka} = \left( \frac{86 - 72}{72} \right) \times 100 = 19.44\% \text{ (Maximum)}$$

$$\text{Meena} = \left( \frac{71 - 62}{62} \right) \times 100 = 14.51\%$$

$$\text{Madhu} = \left( \frac{86 - 76}{76} \right) \times 100 = 13.16\%$$

- 234. (a)** Total expenditure of the company  
 $= 25 + 17.5 + 20 + 10 + 5 + 15 + 22.5 = 115$ .

Sum of expenditure on Research and Development and Salary  $= 5 + 15 = 20$ .

$$\therefore \text{Required value} = \frac{115}{20} = 5.75.$$

- 235. (a)** Total vacant seats in 2<sup>nd</sup> class Non-AC  
 $= 50 + 60 + 70 + 110 + 60 = 350$

$$\text{Total vacant seats in 1<sup>st</sup> class Non-AC} \\ = 40 + 100 + 110 + 20 + 30 = 300$$

$$\therefore \text{Total vacant seats in Non-AC classes} \\ = 350 + 300 = 650$$

- 236. (b)** Total production of company x in five yeras  
 $= 40 + 55 + 35 + 60 + 50 = 240$

Average production of company x in five yeras

$$= \frac{240}{5} = 48$$

$$\text{Total production of company y in five years} \\ = 35 + 45 + 45 + 50 + 60 = 235$$

Average production of company y in five years

$$= \frac{235}{5} = 47$$

$$\text{Total production of company z in five years} \\ = 45 + 50 + 55 + 45 + 45 = 240$$

Average produciton of company z in five yeras

$$= \frac{240}{5} = 48$$

So, x and z.

- 237. (d)** In 2014, required percentage

$$= \frac{(225 - 160)}{225} \times 100$$

$$= \frac{65}{225} \times 100 = 28.8\%$$

In 2015, required percentage

$$= \frac{(360 - 280)}{360} \times 100$$

$$= \frac{80}{360} \times 100 = 22.22\%$$

In 2016, required percentage

$$= \frac{(375 - 300)}{375} \times 100$$

$$= \frac{75}{375} \times 100 = 20\%$$

In 2017, required percentage

$$= \frac{(325 - 250)}{325} \times 100$$

$$= \frac{75}{325} \times 100 = 23.07\%$$

∴ In 2014, the number of students enrolled in institute A is  $x\%$  less then, the number of students enrolled in institute B in the same year.

- 238. (b)** Number of boys in Science stream in the year 2012 and 2016 =  $40 + 38 = 78$ .

Number of girls in Commerce stream

$$= 45 + 42 + 38 + 34 + 41 = 200$$

∴ Required percentage

$$= \frac{78}{200} \times 100 = 39\%$$

- 239. (b)** Average production of black tea in 2014, 2015 and 2018

$$= \frac{100 + 80 + 120}{3} = \frac{300}{3} = 100 \text{ million tonnes}$$

Average production of green tea in 2016, 2017 and

$$2019 = \frac{100 + 130 + 110}{3} = \frac{340}{3} \text{ million tonnes}$$

$$\text{So, difference} = \frac{340}{3} - 100 = \frac{340 - 300}{3} = \frac{40}{3} = 13.33$$

Hence, production of black tea is 13.33 less than production of green tea.

- 240. (d)** In 2008 =  $\frac{200}{400} \times 100 = 50\%$  increase

$$\text{In 2009} = \frac{400}{600} \times 100 = 66.66\% \text{ increase}$$

$$\text{In 2010} = \frac{200}{1000} \times 100 = 20\% \text{ decrease}$$

$$\text{In 2011} = \frac{400}{800} \times 100 = 50\% \text{ increase}$$

$$\text{In 2012} = \frac{280}{1200} \times 100 = 23.33\% \text{ decrease}$$

Hence, in the year 2009 there was a maximum percentage increase in the sales of products.

- 241. (d)** In P,

$$\text{Candidates enrolled for exam} = 5500 \times \frac{20}{100} = 1100$$

$$\text{Candidates passed in exam} = 3300 \times \frac{18}{100} = 594$$

$$\therefore \text{Required percentage} = \frac{594}{1100} \times 100 = 54\%$$

In Q,

$$\text{Candidates enrolled for exam} = 5500 \times \frac{30}{100} = 1650$$

$$\text{Candidates passed in exam} = 3300 \times \frac{24}{100} = 792$$

$$\therefore \text{Required percentage} = \frac{792}{1650} \times 100 = 48\%$$

In R,

$$\text{Candidates enrolled for exam} = 5500 \times \frac{12}{100} = 660$$

$$\text{Candidates passed in exam} = 3300 \times \frac{18}{100} = 594$$

$$\therefore \text{Required percentage} = \frac{594}{660} \times 100 = 90\%$$

In S,

$$\text{Candidates enrolled for exam} = 5500 \times \frac{18}{100} = 990$$

$$\text{Candidates passed in exam} = 3300 \times \frac{24}{100} = 792$$

$$\text{Required percentage} = \frac{792}{990} \times 100 = 80\%$$

In T,

$$\text{Candidates enrolled for exam} = 5500 \times \frac{20}{100} = 1100$$

$$\text{Candidates passed in exam} = 3300 \times \frac{16}{100} = 528$$

$$\text{Required percentage} = \frac{528}{1100} \times 100 = 48\%$$

So, Institute 'R' has the highest percentage of candidates passed to the candidates enrolled.

- 242. (c)** Total number of students enrolled in the Science stream in all the schools =  $60 + 78 + 45 + 40 + 40 = 263$

- 243. (b)** Actual production of ACs in March = 100  
Total Target production of ACs over the 5 months =  $60 + 30 + 80 + 90 + 100 = 360$

Average target production over the 5 months

$$= \frac{360}{5} = 72$$

$$\text{Required percentage} = \frac{(100 - 72)}{72} \times 100$$

$$= \frac{28}{72} \times 100 = 39\%$$

**244. (b) In January :**

Actual production on is more than the target

$$\text{production} = \frac{70-60}{60} \times 100 = \frac{1}{6} \times 100 = 16.67\%$$

**In February :**

Actual production is more than the target production

$$= \frac{50-30}{30} \times 100 = \frac{2}{3} \times 100 = 66\frac{2}{3}\%$$

**In March :**

Actual production is more than the target Production

$$= \frac{100-80}{80} \times 100 = \frac{1}{4} \times 100 = 25\%$$

**In April :**

Actual production is not more than the target production

**In May :**

Actual production is more than the target production

$$= \frac{120-100}{100} \times 100 = \frac{1}{5} \times 100 = 20\%$$

**245. (d)** Actual production of ACs in March and April

$$= 100 + 80 = 180$$

Target production of ACs in January and April

$$= 60 + 90 = 150$$

$$\text{Required ratio} = 180 : 150 = 6 : 5$$

**246. (a)** Class interval (170 – 175) = 12

Class interval (165 – 170) = 14

$$\Rightarrow \frac{14-12}{14} \times 100 = 14.28\% \approx 14.3\%$$

**247. (b)** Total in school A = 4290

Total in school B = 3700

$$\text{Ratio} = \frac{4290}{3700} = 429 : 370$$

**248. (b)** Height between (150 – 155) cm = 15

Height between (175 – 180) cm = 6

$$\text{Difference} = 15 - 6 = 9$$

**249. (c)** A in 2009, 2011, 2013 = 800 + 700 + 750 = 2250

B in 2008, 2012, 2013 = 550 + 500 + 480 = 1530

$$\text{Ratio} = \frac{2250}{1530} = \frac{25}{17}$$

**250. (b)** Height (160 – 170) = 24

$$= \frac{24}{70} \times 100 = \frac{240}{7} = 34\%$$

**251. (d)** Other =  $\frac{15.7}{1000} \times 100 = 15.7$ 

$$10\% \text{ mix fruit} = 15.7 \times \frac{10}{100} = 1.57$$

$$\text{Total people} = \frac{1570}{1.57} \times 100$$

$$= 10 \times 10000 = 100000$$

**252. (a)** Annual increase

$$= 7.4 \times 10000 = 74000$$

**253. (a)** In 2010, sum of students from school A and B is minimum i.e. 500 + 600 = 1100**254. (d)** Chocolate flavour =  $\frac{3300}{16.5} \times 25.8 = 5160$