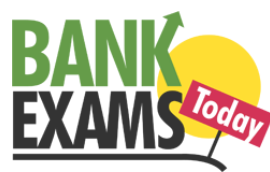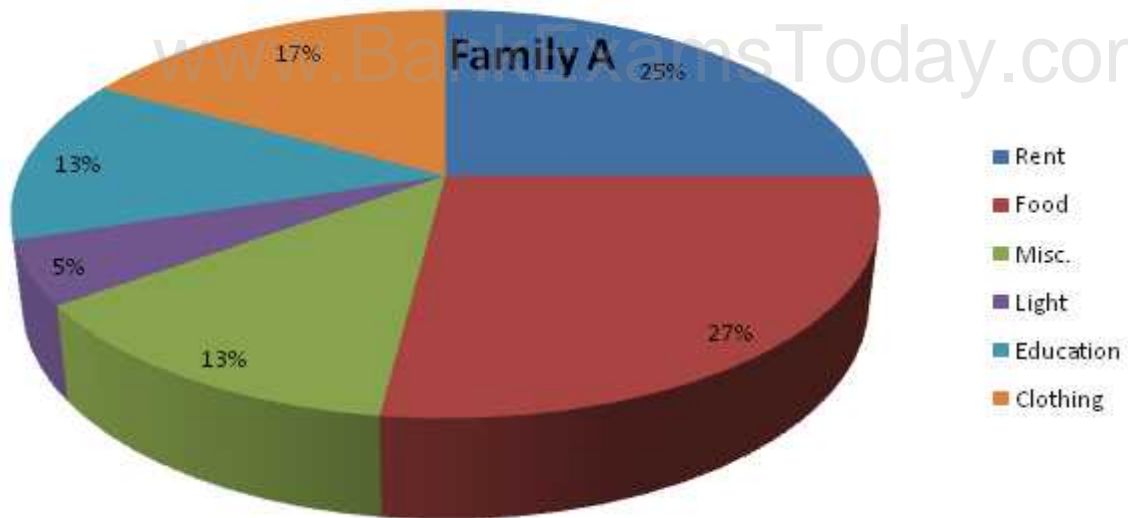www.BankExamsToday.com

Data Interpretation Workbook – v2
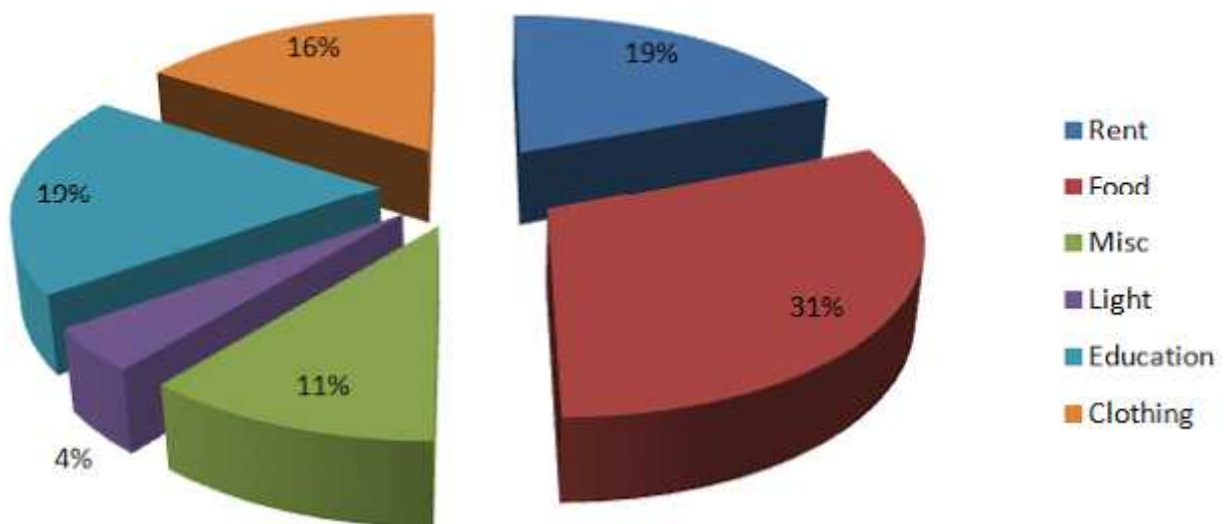
By Ramandeep Singh

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12/8/2015

Directions (Q. 1 – 6): Refer to the following pie charts and solve the questions based on it.

Total Expenses = Rs. 48, 000

Total Expenses = Rs. 72,000

Q1. Both the families decide to double the total expenditure keeping the pattern of spending the same as given above. What will be the new ratio of expenditure on food between family A and family B?
a) 18 : 31
b) 31 : 27
c) 2 : 3
d) 3 : 2

e) None of The Above

Q2. If the total expenses of family B increases three - fold, keeping the expenses on education the same as given above, what will be the expense on education?
a) 6.33%
b) 57%
c) 19%
d) 18%
e) None of The Above

Q3. What will be the expenses on light by family A, as a percentage of expense on light by family B?
a) 120%
b) 83.33%
c) 62.5%
d) 66.66%
e) None of The Above

Q4. If family A and family B decide to combine their expenses, then which one of the following heads will be responsible for the highest expenses?
a) Rent
b) Miscellaneous
c) Food
d) Education
e) None of The Above

Q5. In the above question, how many heads will have a lower percentage share in the combined total expenses of both the families than the percentage share of family B under the same head?
a) 1
b) 2
c) 3
d) 4
e) None of The Above

Q6. Under how many heads are the expenses of family B more than the expenses of family A?
a) Less than 3
b) More than 3
c) Equal to 3
d) Can't be Determined
e) None of The Above

Solution

Answer 1   (Option A)
If the percentage increase in the expenditure of both the families, is the same then the ratio will be the same.

Answer 2   (Option A)
The total consumption has become 3 times more keeping the expenses on education the same. Hence, the percentage consumption on education will become 1/3rd of the person

Answer 3 (Option B)

Answer 4 (Option C)
By visual inspection we can see that option C is the correct answer

Answer 5 (Option B)
It should be understood that the final percentage of expenditure will always be in between the percentage of family A and family B (it is true of any mixture that the percentage composition of the mixture will be always in between the percentage compositions of the components).

Answer 6 (Option B)
By visual inspection we can see the correct answer is option B.

Directions (Q. 1-5) Read the following information carefully and answers the questions based on it.

Management college consists of 7200 students.
The ratio of boys to girls is 7:5, respectively.

All the students are enrolled in six different specialization viz., MBA (Finance), MBA (IT), MBA (HR), MBA (Operations), MBA (Marketing) and MBA (Entrepreneur).
22% of the total students are in MBA (Marketing).
16% of the girls are in MBA (IT).
18% boys are in MBA (HR).
Girls in MBA (Entrepreneur) are 30% of the girls in MBA (IT).
15% of boys are in MBA (Finance).
Boys in MBA (IT) is 50% of the girls in the same.
15% of the girls are in MBA (Operations).
The ratio of the boys to girls in MBA (Entrepreneur) is 3:1 respectively.
24% of the total numbers of students are in MBA (Finance).
The ratio of boys to girls in MBA (Operations) is 12:5 respectively.

QUESTIONS

1) What is the total number of students enrolled in MBA (HR)?
a) 1062
b) 1530
c) 1584
d) 1728
e) 1800

2) Number of girls enrolled in MBA (Finance) forms approximately, what per cent of total number of students in college?
a) 7%
b) 13%
c) 15%
d) 22%
e) 24%

3) What is the total number of girls enrolled in MBA (Marketing)?
a) 144
b) 306

c) 365
d) 480
e) 522

4) Number of boys enrolled in MBA (Operations) forms, what per cent of the total number of girls enrolled in MBA (IT)?
a) 187.5%
b) 200%
c) 212.5%
d) 225%
e) 232.5%

5) What is the total number of boys enrolled in MBA (Entrepreneur)?
a) 240
b) 432
c) 630
d) 756
e) 810

ANSWERS

1) Option – a; 1062

2) Option – c; 15%

3) Option – e; 522

4) Option – d; 225%

5) Option – b; 432

SOLUTIONS

Let's try to find out the information from given data and formulate a table based on that.

Number of student in the college = 7200

Number of boys = $7/12 \times 7200 = 4200$

Number of girls = $5/12 \times 7200 = 3000$

Number of students in MBA (Marketing) = 22% of 7200 = 1584

Number of girls in MBA (IT) = 16% of 3000 = 480

Number of boys in MBA (HR) = 18% of 4200 = 756

Number of girls in MBA (Entrepreneur) = 30% of 480 = 144

Number of boys in MBA (Finance) = 15% of 4200 = 630

Number of boys in MBA (IT) = 50% of 480 = 240

Number of girls in MBA (Operations) = 15% of 3000 = 450

Number of boys in MBA (Entrepreneur) = 3/1 × 144 = 432

Number of students in MBA (Finance) = 24% of 7200 = 1728
=> Therefore, Number of girls in MBA (Finance) = 1728 – 630 = 1098

Number of boys in MBA (Operations) = 12/5 × 450 = 1080

Number of boys in MBA (Marketing) = Remaining number of boys
 = 4200 – (756+630+240+432+1080)
= 4200 – 3138 =1062
=> Therefore, Number of girls in MBA (Marketing) = 1584 – 1062 = 522

Number of girls in MBA (HR) = Remaining number of girls = 3000 – (480 + 144 + 450 + 1098 + 522)
= 3000 -2694 = 306

TABULAR FORM:

SUBJECTS	NUMBER OF BOYS	NUMBER OF GIRLS
MBA(IT)	240	480
MBA(HR)	756	306
MBA(ENTREPRENEUR)	432	144
MBA(FINANCE)	630	1098
MBA(OPERATIONS)	1080	450
MBA(MARKETING)	1062	522
Total	**4200**	**3000**

1) From the table, it is clear that total number of students enrolled in MBA (HR) = 756 + 306 = 1062

2) Number of girls enrolled in MBA (Finance) = 1098
=> Required Percentage = 1098/7200 × 100% = 15.25% = 15%

3) Number of girls enrolled in MBA (Marketing) = 522

4) Number of boys enrolled in MBA (Operations) = 1080
Number of girls enrolled in MBA (IT) = 480
=> Required Percentage = 1080/480 × 100% = 225%

5) Total number of boys enrolled in MBA (Entrepreneur) = 432

Directions (Q. 1-5) Study the following graphs and answer the question based on them.
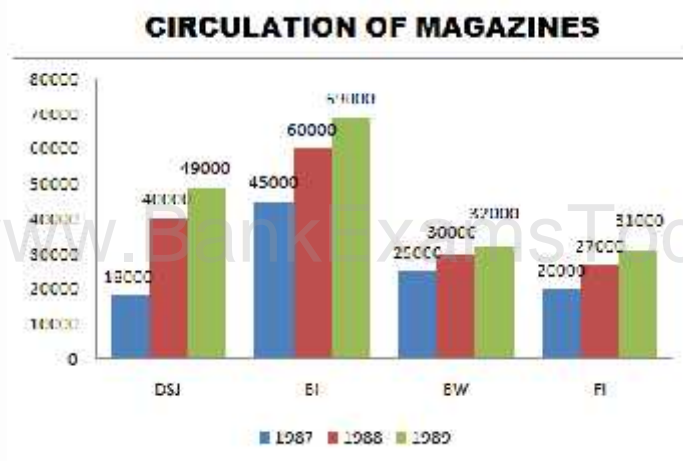
DSJ = Dalal Street;   **BI = Business India**
BW = Business World   **FI = Fortune India**
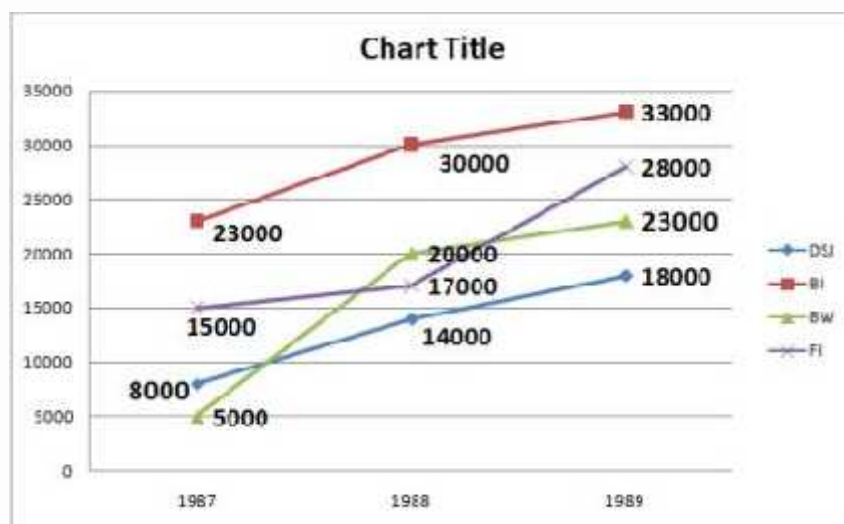
<div style="background-color: yellow">**QUESTIONS**</div>

1) The total circulation of figures for the four magazines together in 1988 was approximately
a) 108000
b) 181000
c) 157000
d) 140000
e) None of these

2) During the years 1987-89, the magazine that has shown maximum percentage growth in circulation has been
a) Business India
b) Dalal Street Journal
c) Business World
d) Fortune India
e) None of these

3) In 1989, if Fortune India were to change the same rate to its advertisersonDalal Street journal was charging a year ago, their cost of advertisement per thousand copies in Fortune India would
a) decrease by 50 %
b) increase by Rs. 140
c) Decrease by Rs. 400
d) Increase by 25 %
e) None of these

4) In 1988, the advertisement cost of colour page per thousand, copies was lowest for
a) Business India
b) Dalal Street Journal
c) Business World
d) Fortune India
e) None of these

5) The advertisement cost of page per thousand copies for business world has from 1987-88
a) remained the same
b) decreased by Rs 200
c) increased by Rs 466
d) Increased by Rs 200
e) None of these

ANSWERS

1) C – 157000

2) B – Dalal Street Journal

3) A – decreases by 50%

4) B – Dalal Street Journal

5) C – increased by Rs 466

SOLUTION

1) Total circulation in 1988 = 40000 + 60000 + 30000 + 27000 = 157000

2) Percentage growth for the business India during 1987-89 = (69 – 45) / 45 * 100% = 53.3%
Percentage growth for the Dalal Street Journal during 1987-89 = (49 – 18) / 18 * 100% = 172%
Percentage growth for the Business World during 1987-89 = (32 – 25) / 25 * 100% = 28%
Percentage growth for the Fortune during 1987-89 = (31 – 20) / 20 * 100% = 55%

MAXIMUM is for Dalal Street Journal

3) In 1989, advertisement tariff for FI in 1989 = Rs 28000
According to condition, advertisement tariff for 1989 = Rs 14000
So, cost of advertisement will be decreased and percentage decrease per thousand copies
= [(28000 – 31000)/1000] – [(14000/31000) – 1000] / [(28000 – 31000)/1000] = 50%

4) Advertisement cost per 100 copies is given below

Dalal Street Journal = (14000/40000)*1000 = Rs 350
Business World= (20000/30000)*1000 = Rs 666

Fortune India= (17000/27000)*1000 =Rs 629
Business India= (30000/60000)*1000 =Rs 500

LOWEST is for Dalal Street Journal.

5) Advertising Cost per 1000 copies of Business World in 1987
= (5000/25000)/1000 = Rs 200

Advertising Cost per 1000 copies of Business World in 1988
= (20000/30000)/1000 = Rs 666

Hence, cost increased by Rs 466

Directions for questions (1 - 5): Go through the data set given below and solve the questions based on it.

Following bar chart provides the percentage of Adult Males, Adult Females and Children out of total population in five colonies A, B, C, D and E:
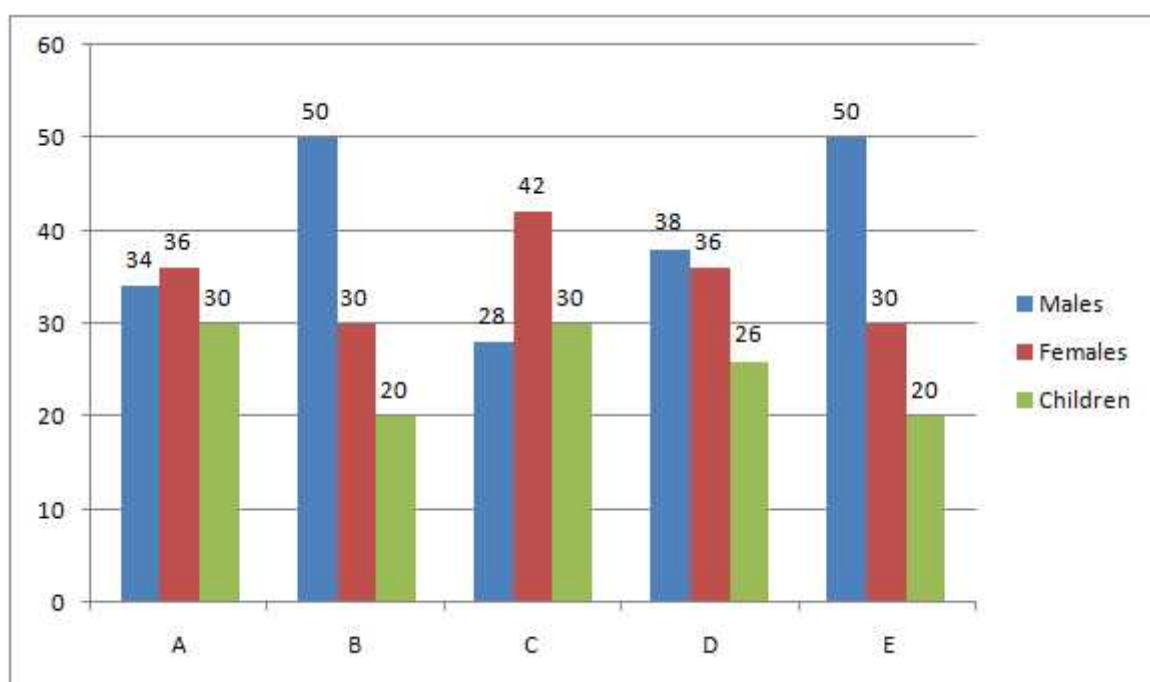
Total number of Residents in these Colonies

Colonies	Residents
A	1250
B	2050
C	1800
D	1150
E	1620

Q1. What is the total number of adult females in colonies A, B and C together?
a) 1785
b) 1821
c) 1479
d) 1692
e) None of The Above

Q2. The number of children in colony A are approximately what percent of the number of children in colony E?
a) 121
b) 116
c) 75
d) 101
e) 98

Q3. What is the respective ratio of the number of adult males to the number of adult females in colony B?
a) 3:5
b) 7:5
c) 8:7
d) 5:7
e) None of The Above

Q4. What is the average number of residents from all the colonies together?
a) 1654
b) 1600
c) 1580
d) 1574
e) None of The Above

Q5. What is the difference between the number of adult males and the number of children in colony D?
a) 138
b) 126
c) 136
d) 135
e) None of The Above

Solutions

Answer 1. (Option B)

Total number of adult females in colonies A, B and C together

$$= \left\{ \frac{1250 \times 36}{100} + \frac{2050 \times 30}{100} + \frac{1800 \times 42}{100} \right\}$$

$$= (450 + 615 + 756) = 1821$$

Answer 2. (Option B)

$$\text{Number of Children in Colony A} = \frac{1250 \times 30}{100} = 375$$

$$\text{Number of Children in Colony E} = \frac{1620 \times 30}{100} = 324$$

$$\text{Required Percentage} = \frac{375}{324} \times 100 = 116$$

Answer 3. (Option E)

Required Ratio = 50 : 30 = 5 : 3

Answer 4. (Option D)

Average number of residents from all the colonies together

$$= \frac{1250+2050+1800+1150+1620}{5} = \frac{7870}{5} = 1574$$

Answer 5. (Option A)

$$\text{Required Difference} = (38 - 26)\% \text{ of } 1150$$

$$= \frac{12 \times 1150}{100} = 138$$

Directions (Q. 1 - 5): Go through the data set given below and solve the questions based on it.

A rating company rates the performance of three companies producing shoes. The points are allotted according to their sales. The point Index (PI) of each of the companies = The number of lakh units sold during the month × points allotted.

The number of lakh units sold = y	Points Allotted
y<5	3
5<y<8	4
8<y<11	5
y>11	6

The following table show the number of lakh units sold of each of the brands - Moon, Warle and Enivi - from Jan 07 to June 07.

Name of Month	Moon	Warle	Enivi	Rank of Months According to PI
Jan 07	7	4	-	4

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Feb 07	-	13	-	1
Mar 07	-	-	-	5
Apr 07	-	-	-	6
May 07	-	-	-	2
Jun 07	-	-	10	3

Note :-

1. The number of lakh units sold by all the three companies in each of the months is identical.
2. The sum of the number of lakh units sold by each of the companies in all the six months together is identical.
3. The number of lakh units sold by any of the companies in any one of the months is at least 1.
4. The number of lakh units sold by exactly two companies in each of the months Feb 07, Mar 07, and Apr 07 is identical.
5. The Point Index of Jan 07 and May 07 is 26 and 17 less than Feb 07 respectively. Also the PI in Jan 07 is one more than that of March 07.
6. The number of lakh units sold by Moon in Mar 07 and Apr 07 together is equal to that in May 07.
7. The sum of PI in any month is not greater than 100.
8. The least possible Point Index (PI) is in Apr 07 for the sum of lakh units sold by all three companies.

Q1. What is the number of lakh units sold by Enivi in Mar 07?
a) 5
b) 6
c) 4
d) 7
e) None of The Above

Q2. Find the PI of all the three companies in Apr 07.
a) 59
b) 60
c) 61
d) 58
e) None of The Above

Q3. What is the number of lakh units sold by Moon in all the six months together?
a) 34
b) 32
c) 36
d) 38
e) None of The Above

Q4. What is the number of lakh units sold by Enivi in May 07?
a) 7
b) 4
c) 5
d) 8
e) None of The Above

Q5. What is the PI of Warle in all the six months together?
a) 139
b) 153
c) 138
d) 148
e) None of The Above

Solution

Answer 1. (Option B)
Answer 2. (Option D)
Answer 3. (Option A)
Answer 4. (Option C)
Answer 5. (Option D)

Directions: (Q. 1-10) Study the following pie chart and table to answer these questions.

State wise details of adult population of a country

Gradute and above
Total number = 24 lakh

MP 14%	AP 16%
GOA 20%	BIHAR 18%
DELHI 17%	CHD 15%

Upto XII Std pass
Total number = 32 lakh

MP 20%	AP 15%
GOA 19%	BIHAR 16%
DELHI 12%	CHD 18%

M:F (RATIO)

STATES	GRADUATES AND ABOVE		UPTO XII STD PASS	
	MALES	FEMALES	MALES	FEMALES
AP	7	5	7	9
BIHAR	5	3	3	5
CHD	5	4	4	5
DELHI	9	8	5	7
GOA	9	7	9	10
MP	4	3	3	2

Q 1) What is the difference between the graduate male population and XII Std male population from AP ?
(a) 24000
(b) 14000

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(c) 28000
(d) 36000
(e) None of these

Q 2) What is the ratio of female population of Goa to XII Std female population of Delhi respectively?
(a) 7:5
(b) 5:7
(c) 16:15
(d) 15:16
(e) None of these

Q 3) Graduate female population of Chandigarh what per cent of the XII Std female population of the state ?
(a) 40%
(b) 62.5%
(c) 50 %
(d) 52.5%
(e) None of these

Q 4) Class XII pass male population of Chandigarh is what per cent of the total XII Std population of all the states together ?
(a) 8%
(b) 12%
(c) 11%
(d) 9%
(e) None of these

Q 5) What is the ratio of graduation male population of the Goa to XII Std female population of that state ?
(a) 28:35
(b) 35:28
(c) 32:45
(d) 45:32
(e) None of these

Q 6) Total graduate population of state MP is what per cent of the total XII Std population of AP ?
(a) 56%
(b) 72%
(c) 68%
(d) 72%
(e) None of these

Q 7) XII Std male population of Goa is what per cent of XII Std male population of MP?
(a) 70%
(b) 75%
(c) 68%
(d) 72%
(e) None of these

Q 8) What is the ratio of the total graduate and XII Std male population of AP to the total graduate and XII Std of AP to the total graduate and XII Std female population of that state ?
(a) 215:216
(b) 214:215
(c) 217:215

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(d) 215:217
(e) None of these

Q 9) What is the ratio of the total graduate population of the Delhi to the total Std population of that state?
(a) 17:16
(b) 16:17
(c) 64:51
(d) 51:64
(e)None of these

Q 10) Graduate female population of Bihar is what per cent of the graduate female population of Goa ? (rounded off to nearest integer)
(a) 129%
(b) 82%
(c) 77%
(d) 107%
(e) None of these

ANSWERS

(1) b
(2) d
(3) c
(4) a
(5) e
(6) e
(7) b
(8) c
(9) a
(10) c

SOLUTIONS

1) Graduate male population of AP = (24 *16 / 100 * 7/12) lakh = 2.24 lakh
XII Std male population of AP = (32 *12 / 100 * 7 / 16) lakh = 2.1 lakh

=> Required difference = (2.24 - 2.1) lakh = 14000

2) Graduate female population of Goa = (24 * 20 / 100 * 7 / 16) lakh = 2.1 lakh
XII Std female population of Delhi = (32 * 12 / 100 * 7 / 12) lakh = 2.24 lakh

=> Required Ration = 2.1:2.24 = 210:224 = 15:16

3) Graduate female population of Chandigarh = (24 * 15/100 *4/9) lakh = 1.6 lakh
XII Std female population of Chandigarh = (32 * 18/100 * 5/9) lakh =3.2 l lakh

=> Required percentage = 1.6/3.2 * 100 = 50%

4) XII Std male population of Chandigarh = 32 * 18/100 * 4/9 = 2.56 lakh

=> Required percentage = 2.56/32 * 100 = 8%

5) Graduate male population of Goa = 24 * 20/100 * 9/16 = 2.7 lakh
XII Std female population of Goa = 32 * 19/100 * 10/19 = 3.2 lakh

=> Required Ratio = 27:32

6) Total graduate population of MP = 24 * 14/100 = 3.36 lakh
XII Std total population of AP = 32 * 15/100 = 4.8 lakh

=> Required Percentage = 3.36/4.8 * 100 = 70%

7) XII Std pass male population of Goa = 32 * 19/100 * 9/19 = 2.88 lakh
XII Std pass male population of MP = 32 * 20/100 * 3/5 = 3.84 lakh

=> Required Percentage = 2.88/3.84 * 100 = 75%

8) Graduate male population of AP = 24 * 7/12 * 6/100 =2.24 lakh
XII Std pass male population of state AP = 32 * 15/100 * 7/16 = 2.1 lakh
Sum = (2.24 + 2.1) lakh = 4.34 lakh

Graduate female population of AP = 24 * 5/12 16/100 = 1.6 lakh
XII Std pass female population of state AP = 32 * 15/100 * 9/16 = 2.7 lakh
Sum = (1.6 + 2.7) = 4.3 lakh

=> Required ratio = 434:430 = 217:215

9) Total population of Delhi = 17% of 24 lakh
Total XII Std population of Delhi = 12% of 32 lakh

=> Required Percentage = 17% of 24 lakh : 12% of 32 lakh
                 = 17*24 : 12*32
                 =17 : 16

10) Graduate female population of Bihar = 24 * 18/100 * 3/8 = 1.62 lakh
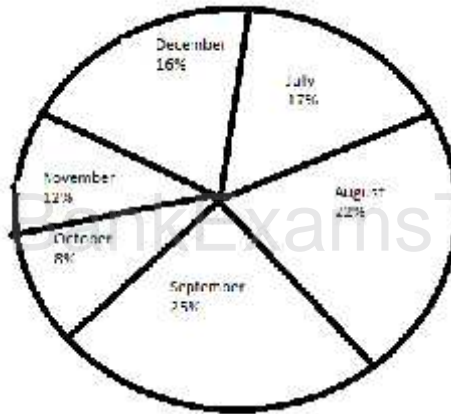Graduate female population of Goa = 24 * 20/100 * 7/16 = 2.1 lakh

=> Required Percentage = 1.62/2.1 * 100 = 77%

Directions (Q. 1-5): Study the following pie chart and table carefully to solve the questions given below

Percentage wise distribution of the number of LCD sold by the shopkeeper during six months

Total number of LCD sold = **45000**

The ratio between the numbers of LCD sold of company A and Company B during six months

Month	Ratio
July	8 : 7
August	4 : 5
September	3 : 2
October	7 : 5
November	7 : 8
December	7 : 9

Ques 1. What is the ratio of the number of LCD sold of company B during July to those sold during December of the same company?
a) 119 : 145   b) 116 : 135   c) 119 : 135
d) 119 : 130   e) None of these

Solution: Total number of LCD sold in the month of July

$$= 45000 \times \frac{17}{100} = 7650$$

Total number of LCD sold by Company B in the month of July

$$= 7650 \times \frac{7}{15} = 3570$$

Total number of LCD sold in the month of December

$$= 45000 \times \frac{16}{100} = 7200$$

LCD sold by Company B in the month of December

$$7200 \times \frac{9}{16} = 4050$$

Required Ratio $= \frac{3570}{4050} = \frac{357}{405} = \frac{119}{135} = 119 : 135$

Ques 2. If 35% of the LCD sold by company A during November were sold at a discount, how many LCD of Company A during that month were sold without a discount?
a) 882   b) 1635   c) 1638
d) 885   e) None of these

Solution :-

$$\Rightarrow 45000 \times \frac{12}{100} \times \frac{1}{15} \times \frac{65}{100}$$

$$\Rightarrow 1680 \text{ Ans}$$

Ques 3. If the shopkeeper earned a profit of Rs. 433 on each LCD sold by Company B during October, what was his total profit earned on the LCD of that company during the same month?

a)Rs. 6,49,900   b)Rs. 6,45,900   c)Rs. 6,49,400

d)Rs. 6,49,500   e) None of these

Solution: Number of LCD sold in the month of October

$$= 45000 \times \frac{8}{100} = 3600$$

Therefore, Number of LCD sold by Company B in the month of October

$$= 3600 \times \frac{5}{12} = 1500$$

Therefore, total profit earned by Company B in the month of October

$$= 1500 \times 433 = 649500$$

Ques 4. The number of LCD sold of Company A during July is approximately what per cent of the number of LCD sold of Company A during December?

a) 110   b) 140   c) 150
d) 105   e) 130

Solution: number of LCD sold in the month of July

$$= 45000 \times \frac{17}{100} = 7650$$

Number of LCD sold by Company A in the month of July

$$= 7650 \times \frac{8}{15} = 4080$$

Number of LCD sold in the month of December

$$= 45000 \times \frac{16}{100} = 7200$$

Number of LCD sold by Company A in the month of December

$$= 7200 \times \frac{7}{16} = 3150$$

Therefore, required % $= \frac{4080}{3150} \times 100 = 129.52 \approx 130$

Ques 5. What is the total number of LCD sold of Company B during August and September together?

a) 10000   b) 15000   c) 10500

d) 9500   e) None of these

Solution: (QUICKER METHOD):

Total number of LCD sold by Company B in August and
September

$$- \left[\frac{22}{100} \times 45000 \times \frac{5}{9} + \frac{25}{100} \times 45000 \times \frac{2}{5}\right] = 10000$$

Directions (Q. 1-5): Study the given table carefully to answer the following questions.

Field Name	Shape	Side (in m)	Base (in m)	Height (in m)	Radius (in m)	Cost of flooring (in Rs. per sq. metre)	Cost of fencing (in Rs. per m)
A	Triangle		16	12		50	20
B	Rectangle	10 × 20				30	15
C	Square	15				40	18
D	Parallelogram		20	12		60	25
E	Circle				10	45	22

1) What is the cost of flooring of A?
a) Rs.4000   b) Rs.4600   c) Rs.4800
d) Rs.5000   e) Rs.4400

2) What is the difference between the cost of fencing of C and that of B?
a) Rs.180   b) Rs.120   c) Rs.240
d) Rs.360   e) Rs.480

3) What is the ratio of the cost of flooring to that of fencing of field D?
a) 4 : 1   b) 6 : 1   c) 8 : 1
d) 9 : 1   e) 5 : 1

4) The cost of fencing of field E is approximately what percent of the cost of flooring of field C?
a) 10.5%   b) 19.46%   c) 18.71%
d) 15.36%   e) 13.82%

5) The cost of fencing of field C is what percent of the cost of fencing of field D?
a) 87.54%   b) 67.5%   c) 72.13%
d) 54.36%   e) 46.5%

Directions (Q. 6-10): Study the given chart carefully and answer the following questions.

Train A

Station	Arrival time	Departure time	Distance from origin (in km)	Number of passengers boarding at each station	Fare (in Rs.)
Ahmedabad	Starting	5:00 pm	--	400	--
Vadodara	6:30 pm	6:35 pm	100	100	50
Bharuch	8:50 pm	9:00 pm	250	90	120
Mumbai	4:00 am	4:10 am	800	300	400
Pune	7:30 am	7:45 am	1050	150	500
Solapur	10:20 am	Terminates	1280	--	620

Train B

Station	Arrival time	Departure time	Distance from origin	Number of passengers boarding at each station	Fare (in Rs.)
Solapur	Starting	6:00 pm	--	300	--
Pune	7:40 pm	7:45 pm	230	150	120
Mumbai	9:30 pm	9:35 pm	480	270	220
Bharuch	5:40 am	5:55 am	1030	50	500
Vadodara	9:00 am	9:10 am	1180	100	570
Ahmedabad	12:00 noon	Terminates	1280	--	620

6) The number of passengers boarding Train A at Vadodara is what percent of the number of passengers boarding Train B at Mumbai?
a) 37.03%   b) 47.03%   c) 27.03%
d) 47.30%   e) None of these

7) What is the difference between the speed of Train A and that of Train B?
a) 2.73 kmph   b) 1.97 kmph   c) 3.6 kmph
d) 2.62 kmph   e) 3.9 kmph

8) What is the ratio of the total passengers of Train A to that of Train B?
a) 102 : 79   b) 104 : 87   c) 103 : 87
d) 110 : 79   e) 113 : 87

9) The total income of Train A is what percent of the total income of Train B?
a) 180%   b) 159.51%   c) 123.29%
d) 125%   e) 127.64%

10) If the average speed of Train A increases by 10% then when will it reach to its destination?
a) 7:45 am   b) 9:45 am   c) 8:45 am
d) 10:45 am   e) 11:45 am

Solutions

1. Option C
A is a triangle
So, area of A = 1/2 × 16 × 12 = 96 sqm

So, cost of flooring of A = 96 × 50 = Rs.4800

2. Option A
Perimeter of B = 2 (10 + 20) = 60 m
So, cost of fencing of B = 60 × 15 = 900
Perimeter of C = 4 × 15 = 60 m
So, cost of fencing of C = 60 × 18 = Rs.1080
So, required difference = 1080 – 900 = Rs.180

3. Option D
Area of D = Base × Height
= 20 × 12 = 240 mtrsq
So, cost of flooring of D= 240 × 60 = Rs.14400
Perimeter of D = 2 (20 + 12) = 64 m
So, cost of fencing of D = 64 × 25 = Rs.1600
So, required ratio = 14400 : 1600 = 9 : 1

4. Option D
Perimeter of E = 2 r = 2 × 22/7 × 10 = 440/7 m
Cost of fencing of E = 440/7 × 22 = Rs.1382.85
Area of C = 15 * 15= 225 mtr square
So, cost of flooring of C = 225 × 40 = Rs.9000
So, required % = 1382.85 x 100 / 9000
= 15.36% of flooring cost of C.

5. Option B
Fencing cost of C = Rs.1080
Fencing cost of D = Rs.1600
Required % = 1080/1600 × 100 = 67.5%

6. Option A
Required percentage = 100/270 × 100 = 37.03%

7. Option A
Speed of Train A = 1280 / 10:20 am – 5:00 pm
= 1280 / 17 hours 20 minutes
= 1280 x 3 / 52 = 73.84 kmph
Speed of train B = 1280 / 12:00 noon   6:00 pm
= 1280/18 hours = 71.11 kmph
So, difference between the speed of train A and train B = 73.84   71.11 = 2.73 kmph

8. Option B
Total passengers in train A = 400 + 100 + 90 + 300 + 150 = 1040
Total passengers in train B = 300 + 150 + 270 + 50 + 100 = 870
So, required ratio = 1040 : 870 = 104 : 87

9. Option E
Total income of train A = (400 × 50) + (500 × 70) + (590 × 280) + (890 × 100) + (1040 × 120) = Rs.434000
Total income of train B = (300 × 120) + (450 × 100) + (620 × 280) + (670 × 70) + (770 × 50) = Rs.340000
So, required % = 434000 x 100 / 340000
= 127.64% of the total income of train B.

10. Option C

If the average speed of train A increases by 10%
then its new speed = 73.84 × 110/100
= 81.22 kmph
Time taken by train A during the journey = 1280/81.22 = 15.75 hours = 15 hours 45 minutes
The time when the train will reach its destination = 5 pm + 15 hours 45 minutes = 8:45 am

Directions (Q. 1-6): Read the following table carefully and answer the questions given below it. Data related to number of students who got admission and who left the given five colleges 1,2,3,4 and 5 during the given years.

	COLLEGE 1		COLLEGE 2		COLLEGE 3		COLLEGE 4		COLLEGE 5	
YEARS	ADM	LEFT	ADM	LEFT	ADM	LEFT	ADM	LEFT	ADM	LEFT
2008	161	-	148	-	179	-	116	-	128	-
2009	148	58	172	60	161	90	208	60	191	50
2010	135	69	188	96	143	101	169	45	167	79
2011	112	88	173	59	165	58	142	56	185	82
2012	141	39	151	48	179	66	155	108	142	91

Ques 1. What is the average number of students who got admission in College 4 during all the given years taken together?
(a) 156
(b) 164
(c) 166
(d) 162
(e) 158

Ques 2. If the respective ratio of number of boys and girls in College 2 at the end of 2010 was 5:6, what was the number of girls in College 2 at the end of 2010?
(a) 212
(b) 186
(c) 208
(d) 192
(e) 172

Ques 3. In which of the given colleges the number of students were the highest at the end of 2009?
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

Ques 4. What was the total number of students in College 1 at the end of 2011?
(a) 335
(b) 347
(c) 329
(d) 363
(e) 341

Ques 5. Number of students in College 5 at the end of 2009 is what percent more than the number of students is College 3 at the end of 2009 ?
1

Ramandeep Singh

(a) 9 ----
         5

(b) 11 ----
          1
          5

(c) 3 ----
          4
          5

(d) 7 ----
          3
          5

(e) 5 ----
          4
          5

Ques 6. What is the respective ratio between total number of students who joined College 3 in 2010 and 2011 together and total number of students who left College 5 in 2010, 2011 and 2012 together ?
(a) 22:17
(b) 11:9
(c) 13:9
(d) 11:7
(e) 22:19

ANSWERS

(1) (e) - 158

(2) (d) 192

(3) (e) 5

(4) (e) 341

(5) (d) 7 ----
              3
              5

(6) (b) 11:9

SOLUTIONS

(1) Average = (116 + 208 + 169 + 142 + 155) / 5
           = 158

(2) Total admitted student till 2010 = 148 + 172 + 188 = 508
    Total number of students who left till 2010 = 60 + 96 = 156
    Difference = 352
    Number of girls = 6/11 * 352 = 192

(3) College 1 = 161 + 148 - 58 = 251
   College 2 = 148 + 172 - 60 = 260
   College 3 = 179 + 161 - 90 = 250
   College 4 = 116 + 208 - 60 = 264
   College 5 = 128 + 191 - 50 = 269

(4) (116 + 148 + 135 + 112) - (58 + 69 + 88) = 341

(5) Students of College 5 at the end of 2009 = 128 + 191 - 50 = 269
    Students of College 3 at the end of 2009 = 179 +161 - 90 = 250
     Percentage = (269-250) / 250 * 100 = 38/5

(6) Ratio = (143 + 165) : (79 + 82 + 91)
                    11   :   9

Data interpretation sets for IBPS PO Mains exam :-

Set 1.

Directions (Q. 1-5): Study the table carefully and answer the questions that follow.

Profit [in Rs. 1000] made by six different shopkeepers over the months

Month / shopkeeper	Oct. 2009	Nov. 2009	Dec. 2009	Jan. 2010	Feb. 2010	March 2010
P	5.25	6.04	5.84	6.10	5.95	6.02
Q	4.84	4.28	4.97	4.88	5.04	5.12
R	4.99	5.82	5.48	5.45	5.68	5.36
S	5.06	5.11	5.28	5.38	5.44	5.59
T	5.28	4.96	5.31	5.69	4.93	5.72
U	5.94	6.23	5.87	6.07	6.19	6.23

Ques 1. Which shopkeeper's profit kept increasing continuously over the given months?

Solution: After reading the table it is clear that profit of S is increasing continuously.

Ques 2. What was the average profit earned by shopkeeper R in the months of October 2009 and November 2009 together?

Solution: Required Average = $\frac{4.99 + 5.82}{2}$ × 1000 = Rs. 5405

Ques 3. What is the percentage increase in profit of shopkeeper S in the month of December 2009 over the previous month?

Solution: Required Percentage = $\frac{5.28 - 5.11}{5.11}$ × 100% = 3.33%

Ques 4. What is the respective ratio between the profit earned by shopkeeper U in the months of February 2010 and March 2010 together to that earned by shopkeeper Q in the same months?

Solution: Required Ratio $= \dfrac{6.19 + 6.23}{5.04 + 5.12} = \dfrac{12.42}{10.16} = \dfrac{621}{508} = 621 : 508$

Ques 5. What is the difference in profit earned by shopkeeper T in January 2010 from the previous month?

Solution : Required Difference = Rs. (5.69 - 5.31) x 1000 = Rs. 380

Set 2

Directions (Q. 1-5) Study the following tables carefully and answer the questions given below them.

Number of candidates appeared in a competitive examination from five centres over the years.

Centre / year	Mumbai	Delhi	Kolkata	Hyderabad	Chennai
2001	35145	65139	45192	51124	37346
2002	17264	58248	52314	50248	48932
2003	24800	63309	56469	52368	51406
2004	28316	70316	71253	54169	52315
2005	36503	69294	69632	58360	55492
2006	29129	59216	64178	48230	57365
2007	32438	61345	56304	49178	58492

Approximate percentage of candidates qualified to appeared in the competitive examination from five centres over the years.

Mumbai	Delhi	Kolkata	Hyderabad	Chennai
12	24	18	17	9
10	28	12	21	12
15	21	23	25	10
11	27	19	24	8
13	23	16	23	13
14	20	21	19	11
16	19	24	20	14

Ques 1. Approximately, what was the difference between the number of candidates qualified from Hyderabad in 2001 and 2002?

Solution :
 Number of candidates qualified from Hyderabad in 2001
= 51124 x 0.17 = 8691
Number of candidates qualified from Hyderabad in 2002
= 50248 x 0.21 = 10552
So, required difference = 10552 – 8691 = 1861

Ques 2. Approximately, what was the total number of candidates qualified from Delhi in 2002 and 2006 together?

Solution: Number of candidates qualified from Delhi in 2002

= 58248 × 0.28 = 16309

Number of candidates qualified from Delhi in 2006

= 59216 × 0.20 ≈ 11843

So, required number = 16309 + 11843 = 28152 ≈ 28150

Ques 3. In which of the following years, was the difference of number of candidates appeared from Mumbai over the previous year the minimum?

Solution: Candidate appeared from Mumbai

Difference in 2002 = 35145 – 17264 = 17881
Difference in 2003 = 24800– 17264= 7536
Difference in 2004 = 28316 – 24800 = 3516
Difference in 2005 = 36503 – 28316 = 8187
Difference in 2006 = 36503 – 29129 = 7374
Difference in 2007 = 32438 – 29129 = 3309
So, least difference was in 2007.

Ques 4. In which of the following years, was the number of candidates qualified from Chennai, the maximum among the given years?

Solution: Number of candidates qualified from Chennai

In 2003 = 51406 × 0.10 ≈ 5141

In 2005 = 55492 × 0.13 ≈ 7214

In 2006 = 57365 × 0.11 ≈ 6310

In 2007 = 58492 × 0.14 ≈ 8189

So, maximum number was in 2007

Ques 5. Approximately, how many candidates appearing from Kolkata in 2004 qualified in the competitive examination?

Solution: Number of candidates qualified from Kolkata in 2004

= 71253 × 0.19 = 13539 ≈ 13540

Directions (Q. 1 – 5): Study the chart carefully to answer the following questions.

	Temperature				
	Durban	**Quito**	**Columbus**	**Lisbon**	**Riyadh**
January	20°C	15°C	20°C	22°C	35°C
February	21°C	16°C	18°C	20°C	30°C
March	22°C	18°C	16°C	22°C	32°C
April	25°C	20°C	15°C	25°C	36°C
May	28°C	22°C	14°C	18°C	38°C

Q1. What is the difference between the average temperature of Durban and that of Quito?
a) 8°C   b) 11°C   c) 9°C
d) 7°C   e) 5°C

Q2. What is the difference between the average temperature of all cities in May and that if February?

a) 10°C   b) 13°C   c) 3°C

d) 2°C   e) 5.8°C

Q3. The average temperature of Riyadh is approximately what percent more than that of Columbus?

a) 105%   b) 106%   c) 93.5%

d) 87.21   e) 110.52%

Q4. What is the ratio of the average temperature of Lisbon to that of Quito?

a) 91 : 89   b) 107 : 91   c) 57 : 47

d) 103 : 95   e) 2 : 3

Q5. The average temperature in May is what percent of the average temperature in March of the given five cities?

a) 89.91%   b) 103.51%   c) 120%

d) 109.09%   e) 105.21%

Solutions

Answer 1. **(Option E)**

$$\text{Average temperature of Durban} = \frac{(20+21+22+25+28)}{5} = 23.2°C$$

$$\text{Average temperature of Quito} = \frac{(15+16+18+20+22)}{5} = 18.2°C$$

$$\text{So, required difference} = (23.2° - 18.2°C) = 5°C$$

Answer 2. **(Option C)**

$$\text{Average temperature in May} = \frac{(28°+22°+14°+18°+38°)C}{5} = 24°C$$

$$\text{Average temperature in Feb.} = \frac{(21°+16°+18°+20°+30°)C}{5} = 21°C$$

$$\text{So, required difference} = (24°C - 21°C) = 3°C$$

Answer 3. **(Option B)**

$$\text{Average temperature of Riyadh} = \frac{(35°+30°+32°+36°+38°)C}{5} = 34.2°C$$

$$\text{Average temperature of Columbus} = \frac{(20°+10°+10°+13°+14°)C}{5} = 16.6°C$$

$$\text{So, required \%} = \frac{34.2° - 16.6°C}{16.6°} \times 100\%$$

$$= 106.02\%$$

106% more than average temperature of Columbus

Answer 4. **(Option B)**

$$\text{Average temperature of Lisbon} = \frac{(22°+20°+22°+25°+18°C}{5} = 21.4°C$$

$$\text{Average temperature of Quito} = \frac{15°+16°+18°+20°+22°}{5} = 18.2°C$$

So, required ratio = 21.4 : 18.2 = 107 : 91

Answer 5.   (Option B)

Average temperature in May = 24°C

$$\text{Average temperature in March} = \frac{22°+18°+16°+22°+32°C}{5} = 22°C$$

So, average temperature in May is $\frac{24 \times 100}{22}$ = 109.09% of average temperature in March

Directions (Q. 1-5): Read the following chart carefully and give the answers

Sale of computer hardware by computer industry over the years :-
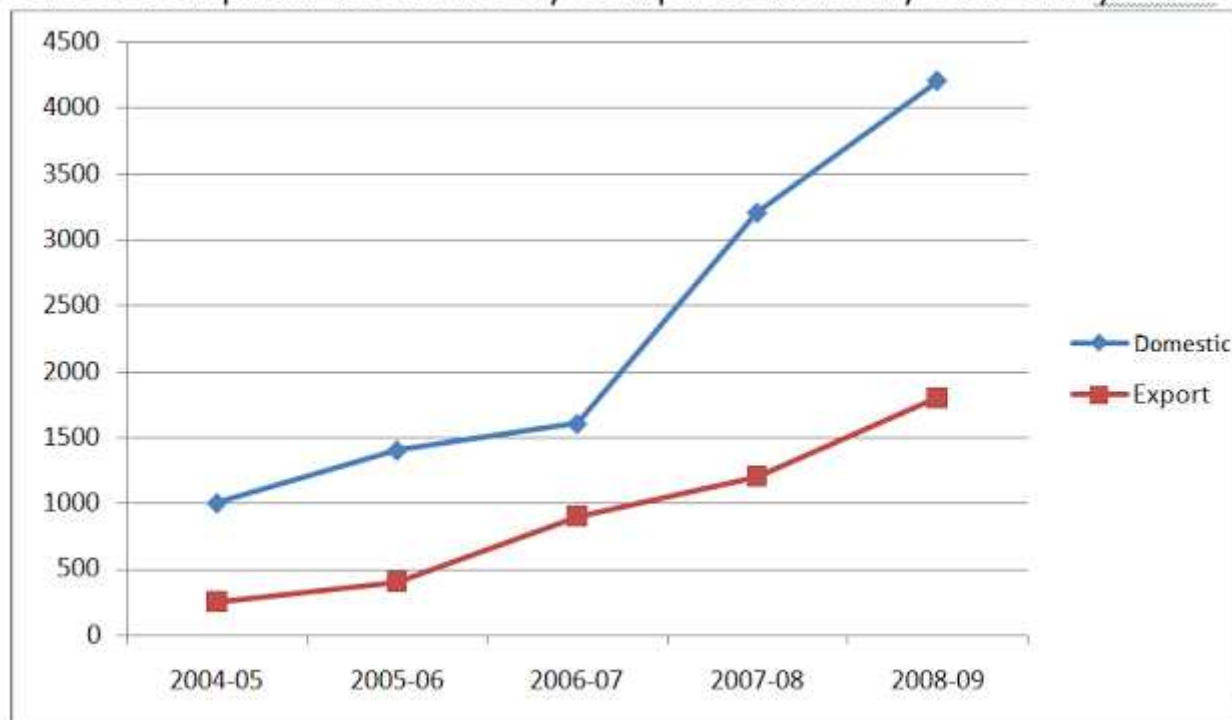
Q.1. What was the difference between the total hardware sale in exports sector in 2005-06 and 2006-07 together and hardware sale in domestic sector in 2006-07?
a) Rs.150cr
b) Rs.200cr
c) Rs.300cr
d) 400cr
e) None of these

Q.2. What was the difference in the average sale of hardware between the domestic and exports sector?

a) 600cr
b) 750cr
c) 900cr
d) 1560cr
e) None of these

Q.3. Approximately what was the percentage increase in the sale of hardware in domestic sector from 2006-07 to 2008-09?
a) 25
b) 30
c) 35
d) 40
e) None of these

Q.4. What was the difference in the sale of hardware between domestic and export markets in 2006-07?
a)500 Cr
b)700 Cr
c)1000 Cr
d)1200 Cr
e) None of these

Q.5. In which of the following years was the percentage increase in sale of hardware in domestic sector maximum over the proceeding year?
a) 2004-05
b) 2006-07
c) 2007-08
d)2008-09
e) None of these

(1)Ans: 3 (2)Ans: 5 (3)Ans: 5 (4)Ans: 2 (5)Ans: 3

Set 1

Directions (Q 1-5) Study the pie chart and table carefully based on that answer the following questions.

The pie chart shows the percentage of Employees working in different government department

Total number of Employees=1200

The table shows the no. Of females in each department

Manager	200
Account	40
Clerk	80
Marketing	167
Hr	116

Q1 What is total number of males working in department Manager, HR and Clerk.
a) 400   b) 380   c)394
d)396   e)360

Q2 What is the ratio of females working in department Manager and clerk and males in department HR and marketing .
a)56:37   b)56:35   c)55:37
d)55:30   e)57:37

Q3 Number of Females working in Manager department is what percentage of total number of employees working in all the department.
a)17%   b)20%   c)9%
d)15%   e)18%

Q4 What is the central angle corresponding to the total number of clerk .
a)52.6 °   b)55.2°   c)61.1°
d)56.4°   e)57.6°

Q5 What is the ratio between total number of females employees working in all the department together and males working in all the department.
a) 187:200   b)199:201   c)199:221
d)201:221   e)201:199

<div style="background:yellow">**Set 2**</div>

Directions: Q. (6-10) Study the graph carefully and answer the following question.

Data related to Income (In Rsthousand) and Expenditure (in Rs thousand) of company during six months.

Company Income and Expenditure
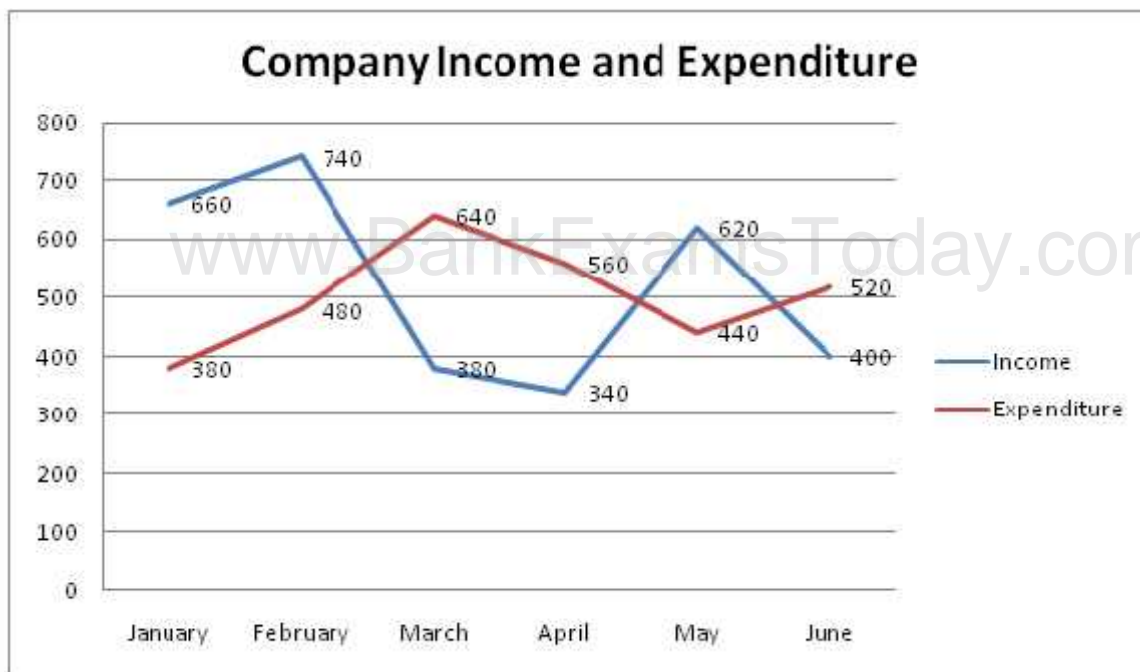
Profit =(Income –Expenditure)
Percent profit =(Profit /Expenditure *100)
Loss =(Expenditure-Income)
Loss percent =(Loss/Expenditure *100)

Q6. What is average profit earned by company In January ,February and May.
a)280   b)220   c)240
d)200   e)260

Q7. What is total loss percentage incurred by company in March and April .
a)40   b)50   c)30
d)45   e) 36

Q8. Profit earned by company in Feb is by what percent more than profit earned by company in May.
a)44 3/9   b)48 8/9   c)38 4/9
d)42 2/9   e)44 4/9

Q9. in Which month company earned the maximum profit .
a) January   b) February   c) March
d) April   e) May

Q10. If company income increased by 20% from June to July and Expenditure decrease by 10% .What was his profit percent in month of July.
a)72 1/3   b)73 1/3   3)75 2/5
d)75 1/3   e)73 2/3

Answers
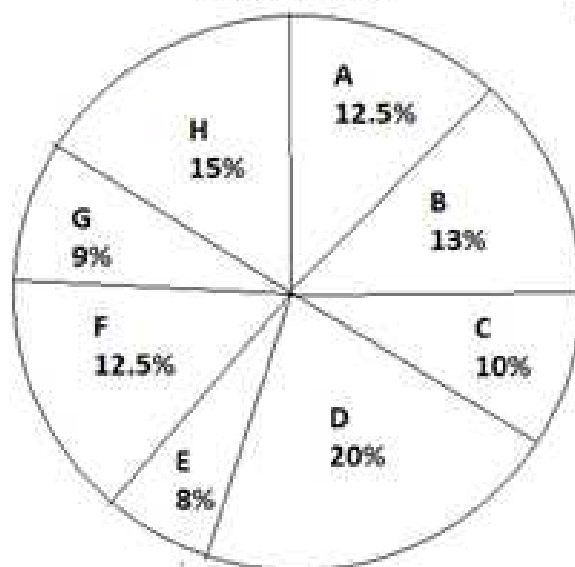
Q1-(d)
Q2-(a)
Q3-(a)
Q4-(e)
Q5-(e)
Q6-(c)

Q7-(a)
Q8-(e)
Q9-(a)
Q10-(b)

Directions: The following graph shows the no. of workers of different categories A, B, C, D, E, F, G and H of a factory for the two different years.

TOTAL NO. OF WORKERS IN 1997= 1900
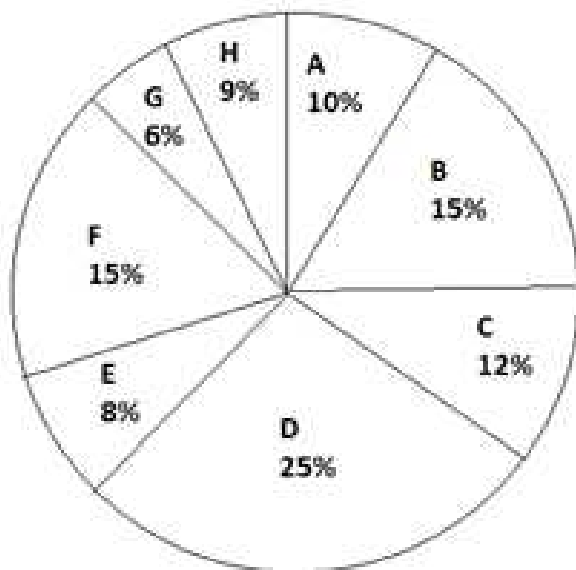
IN 1998=1800

Solution:

	1997	1998
A	10% of 1900 = 190	12.5 % of 1800 = 225
B	285	234
C	228	180
D	475	360
E	152	144
F	285	225
G	114	162
H	171	270

Q 1. What is the total no. of increased workers for the categories in which the no. of workers has been increased?

Solution: The no. of workers has been increased in the category A (from 190 to 225 = 35), G (from 114 to 162 = 48) and H (from 171 to 270 = 99).
∴ Total no. of increased workers = 35 + 48 + 99 = 182.

Q 2. Find the percentage decrease in the no. of workers for the categories D and F taken together?

Solution: Reqd. percentage decrease

$$\frac{(475 - 360) + (285 - 225)}{475 + 285} \times 100\%$$

$$= \frac{175}{760} \times 100\% \quad = 23\%$$

Q 3. Which categories have shown the decrease in the no. of workers from 1997 to 1998?

Solution: Need to study the pie chart
Reqd. categories are B, C, D, E and F.

Q 4. Find the maximum possible difference of the no. of workers of any two categories taken together for one year and any two for the other year.

Solution: For the reqd. purpose, we have to select

(1) The two categories having the highest no of workers in 1997 and simultaneously the two categories having the least no. of workers in 1998 and
(2)The two categories having the highest no. of workers in 1998 and simultaneously the two categories having the least no. of workers in 1997.

Q 5. What is the difference between the no. of the category F for the two years and the same category for the two years?

Solution: The difference between the no. of workers of the category F for the two years = 285 – 225
= 60
And the percentage difference (15 – 12.5) = 2.5%
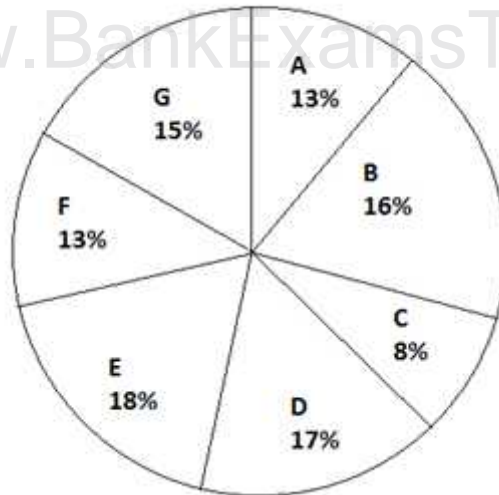We have 100% = 3600
2.5 % = (360/100 ×2.5) = 90

SET 2

Directions (Q 1-5): Study the following chart to answer the questions:

Village	% population below poverty line
A	45
B	52
C	38
D	58
E	46

F	49
G	51

Proportion of population of seven villages in 1995

Q 1. In 1996, the population of villages A as well as B is increased by 10% from the year 1995. If the population of village A in 1995 was 5000 and the percentage of population below poverty line in 1996 remains same as in 1995, find approximately the population of village B below poverty line in 1996.

Solution: Population of village B in 1995 = $5000 \times \frac{16}{13} \approx 6150$

Population of B in 1996 $\approx 6150 \times \frac{110}{100} = 6750$

Population below poverty line = 52% of 6750 ≈ 3500

Q2. If in 1997 the population of village D is increased by 10% and the population of village G is reduced by 5% from 1995 and the population of village G in 1995 was 9000, what is the total population of villages D and G in 1997?

Solution: Population of village D in 1995 = 9000 ×17/15 = 10,200

Population of village D in 1997 = 10,200 ×110/100 = 11,220
Population of village G in 1997 = 9,000 ×95/100 = 8,550

Total population of villages D and G in 1997 = 11,220 + 8,550 = 19,770.

Q 3. If in 1995 the total population of the seven villages together was 55,000 approximately, what will be population of village F in that year below poverty line?

Solution: Population of village F below poverty line
= 55000 ×13/100 ×49/100   3500

Q 4. If the population of village C below poverty line in 1995 was 1520, what was the population of village F in 1995?

Solution:Population of village F in 1995
= 1520 ×100/38 ×13/8=6500

Q 5. The population of village C is 2000 in 1995. What will be the ratio of population of village C below poverty line to that of the village E below poverty line in that year?

Solution: Population of village C below poverty line = $2000 \times \frac{38}{100} = 760$

Population of village E below poverty line

$$= \frac{2000}{8} \times 18 \times \left(\frac{46}{100}\right) = 2070$$

∴ Required ratio $= \frac{760}{2070} = 76 : 207$

Directions (Q. 1-6)Study the following table carefully and answer the questions given below:

Number of boys of standard xi participating in different games

Games classes	XI A	XI B	XI C	XID	XIE	TOTAL
Chess	8	8	8	4	4	32
Badminton	8	12	8	12	12	52
Table tennis	12	16	12	8	12	6
hockey	8	4	8	4	8	32
Football	8	8	12	12	12	52
Total No. of boys	44	48	48	40	48	228

Note:
- Every student (boy or girl) of each class of standard XI participates in a game.
- In each class, the number of girls participating in each game is 25% of the number of boys participating in each game.
- Each student (boy or girl) participates in one and only one game.

Q 1. All the boys of class XI D passed the annual examination but a few girls failed. If all the boys to girls as 5:1, what would be the number of girls who failed in class XI D?

Solution: Total number of boys in XI D = 40
Number of girls in XI D = 25% of 40 = 10
Since all the boys of XI D passed, so the number of boys in XII D = 40
Ratio of boys & girls in XII D is 5: 1
Number of girls in XII D = 1/5 ×40=8
∴number of girls who failed = (10 – 8) = 2

Q 2. Girls playing which of the following games need to be combined to yield a ratio of boys to girls of 4 : 1, if all the boys playing Chess and Badminton are combined?

Solution:
Total number of boys playing Chess & Badminton = (32 + 52) = 84
Number of girls playing Hockey & Football = 25% of 84
= 1/4 ×84=21
Since 84: 21 is 4: 1, so the girls playing hockey and football are combined to yield a ratio of boys to girls as 4: 1.
So, Hockey and Football is the correct answer.

Q 3. What should be the total number of students in the school if all the boys of class XI A together with all the girls of Class XI B and Class XI C were equal to 25% of the total number of students?

Solution: Number of boys in XI A = 44
Number of girls in XI B = 25% of 48 = 12
Number of girls in XI C = 25% of 48 = 12
(44 + 12 + 12) = 68
Let x be the total number of students.
Then 25% of x = 68
Or,x = (68 × 100)/25 =272
Total number of students in the school = 272.

Q 4. Boys of which of the following classes need to be combined to equal four times the number of girls in class XI B and class XI C were to be equal to 25% of the total number of students?

Solution:

4 times the number of girls in XI B & XI C = 4 (12 + 12) = 96.

Q 5. If boys of class XI E participating in chess together with girls of class XI B and class XI C participating in Table Tennis & Hockey respectively are selected for a course at the college of sports, what percent of the students will get this advantage approximately?

Solution: Number of boys in XI E = 4

Number of girls in XI B playing Table tennis = 25% of 16 = 4

Number of girls in XI C playing Hockey = 25% of 8 = 2

(4 + 4 + 2) = 10

Total number of students

(228 + 25% of 228) = 285

Let x% of 285 = 10

Or,x = (10 × 100)/285 =3.51

Total number of students getting advantage approximately is 3.51.

Q 6. If for social work every boy of class XI D and class XI C is paired with a girl of the same class, what percentage of the boys of these two classes cannot participate in social work?

Solution:
Since the number of girls = 25% of the number of boys, so only 25% of the boys can participate in social work

Directions (Q. 1-5) Study the table carefully and answer the questions given below:

SET 2

Financial Statement of A Company Over The Years (Rupees in Lakhs)

Year	Gross Turnover Rs.	Profit before int. and depr.	Interest	Depreciation Rs.	Net profit Rs.
1980 - 81	1380.00	380.92	300.25	69.90	10.67
1981-82	1401.00	404.98	315.40	71.12	18.46
1982-83	1540.00	520.03	390.85	80.02	49.16
1983-84	2112.00	599.01	444.44	88.88	65.69
1984-85	2520.00	811.00	505.42	91.91	212.78
1985-86	2758.99	920.00	600.20	99.00	220.80

Q 1. During which year did the 'Net Profit' exceed Rs. 1 crore for the first time?

Solution: 1984-85

only a look is needed (can be studied in the table).

Q 2. During which year was the 'Cross Turnover' closest to the thrice the 'Profit before Interest and depreciation'?

Solution: The ratio of 'Gross turnover' to the 'Profit before Interest and Depreciation':

In 1980-81 is $\frac{1380}{380.92} = 3.62$

In 1981-82 is $\frac{1401}{404.98} = 3.46$

In 1982-83 is $\frac{1540}{520.03} = 2.96$

In 1983-84 is $\frac{2112}{599.01} = 3.53$

In 1984-85 is $\frac{2520}{811} = 3.11$

In 1985-86 is $\frac{2758}{920} = 3$

Q 3. During which of the given years did the 'Net Profit' form the highest proportion of the 'Profit before Interest and Depreciation'?

Solution: We look at the 'Net profit' and 'Profits before Interest and Depreciation'. We need to find the year in which 'profits before……..' is the smallest multiple of 'Net Profits'. Use approximations, $38 \div 1$, $40 \div 2$, $52 \div 5$, $60 \div 6.5$, $80 \div 20$, $92 \div 22$ and make quick mental calculation. Obviously any one of the last two is the answer. We have $80 \div 20=4$, $92 \div 22>4$, and hence $80 \div 20$ is the minimum.

Hence, 1984 – 85 is the answer.

Q 4. Which of the following registered the lowest increase in terms of rupees from the year 1984-85 to the year 1985 – 86?

Solution: Mental calculation with approximation is sufficient. Among 2700 -2500, 900 – 800, 600 – 500, 99 – 92 and 220 – 212, the fourth is a single digit figure and it is the least.

Q 5. The 'Gross Turnover' for 1982 – 83 is about what per cent of the 'Gross Turnover' for 1984 – 85?

Solution: Approximately $\frac{15}{25} \times 100 = 60$.

Directions (1 - 5): Study the following graph carefully and answer the questions that follow:

The graph given below represents the number of users of two broadband services A and B across 5 cities P, Q, R, S and T.
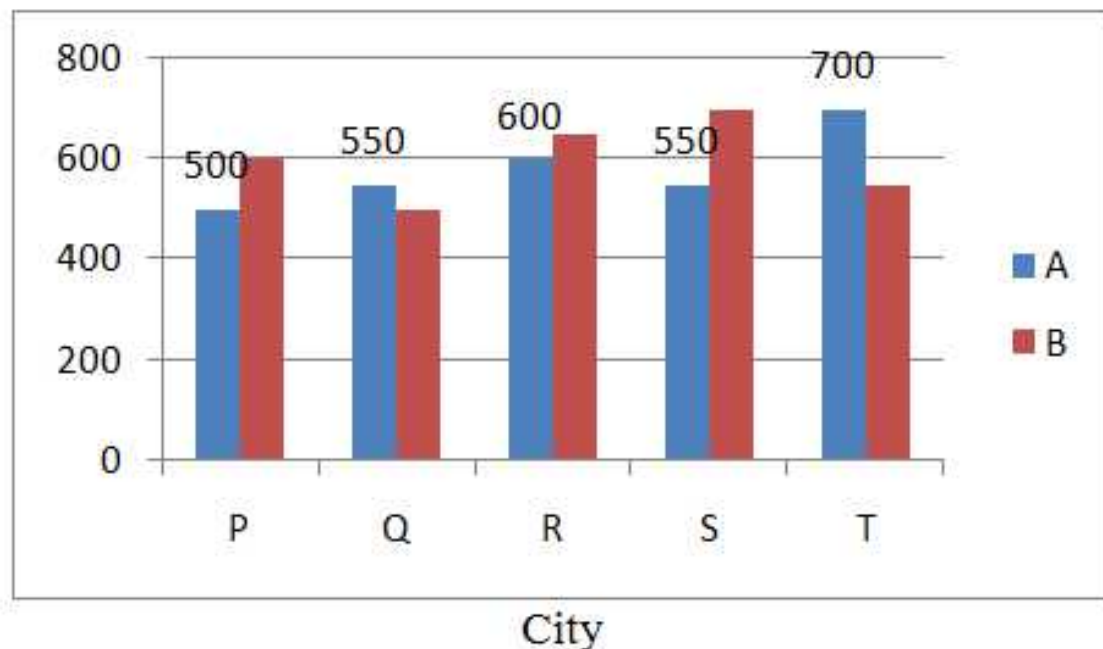
Q1. What is the total number of users of brand B across all give cities together?
   a) 2700   b) 3000   c) 3100
   d) 2900   e) 3200

Q2. The number of users of brand A in city T is what percent of the number of users of brand B in city Q?

a) 150   b) 110   c) 140

d) 160   e) 120

Q3. What is the average number of users of brand A across all five cities together?

a) 560   b) 570   c) 580

d) 590   e) 550

Q4. What is the difference between the total number of users of brand A and B together in city R and the ottal number of users of brand A and B together in city P?

a) 170   b) 140   c) 130

d) 150   e) 160

Q5. What is the respective ratio of the number users of brand A in city P to the number of users of brand B in city S?

a) 5 : 7   b) 4 : 7   c) 2 : 5

d) 3 : 4   e) 5 : 6

Answers

Solution – 1 (Option B)

Total users of brand B across five cities = 600 + 500 + 650 + 700 + 550 = 3000

Solution – 2 (Option C)

Brand A users in city T = 700

Brand B users in city Q = 500

Required % = 700 / 500 $\times$ 100 = 140%

Solution – 3 (Option C)

Total users of Brand A across five cities = 500 + 550 + 600 + 550 + 700 = 2900

Average = 2900 / 5 = 580

Solution – 4 (Option D)

Brand A and B users in city R = 600 + 650 = 1250

Brand A and B users in city P = 500 + 600 = 1100

Required difference = 1250 1100 = 150

Solution – 5 (Option A)

Brand A users in city P = 500

Brand B users in city S = 700

Ratio = 500 / 700 = 5 / 7 = 5 : 7

Directions Q. (1-5) Study the given table carefully to answer the following questions.

Field Name	Shape	Side (in m)	Base (in m)	Height (in m)	Radius (in m)	Cost of flooring (in Rs. per sq. metre)	Cost of fencing (in Rs. per m)
A	Triangle		16	12		50	20
B	Rectangle	10 $\times$				30	15

		20					
C	Square	15				40	18
D	Parallelogram		20	12		60	25
E	Circle				10	45	22

Q1. What is the cost of flooring of A?
        a) Rs.4000   b) Rs.4600   c) Rs.4800
        d) Rs.5000   e) Rs.4400

Q2.What is the difference between the cost of fencing of C and that of B?
        a) Rs.180   b) Rs.120   c) Rs.240
        d) Rs.360   e) Rs.480

Q3. What is the ratio of the cost of flooring to that of fencing of field D?
        a) 4 : 1   b) 6 : 1   c) 8 : 1
        d) 9 : 1   e) 5 : 1

Q4. The cost of fencing of field E is approximately what percent of the cost of flooring of field C?
        a) 10.5%   b) 19.46%   c) 18.71%
        d) 15.36%   e) 13.82%

Q5. The cost of fencing of field C is what percent of the cost of fencing of field D?
        a) 87.54%   b) 67.5%   c) 72.13%
        d) 54.36%   e) 46.5%

Solutions

1. **Option C**

   A is a triangle
           So, area of A = $1/2 \times 16 \times 12$ = 96 sqm
           So, cost of flooring of A = 96×50 = Rs.4800

2. **Option A**

   Perimeter of B = 2 (10 + 20) = 60 m
           So, cost of fencing of B = 60×15 = 900
           Perimeter of C = 4×15 = 60 m
           So, cost of fencing of C = 60×18 = Rs.1080
           So, required difference = 1080 - 900 = Rs.180

3. **Option D**

   Area of D = Base $\times$ Height
   = 20×12 = 240m^2
           So, cost of flooring of D= 240×60 = Rs.14400
           Perimeter of D = 2 (20 + 12) = 64 m
     So, cost of fencing of D = 64×25 = Rs.1600
   So, required ratio = 14400 : 1600 = 9 : 1

4. **Option D**

Perimeter of E = 2 r = 2 × 22 / 7 × 10 = 440 / 7 m

        Cost of fencing of E = 440 / 7 × 22 = Rs.1382.85

        Area of C = $(15)^2$ = $225m^2$

        So, cost of flooring of C = 225 × 40 = Rs.9000

        So, required % = 1382.85 × 100 / 9000

    = 15.36% of flooring cost of C.

5. **Option B**

Fencing cost of C = Rs.1080

        Fencing cost of D = Rs.1600

      Required % = 1080 / 1600 × 100 = 67.5%

Directions (1 - 5): Study the following bar graph carefully to answer the questions.

Five students namely Param, Qartar, Rasheed, Sultan and Tango are termed as P, Q, R, S and T. Marks obtained by them in Physics and Chemistry :-
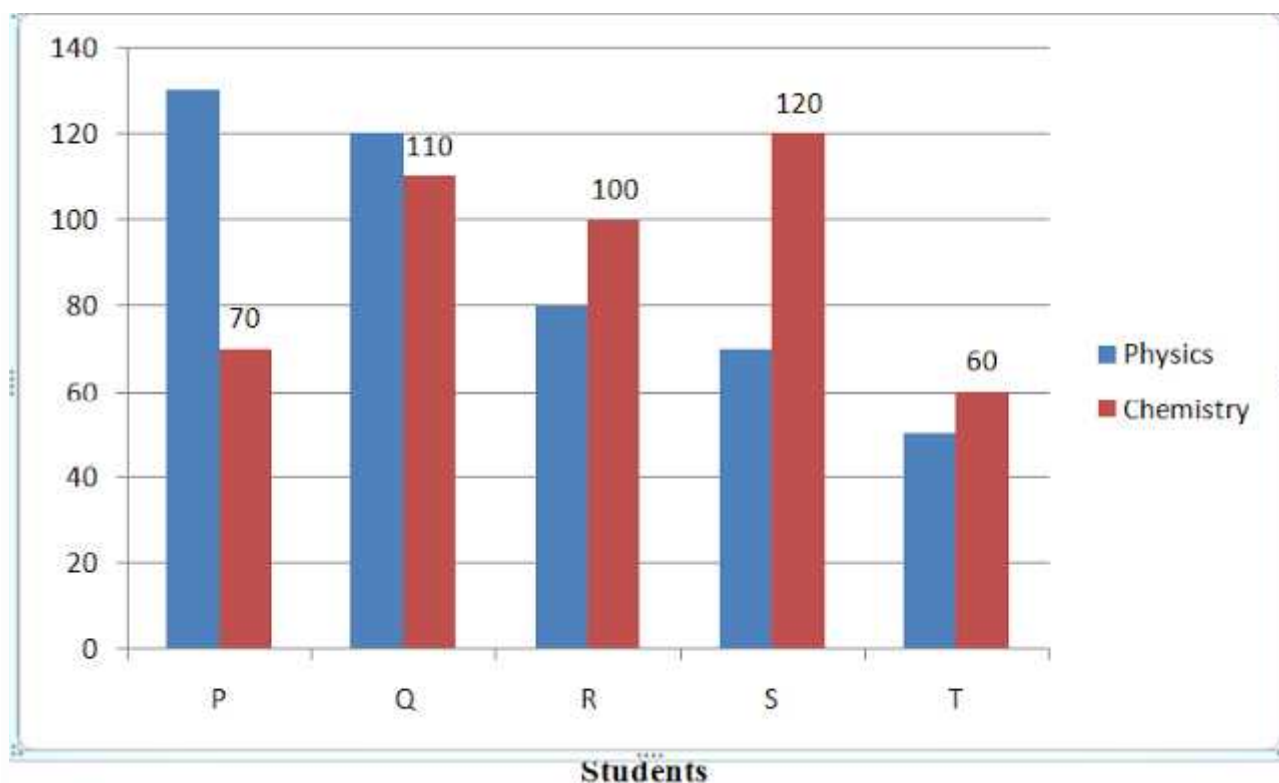
Q 1. Marks obtained by Sultan in Chemistry is what percent of the total marks obtained by all the students in Chemistry?

a) 26   b) 28.5   c) 35

d) 31.5   e) 22

Q 2. If the marks obtained by Tango in Physics were increased by 14% of the original marks, what would be his new approximate percentage in Physics if the maximum marks in Physics were 140?

a) 57   b) 32   c) 38

d) 48   e) 41

Q 3. Fill in the blank space in order to make the sentence correct as per the given information. Total marks obtained by Tango in both the subjects together is more than the marks obtained by
a) Qartar in Chemistry
b) Rasheed in Physics
c) Sultan in Chemistry
d) Param in Physics
e) Rasheed in both the subjects together

Q 4. What is the respective ratio between the total marks obtained by Param in Physics and Chemistry together to the total marks obtained by Tango in Physics and Chemistry together?
a) 3 : 2   b) 20 : 11   c) 5 : 3
d) 2 : 1   e) None of these

Q 5. What is the respective ratio between the total marks obtained by Qartar and Sultan together in Chemistry to the total marks obtained by Param and Rasheed together in Physics?
a) 23 : 25   b) 23 : 21   c) 17 : 19
d) 17 : 23   e) None of these

Solution – 1 (Option A)

Required percentage mark = $120 / 90 + 110 + 100 + 120 + 60 \times 100$
$120 / 460 \times 100 = 26\%$

Solution – 2 (Option E)

New marks of T in physics = $114 / 100 \times 50 = 57$
T's new percentage = $57 / 140 \times 100 = 41$

Solution – 3 (Option B)

Marks obtained by Tango in both subjects together is more than the marks obtained by Rasheed in Physics.

Solution – 4 (Option D)

Required ratio = $130 + 70 : 50 + 60$
$= 200 : 110$ 20: 11

Solution – 5 (Option B)

Required ratio = $110 + 120 : 130 + 80$

$= 230 : 210$ 23 : 21

Directions (Q. 1-5) Study the following pie chart and table carefully to answer the questions:

Percentage breakup of employees working in various departments of an organization and the number of males in them

Total No of Employees = 800
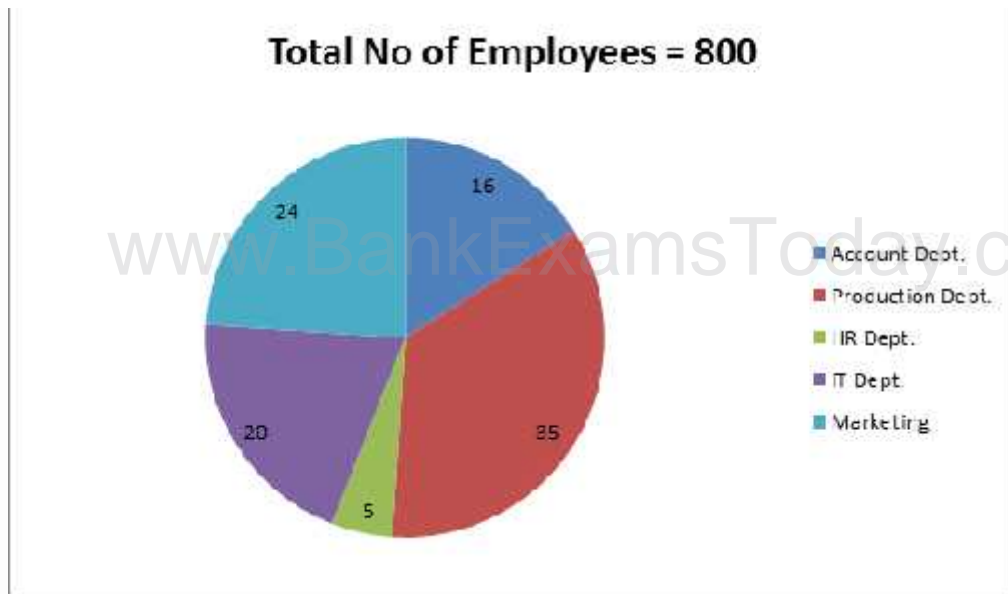
Department	Number of Males
Production	245
HR	12
IT	74
Marketing	165
Accounts	93

1. The number of males working in the Marketing department is what percent of the total number of employees working in that department? (Rounded off to the nearest integer)
   a) 70   b) 78   c) 63
   d) 91   e) 86

2. What is the respective ratio between the number of females working in the HR department and the total number of employees in that department?
   a) 7:10   b) 5:7   c) 8:17
   d) 12:19   e) None of these

3. The number of males working in the Production department of the organization forms what percent of the total number of employees working in that department?
   a) 76.5   b) 72.5   c) 61.5
   d) 87.5   e) None of these

4. The number of females working in the IT department forms what percent of the total number of employees in the organization from all departments together?
   a) 10.75   b) 15.25   c) 11.5
   d) 13.75   e) None of these

5. What is the respective ratio of the number of males working in the marketing department to the number of females working in that department?
   a) 63:8   b) 55:9   c) 64:7
   d) 56:3   e) None of these

Answers:

1. Option E
    Total number of employees working in the marketing department = 800 × 24/100
     = 192
    Required percentage = 165/192 × 100 = 85.94% = 86%

2. Option A
    Total number of employees working in the HR department = 800 × 5/100 = 40
    Total number of female employees working in the HR department = 40 – 12 = 28
    Required ratio = 28:40 = 7:10

3. Option D
    Total number of employees working in the Production department = 800 × 35/100 = 280
    Required percentage = 245/280×100=87.5%

4. Option A
    Total number of employees working in the IT department = 800 × 20/100 = 160
    Total number of female employees working in the IT department = 160 – 74 = 86
    Required percentage = 86/800 × 100 = 10.75%

5. Option B
    Total number of employees working in the Marketing department = 800 × 24/100 = 192
    Total number of female employees working in the Marketing department = 192 – 165 = 27
    Required ratio = 165:27 = 55:9

Directions (Q. 1-5) Study the following pie chart and table carefully to answer the questions that follow.

Percentage breakup of employees working in various departments of an organization and the ratio of men to women in them

Total number of employees = 1800
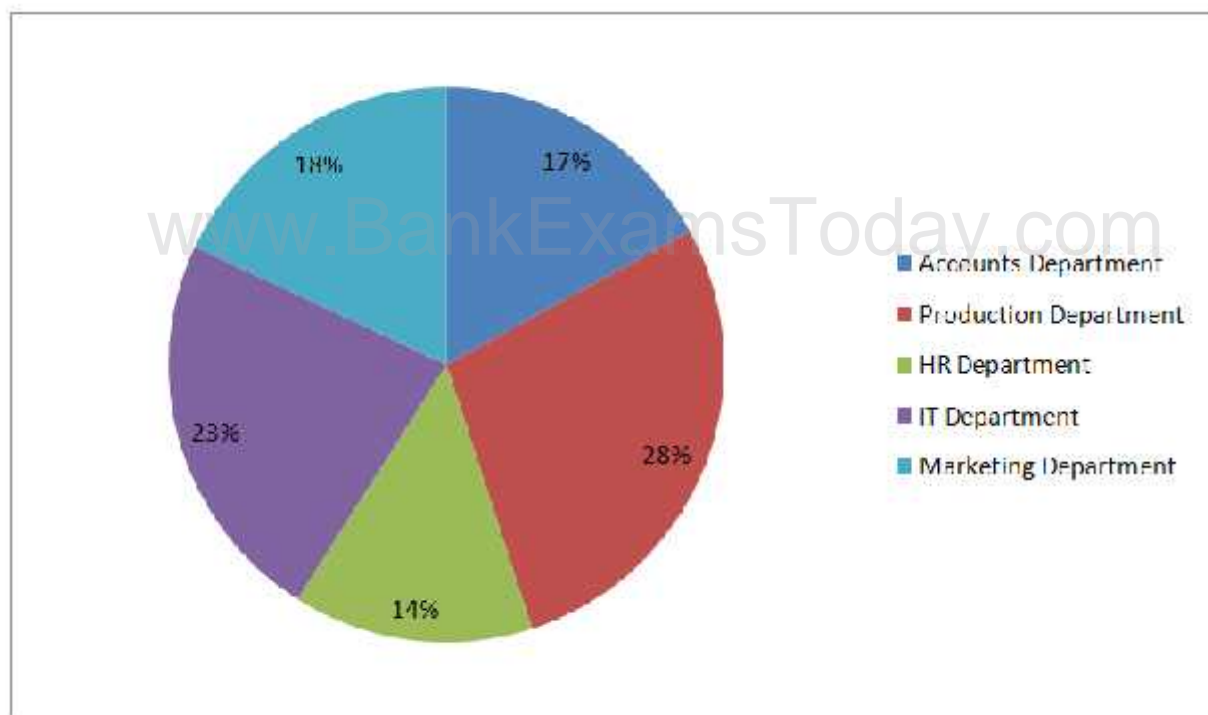
Ratio of Men to Women		
Department	Men	Women
Production	11	1
HR	1	3
IT	5	4
Marketing	7	5
Accounts	2	7

Answers:

1. What is the number of men working in the Marketing department?
   a) 132   b) 174   c) 126
   d) 189   e) None of these

2. The number of men working in the production department of the organization forms what percent of the total number of employees working in that department? (rounded off to two digits after decimal)
   a) 89.76   b) 91.67   c) 88.56
   d) 94.29   e) None of these

3. What is the respective ratio of the number of men working in the Accounts department of the total number of employees working in that department?
   a) 9:2   b) 7:6   c) 2:9
   d) 6:7   e) None of these

4. What is the respective ratio of the number of women working in the HR department of the organization and the total number of employees in that department?
   a) 3:4   b) 2:5   c) 2:9
   d) 3:7   e) None of these

5. The number of women working in the IT department of the organization forms approximately what percent of the total number of employees in the organization from all departments together?

a) 7   b) 5   c) 19

d) 15   e) 10

Solutions

1. Option D

Number of working men in Marketing department =

$$1800 \times \frac{18}{100} \times \frac{7}{715} = 189$$

2. Option B

$$\frac{1800 \times \frac{28}{100} \times \frac{11}{11+1}}{1800 \times \frac{28}{100}} \times 100$$

$$= \frac{462}{504} \times 100 = 91.67\%$$

3. Option C

$$\frac{1800 \times \frac{17}{100} \times \frac{2}{2+7}}{1800 \times \frac{17}{100}} = \frac{68}{306} = \frac{2}{9} = 2:9$$

4. Option A

$$\frac{1800 \times \frac{14}{100} \times \frac{3}{4}}{1800 \times \frac{14}{100}} = \frac{189}{252} = \frac{3}{4} = 3:4$$

5. Option E

$$\frac{1800 \times \frac{23}{100} \times \frac{4}{9}}{1800} \times 100 = 10\% \text{ (approx.)}$$

Set 1

A colony has 2800 members, out of which 650 members read only English newspaper, 550 members read only Hindi newspaper and 450 members read only Marathi newspaper.

The number of members reading all three newspapers is 100. Members reading Hindi as well as English newspaper are 200. 400 members read Hindi as well as Marathi Newspaper and 300 members read English as well as Marathi newspaper.

(a) Find the difference between number of members reading English as well as Marathi newspapers and the number of members reading English as well as Hindi newspaper.

(b) How many members read at least 2 newspapers?

(c) Find the number if members reading Hindi newspaper.

(d) How many members read only one newspaper?

Ans: (a)100 (b)1000 (c)1050 (d)1650

Set 2

A school consists of 2800 students. The ratio of boys to girls is 5:9 respectively. All the students are enrolled in hobby classes, namely, dancing, singing and painting. 12% of the boys learn only singing. 16% of the girls learn only dancing. The number of students enrolled only in painting is 925. One-fourth of the boys are enrolled in all the three classes. Number of girls enrolled only in singing is 250% of the boys enrolled in the same. The remaining girls are enrolled in all the three classes. 23% of the boys are enrolled only in dancing and the remaining are enrolled in only painting.

(a) What is the respective ratio of the number of boys enrolled only in Dancing to the number of girls enrolled in the same?

(b) What is the number of girls enrolled in all the three classes?

(c) Number of boys enrolled in painting only is what per cent of the girls enrolled in the same?

(d) How many boys are enrolled in dancing?

Ans. (a)115:144 (b)1212 (c)76.19 (d)480

Set 3

Kareena decided to spend 45% of her salary on shopping. On completion of her shopping she realized that she had spent only Rs. 11,475, which was 60% of what she had decided to spend. How much is Kareena's salary?

Ans.: Rs. 42500/-

Set 4

In a class of 84 students the boys and girls are in the ratio 5:7, respectively. Among the girls, 7 can speak Hindi and English. 50% of the total students can only speak Hindi. The ratio between the students who speak only Hindi and only English is 21:16 respectively. The ratio between the numbers of boys and girls speaking English 3:5.

(a) What is the number of boys who speak both the languages?

(b) What is the number of girls who only speak English?

(c) What is the ratio between the number of boys and girls respectively who speak Hindi only?

(d) How many girls can speak Hindi?

(e) What is the ratio between the number of boys and girls respectively who speak English?

Ans.: (a)3 (b)20 (c)10:11 (d)22 (e)3:5

Set 5

In an institute employing managers, observers and assistants, what is the monthly salary of an assistant?

  I. Each observer gets Rs. 12,000 per month more than an assistant.

 II. An observer and an assistant together get Rs. 32,000 per month.

III. The total salary per month of a manager and an observer is Rs. 57,000

Which option is sufficient to answer the question?

Ans.: Options I and II both needed to sufficiently answer the question.

Set 6

What is the circumference of semi-circle in cm?

  I. The area of semi-circle is half of the areas of parallelogram.

 II. The length of parallelogram is 1.5 times the radius of the semi circle.

III. The difference between the length and breadth of parallelogram is 8 cm.

Which option is sufficient to answer the question?

Ans.: None of the options can, not even all the three together can answer the question.

Set 7

Out the total number of commuters commuting daily in a city, 17171 commuters commute only by trains daily. 7359 commuters commute only by bikes and 22077 commuters commute only by bus. 14718 commuters commute only by cars. 4906 commute only by autos. 7359 commuters commute only taxies. 26983 commuters commute by autos as well as train daily. 12265 commuters commute by bus as well as autos daily.

(a) The total number of commuters commuting by trains forms what percent of the total number of commuters commuting daily?

(b) The total number of commuters commuting by bikes and taxies together forms what percent of the total number of commuters commuting daily?

(c) The total number of commuters commuting by autos forms what percent of the total number of commuters commuting daily?

(d) The total number of commuters commuting by autos forms what percent of the total number of commuters commuting daily?

Ans.: (a)44%   (b)12%   (c)22%   (d)18%

Directions (Q. 1-5): Study the following table and pie chart carefully to answer the given questions.

The table shows the ratio of Hindi religion soldiers to soldiers of other religions

Name of regiment	Hindi	Other religions
Jat regiment	4	1
Sikh regiment	3	5
Madras regiment	2	1
Maratha regiment	3	2
Bihar regiment	5	3

Percentage of various regiments in the Army
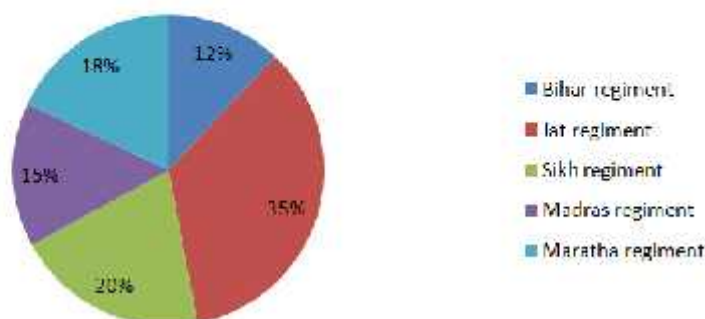
1) What is the number of Hindu soldiers in Jat regiment?
a) 2600   b) 2700   c) 3200
d) 2800   e) 2350

2) What is the difference between Hindu soldiers in Madras regiment and soldiers of other religions in Bihar regiment?
a) 485   b) 550   c) 520
d) 510   e) 490

3) The number of Hindu soldiers in Sikh regiment is what percent of the number of other soldiers in Maratha regiment?
a) 97.12%   b) 99.56%   c) 102%
d) 104.16%   e) 25%

4) In which regiment is the number of non-Hindu soldiers the maximum?
a) Maratha regiment   b) Sikh regiment   c) Madras regiment
d) Jat regiment   e) Bihar regiment

5) What is the ratio of the number of Hindu soldiers in Bihar regiment to the number of non-Hindu soldiers in Jat regiment?
a) 11 : 10   b) 12 : 11   c) 13 : 12
d) 14 : 13   e) 15 : 14

Solutions

1.   Option D

Number of soldiers in Jat regiment = $10000 \times = 3500$
Number of Hindu soldiers in Jat regiment = $3500 \times = 2800$

2.   Option B

Number of Hindu soldiers in Madras regiment = $10000 \times \times = 1000$
Number of soldiers of other religions in Bihar regiment = $10000 \times \times = 450$
So, difference = $1000\ \ 450 = 550$

3.   Option D

Number of Hindu soldiers in Sikh regiment = $10000 \times \times = 750$
Number of soldiers of other religions in Maratha regiment = $10000 \times \times = 720$
So, required % = $= 104.16\%$

4.   Option A

Number of non-Hindu soldiers in Jat regiment = $3500\ \ 2800 = 700$
Similary in Sikh regiment = $10000 \times \times = 125$
In Madras regiment = $10000 \times \times = 500$
In Maratha regiment = $10000 \times \times = 720$
In Bihar regiment = $10000 \times \times = 450$
In Maratha regiment the number of non-Hindu soldiers is the maximum.

5.   Option E

Number of Hindu soldiers in Bihar regiment = $10000 \times \times = 750$
Number of non-Hindu soldiers in Jat regiment = 700

So, required ratio = $750 : 700 = 15 : 14$

Directions (Q. 1-5): Study the following pie chart and table and answer the questions given below:

Percentage of students pursuing different specialization

Percentage of students pursuing different specialization

Total number of students = 2200

Legend:
- History
- Biology
- Maths
- English
- Sociology
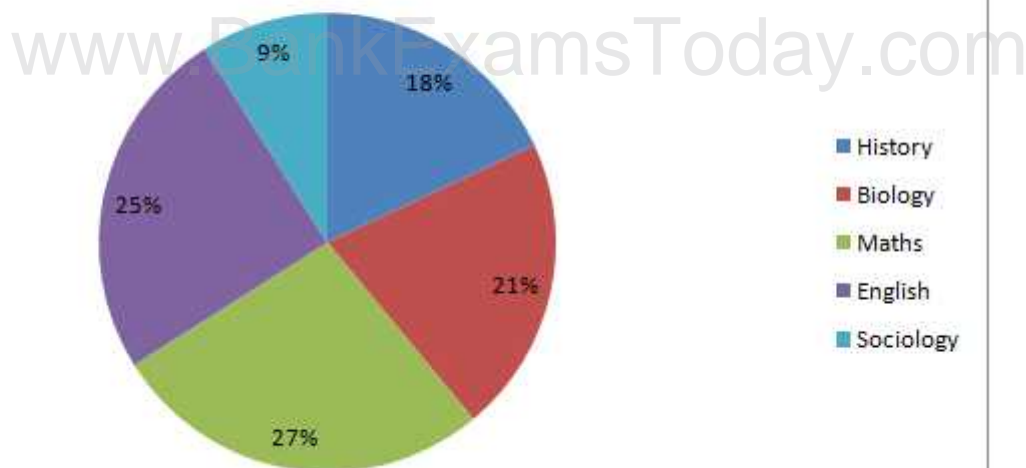
Number of male students pursuing different specializations

Specialization	No. of male students
English	210
Sociology	58
History	142
Biology	221
Mathematics	298

1. What is the different between the number of students pursuing English and the number of students pursuing Sociology?
   a) 352   b) 354   c) 358
   d) 356   e) None of these

2. The number of female students pursuing Mathematics is approximately what percent of the total number of students pursuing Biology?
   a) 35   b) 25   c) 42
   d) 65   e) 85

3. The number of female students pursuing Sociology is approximately what percent of the number of students pursuing History and Mathematics together?
   a) 4   b) 14   c) 24
   d) 34   e) 44

4. What is the respective ratio between the number of female students pursuing History and the number of male students pursuing the same specialization?
   a) 128 : 71   b) 127 : 73   c) 128 : 73
   d) 127:71   e) None of these

BANK EXAMS Today

5. What is the total number of female students pursuing English and Biology together?

a) 583   b) 584   c) 582
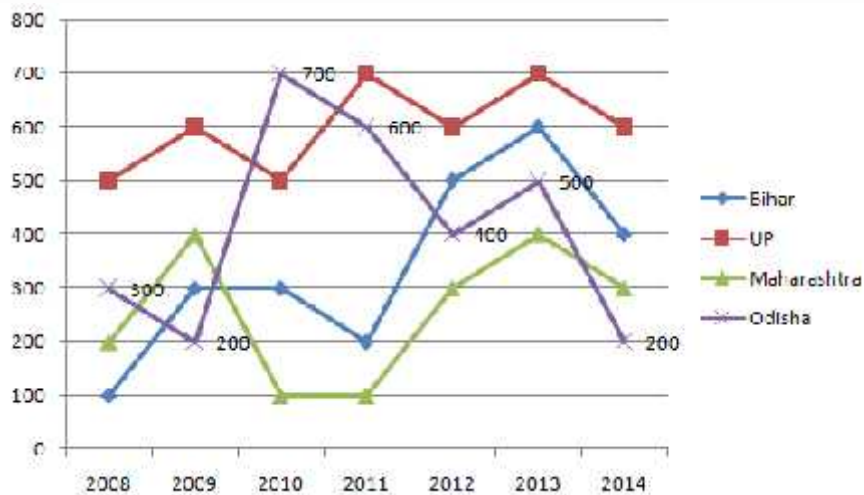
d) 585   e) None of these

Directions (Q. 1-5): Study the pie-chart and line graph carefully to answer the given questions

The pie-chart shows the percentage of train accidents in different years

Total number of train accidents = 200

■ 2008	
■ 2009	
■ 2010	
■ 2011	
■ 2012	
■ 2013	
■ 2014	
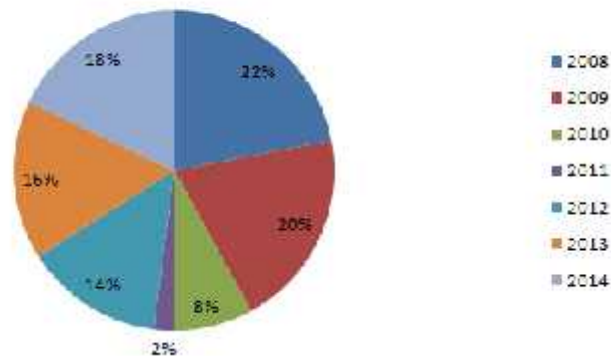
The line graph shows the number of persons who died in train accidents in various states in different years

1) The number of persons who died in train accidents in 2013 is how much percent more than the number of persons who died in the train accident in 2011?

a) 143.5%   b) 137.5%   c) 37.5%

d) 127.5%   e) 147.5%

2) What is the average of the number of persons who died in train accidents in 2008 in all states together?

a) 182   b) 290   c) 275
d) 284   e) 307

3) In which state is the number of persons who died in the train accidents the maximum during the given period?
a) Odisha   b) UP   c) Bihar
d) Only a) and b)   e) Maharashtra

4) What is the difference between the number of train accidents in 2014 and that in 2012?
a) 5   b) 6   c) 7
d) 8   e) 9

5) What is the ratio of the number of persons who died in train accidents in 2010 to that in 2014?
a) 8 : 7   b) 10 : 9   c) 12 : 11
d) 14 : 13   e) 16 : 15

SET 2

Directions (Q. 6-10): Study the given bar graph and pie chart to answer the following questions.

The bar graph shows the production (in thousand tones) of Wheat, Rice and Maize in different states.
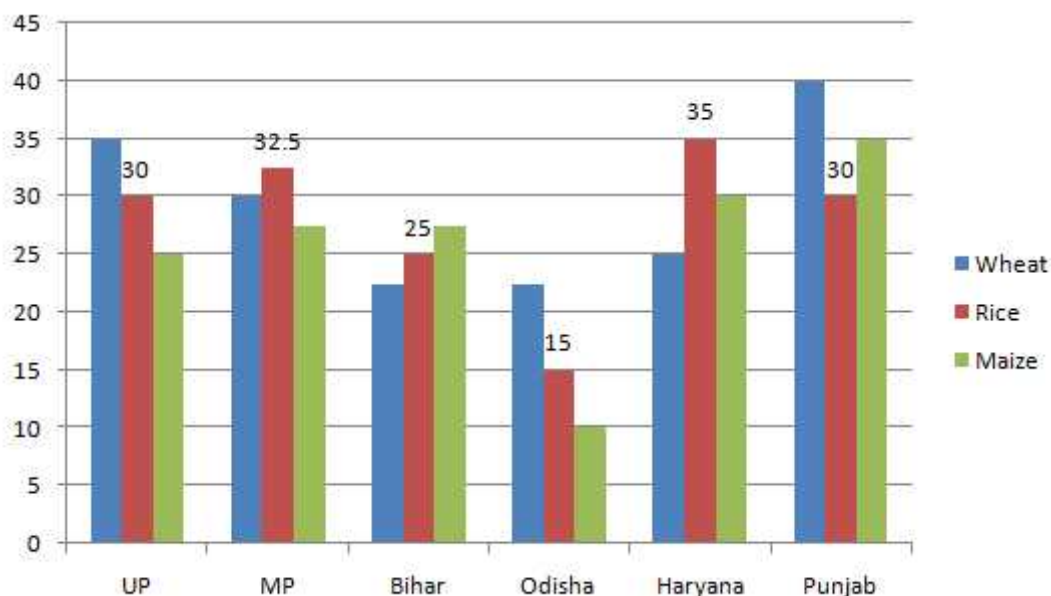
The pie-chart shows the percentage of agricultural land in the given six states.
Productivity = Total production / Area of agricultural land

Total agricultural land = 2 lakh square km
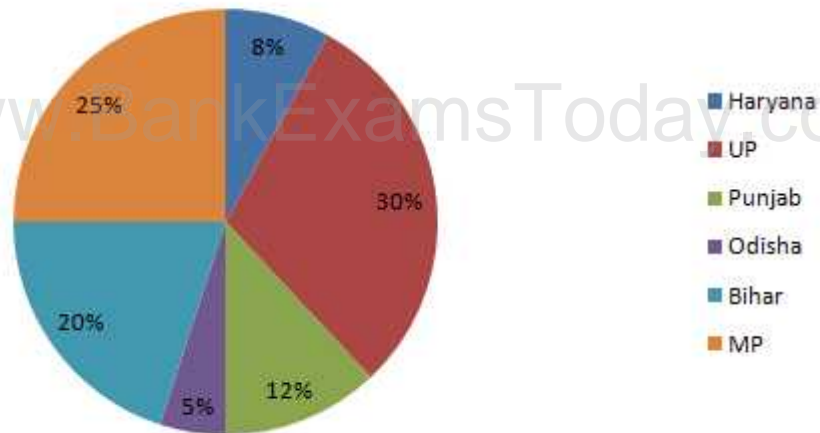
6) The productivity of which state is the maximum?
a) Bihar   b) Haryana   c) Punjab
d) UP   e) MP

7) The production of which state is the maximum?
a) Bihar   b) MP   c) Haryana
d) UP   e) Punjab

8) The production of wheat in Punjab is what percent more than the production of Maize in Odisha?
a) 350%   b) 250%   c) 300%
d) 200%   e) 400%

9) What is the ratio of the production of Rice in Bihar to the production of Wheat in Haryana?
a) 2 : 3   b) 3 : 2   c) 2 : 1
d) 1 : 1   e) 1 : 2

10) If MP exports 40% of Rice at the rate of Rs.30 per kg and UP exports 30% of Rice at the rate of Rs.32 per kg, then what is the ratio of the incomes from the exports?
a) 65 : 48   b) 31 : 42   c) 43 : 54
d) 57 : 62   e) 1 : 2

Solutions:

1.   Option C

    The number of people who died in train accidents in 2013 = 400 + 500 + 600 + 700 = 2200
    The number of people who died in train accidents in 2011 = 100 + 200 + 600 + 700 = 1600
    So, required % = 2200 – 1600 x 100 / 1600 = 37.5%

2.   Option C

    Average number of people who died in train accidents in all states in 2008 = 1/4 × (100 + 200 + 300 + 500)
    = 1100/4 = 275

3.   Option B

The number of deaths in train accidents in Bihar = 100 + 300 + 300 + 200 + 500 + 600 + 400 = 2400
Similarly, in UP = 500 + 600 + 500 + 700 + 600 + 700 + 600 = 4200
In Maharashtra = 200 + 400 + 100 + 100 + 300 + 400 + 300 = 1800
In Odisha = 300 + 200 + 700 + 600 + 400 + 500 + 200 = 2900
In UP the number of people who died in train accidents is the maximum.
Quicker method it is clear from the graph that the highest number of people died in UP.

4.   Option D

The number of train accidents in 2014 = 200 × 18/100 = 36
The number of train accidents in 2012 = 200 × 14/100 = 28
So, required difference = 36   28 = 8

5.   Option E

The ratio of the number of deaths in 2010 to that in 2014 = (100 + 300 + 500 + 700) : (200 + 300 + 400 + 600) = 1600 : 1500 = 16 : 15

6.   Option B
Productivity = Total Production / Area of agricultural land
Productivity of UP = (35 + 30 + 25) x 1000 / 2 Lakh x 30/100 = 90000 / 60000 = 1.5 tonnes per sq km
Productivity of MP = (30 + 32.5 + 27.5) x 1000 / 2 Lakh x 25/100 = 90000 / 50000 = 1.8 tonne per sq km
Productivity of Bihar = (22.5 + 25 + 27.5) x 1000 / 2 Lakh x 20/100 = 75000 / 40000 = 1.875 tonnes per sq km
Productivity of Odisha = (22.5 + 15 + 10) x 1000 / 2 Lakh x 5/100 = 47.5 x 1000 / 10000 = 4.75 tonnes per sq km
Productivity of Haryana = (25 + 35 + 30) x 1000 / 2 Lakh x 8/100 = 90000 / 16000 = 5.625 tonnes per sq km
Productivity of Punjab = (40 + 30 + 35) x 1000 / 2 Lakh x 12/100 = 105000 / 24000 = 4.375 tonnes
per
So, productivity of Haryana is the maximum

7.   Option E

Production of Punjab is maximum = 105000 tonnes

8.   Option C

Production of Wheat in Punjab = 40000 tonnes
    Production of Maize in Odisha = 10000 tonnes
So, required % = 40000 – 10000 / 10000 × 100% = 300%

9.   Option D

The ratio of production of Rice in Bihar to the production of Wheat in Haryana = 25000 tonnes : 25000 tonnes = 1 : 1

10. Option A
Income of MP from export of 40% of Rice at the rate of Rs.30 per kg = 32500 × 40/100 × 1000 × 30 = Rs.39 Crore

Income of UP from export of 30% of Rice at the rate of Rs.32 per kg = 30000 × 1000 × 30/100 × 32 = Rs.28.8 Crore
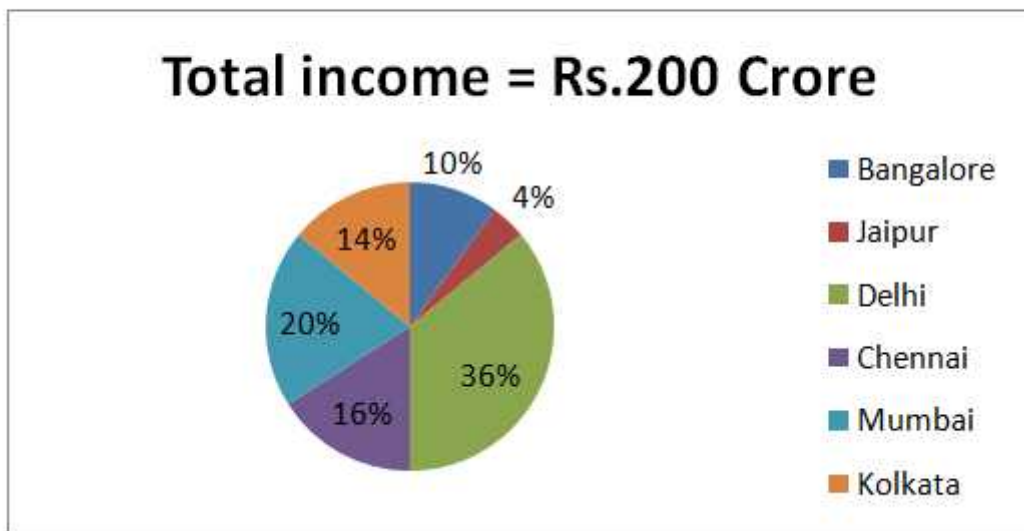
So, required ratio = 39 : 28.8 = 390 : 288 = 65 : 48

Directions (Q. 1-5): Study the bar-chart and pie-chart carefully to answer the given questions.

Working male and female population (in lakh) in various cities

Population (In Lakh)
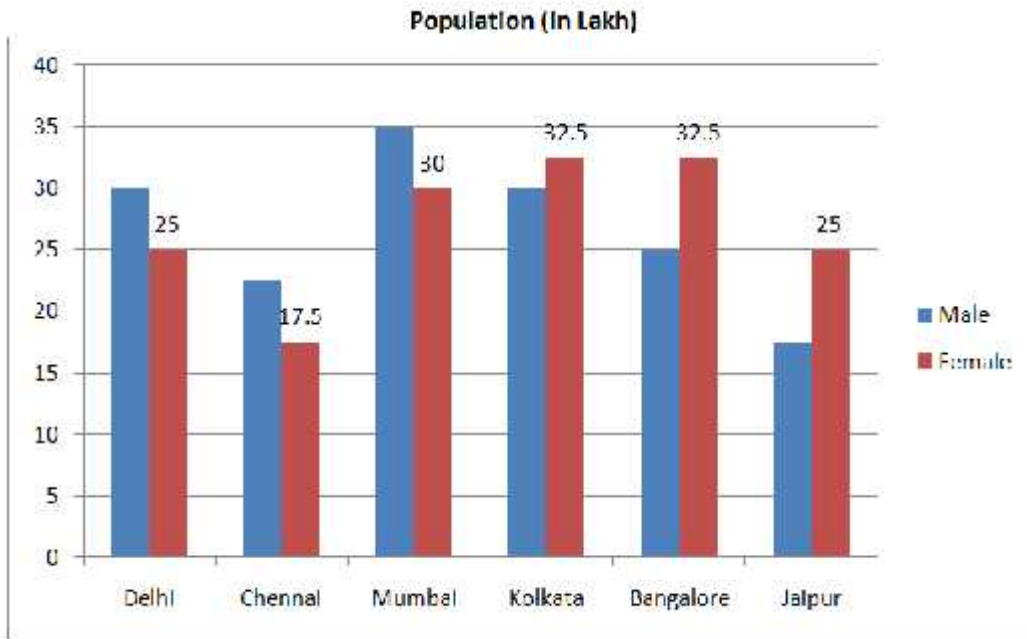
Percentage income of the people among six cities

Total income = Rs.200 Crore

1) What is the difference between the number of working females in Bangalore and the number of working males in Chennai?

a) 12.5 lakh   b) 11 lakh   c) 9 lakh

d) 12 lakh   e) 10 lakh

2) In which city is the income per working person the minimum?

a) Delhi   b) Jaipur   c) Bangalore

d) Chennai   e) Mumbai

3) What is the sum of the average working male and average working female population of the given six cities (calculate approximate value)?

a) 63.35 lakh   b) 49.96 lakh   c) 51.48 lakh

d) 53.75 lakh   e) 65.51 lakh

4) In Delhi, what is the difference between the income of males and that of females? (Assume each person (male/female) has equal income.)

a) Rs.6.545 Crore   b) Rs.5.055 Crore   c) Rs.2.935 Crore
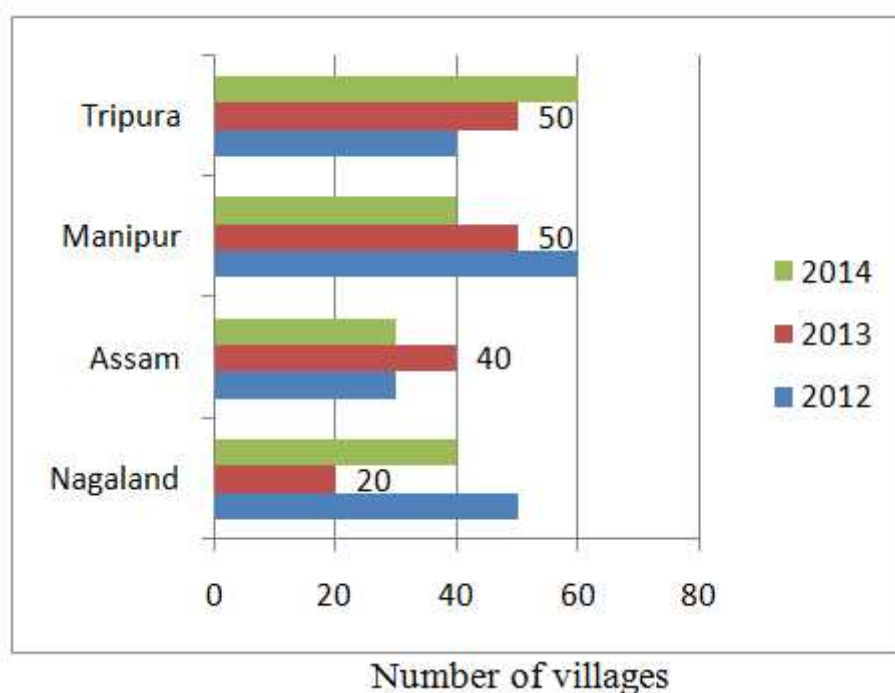
d) Rs.3.455 Crore   e) Rs.4.565 Crore

5) The number of working females in Mumbai is what percent of the number of working males in Bangalore?

a) 95%   b) 110%   c) 120%

d) 132%   e) 144%

SET 2

Directions: Study the given bar-chart carefully and answer the following questions.

The graph shows the number of villages in fouir different states where electrification was done in different years.

6) The number of villages in Nagaland where electrification was done in 2013 is what percentage of the number of villages in Tripura where electrification was done in 2014?
a) 55.5%   b) 44.4%   c) 77.7%
d) 66.6%   e) 33.3%

7) What is the ratio of the villages in Assam to those in Manipur where electrification was done in 2013?
a) 1 : 4   b) 3 : 4   c) 1 : 2
d) 4 : 5   e) 3 : 2

8) In which state was the electrification work done in maximum villages during the given three years?
a) Assam   b) Manipur   c) Manipur and Tripura
d) Nagaland   e) Manipur and Assam

9) If the cost of electrification of a village is Rs.75 lakh then what is the cost of electrification in four states during the given period?
a) Rs.4319000000   b) Rs.3825000000   c) Rs.4143000000
d) Rs.355700000   e) Rs.2721000000

10) In which year was the electrification work done in maximum number of villages?
a) 2012   b) 2013   c) 2014
d) 2013 and 2012   e) 2012 and 2014\

Answers

1. Option E

    The difference between the working females in Bangalore and the working males in Chennai = 32.5 22.5 = 10 lakh

2. Option B

    Income per working person = Total income of city / Number of working people in city

    Income per working person in Delhi = 200 Crore x 36/100 / (30+25) Lakh = 72 / 55 = Rs.130.9
    In Chennai = 200 x 16/100 / (22.5+17.5) Lakh = Rs.80

    In Mumbai = 200 x 20/100 / (35+30) Lakh = Rs.61.53

    In Kolkata = 200 x 14/100 / (30+32.5) Lakh = Rs.44.8

    In Bangalore = 200 x 10/100 / (25+32.5) Lakh = Rs.34.78

    In Jaipur = 200 x 4/100 / (17.5+25) Lakh = Rs.18.82

    The income per working person in Jaipur is the minimum.

3. Option D

    Average number of working males = $1/6 \times (30 + 22.5 + 35 + 30 + 25 + 17.5)$ = 26.66 lakh
    Average number of working females = $1/6 \times (25 + 17.5 + 30 + 32.5 + 32.5 + 25)$ =27.08 lakh
    So, required sum = 26.66 + 27.08 = 53.75 lakh

4.   Option A

Total income of Delhi = [200 ×36/100] = Rs.72 Crore
Income per person = 72 Crore / 55 Lakh = Rs.130.9
So, required difference of income = 5 lakh × 130.9 = Rs.654.5 lakh
= Rs.6.545 Crore

5.   Option C

Required % = 30/25 × 100 = 120%

6.   Option E

Required % = 20/60 × 100 = 33.3% of electrification of villages in Tripura in the year 2014

7.   Option D

Number of villages in Assam where electrification was done in 2013 = 40
Number of villages in Manipur where electrification was done in 2013 = 50
So, required ratio = 4 : 5

8.   Option C

In Assam, the number of villages where electrification was done = 30 + 40 + 30 = 100
In Manipur = 40 + 50 + 60 = 150
In Tripura = 40 + 50 + 60 = 150
In Nagaland = 40 + 20 + 50 = 110
So, maximum electrification in both Tripura and Manipur.

9.   Option B

Total number of villages in four states where electrification was done = 100 + 150 + 150 + 110 = 510
So, cost of electrification = 7500000 × 510 = Rs.3825000000

10. Option A

Number of villages where electrification was done in 2012 = 50 + 30 + 60 + 40 = 180
Number of villages where electrification was done in 2013 = 20 + 40 + 50 + 50 = 160
Number of villages where electrification was done in 2014 = 40 + 30 + 40 + 60 = 170
      In 2012 maximum electrification work was done.

Directions (Q. 1-5): Study the pie-chart carefully to answer the questions given below:

The pie-charts shows the percentage quantity of fruits at two fruit shops A and B.

Total quantity = 1200 kg

Total quantity = 1000 kg
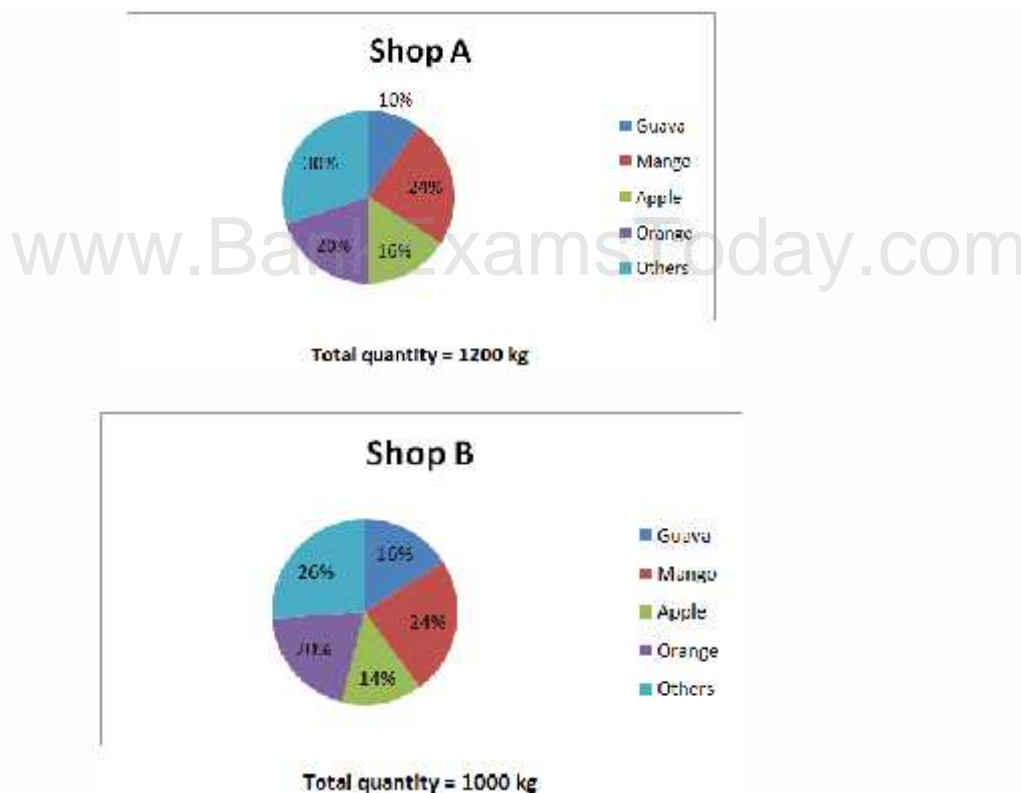
1) What is the difference between the quantity of Guava at Shop B and that at Shop A?
a) 40 kg   b) 45 kg   c) 35 kg
d) 30 kg   e) 50 kg

2) If the price of Mango is Rs.30 per kg, Apple Rs.40 per kg and Orange Rs.20 per kg, then what is the ratio of their costs at Shop A?
a) 1 : 4 : 6   b) 9 : 8 : 5   c) 3 : 7 : 8
d) 5 : 4 : 1   e) 2 : 5 : 7

3) The quantity of Mango at Shop B is what percent of the quantity of Mango at Shop A?
a) 20%   b) 220%   c) 120%
d) 80%   e) 180%

4) If the price of Mango is Rs.30 per kg, Apple Rs.40 per kg and Orange Rs.20 per kg, other fruits Rs.15 per kg and Guava Rs. 18 per kg for both Shop A and B then what is the difference between the cost of all fruits at Shop A and that at Shop B?
a) Rs.7200   b) Rs.3500   c) Rs.6400
d) Rs.5100   e) Rs.4600

5) The quantity of Orange at Shop A is what percent more than that of Apple at Shop B?
a) 161.52%   b) 195.5%   c) 182%
d) 190%   e) 171.42%

SET 2

Directions (Q. 6-10): Study the given table carefully to answer the following questions:

Following table shows the investment (In Rs. Crore) in various sectors in different years

	2011		2012		2013		2014	
	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign
Industry	5000	2000	1000	1500	4000	3000	6000	1500
Cement	3000	1600	3000	2500	5000	2800	4000	1800
Metals	4000	2800	3500	2000	3200	2200	1500	500
Machinery	2000	3000	2500	3000	3600	6000	1000	1500
Transport	2500	2000	1500	3200	3000	1600	4000	1000
Fuel	1500	2500	1000	2800	1500	5000	1200	2000
Chemical	3500	1000	500	4000	2400	3200	2000	3000

6) What is the difference between the total domestic investment and the total foreign investment in the year 2011?
a) Rs.6400 Crore   b) Rs.6200 Crore   c) Rs.6600 Crore
d) Rs.7000 Crore   e) Rs.7100 Crore

7) What is the ratio of the total investment in Metals to that in Machinery?
a) 135 : 302   b) 24 : 49   c) 2 : 4
d) 197 : 226   e) 123 : 233

8) What is the average domestic investment in the year 2014? (You are not expected to calculate the exact value?
a) Rs.2814.28 Crore   b) Rs.2519.75 Crore   c) Rs.2234.82 Crore
d) Rs.3151.51 Crore   e) Rs.3329.79 Crore

9) Domestic investment in 2013 is what percent of foreign investment in 2011?
a) 176.5%   b) 179.7%   c) 181.6%
d) 183.5%   e) 152.3%

10) The average domestic investment in the year 2011 is what percent of the average investment in Transport during the given four years?
a) 201%   b) 65.34%   c) 125.45%
d) 147.97%   e) 167.23%

SOLUTIONS

1. Option A

Quantity of Guava at Shop A = 1200 × 10/100 = 120 kg
Quantity of Guava at Shop B = 1000 × 16/100 = 160 kg
So, required difference = 160   120 = 40 kg

2. Option B
Cost of Mango at Shop A = 30 × 1200 × 24/100 = Rs.8640
Cost of apple = 40 × 1200 × 16/100 = Rs.7680
Cost of Orange = 20 × 1200 × 20/100 = Rs.4800
So, required ratio = 8640 : 7680 : 4800
= 9 : 8 : 5

3. Option C
Quantity of Mango at Shop B = 1000 × 24/100 = 240 kg
Quantity of Mango at Shop A = 1200 × 24/100 = 288 kg
So, required % = 288 × 100/240 = 120% of the quantity of Mango at Shop A

4. Option D
Cost of total fruits at Shop A = Cost of Mango + Cost of Apple + Cost of Guava + cost of orange + cost of other fruits
(1200 × 24/100 × 30 + 1200 × 16/100 × 40 + 1200 × 10/100 × 18 + 1200 × 20/100 × 20 + 1200 × 30/100 × 15)
= 8640 + 7680 + 2160 + 4800 + 5400 = Rs.28680
Cost of total fruits at Shop B = (1000 × 24/100 × 30 + 1000 × 14/100 × 40 + 1000 × 16/100 × 18 + 1000 × 20/100 × 20 + 1000 × 26/100 × 15)
= 7200 + 5600 + 2880 + 4000 + 3900 = Rs.23580
So, required difference = 28680   23580 = Rs.5100

5. Option E
Quantity of Orange at Shop A = 1200 × 20/100 = 240 kg
Quantity of Apple at Shop B = 1000 × 14/100 = 140 kg
So, required % = 240 x 100 / 140 % = 171.42% more than the quantity of Apple at Shop B.

6. Option C
Total domestic investment in 2011 = 5000 + 3000 + 4000 + 2000 + 2500 + 1500 + 3500 = Rs.21500 Crore
Total foreign investment in 2011 = 2000 + 1600 + 2800 + 3000 + 2000 + 2500 + 1000 = Rs.14900 Crore
So, required difference = 21500   14900 = Rs.6600 Crore

7. Option D
Total investment in Metals = 4000 + 2800 + 3500 + 2000 + 3200 + 2200 + 1500 + 500 = Rs.19700 Crore
Total investment in Machinery = 2000 + 3000 + 2500 + 3000 + 3600 + 6000 + 1000 + 1500 = Rs.22600 Crore
So, required ratio = 19700 : 22600 = 197 : 226

8. Option A
Average domestic investment in 2014 = 6000 + 4000 + 1500 + 1000 + 4000 + 1200 + 2000 / 7
= 19700/7 = Rs.2814.28 Crore

9. Option E
Domestic investment in 2013 = 4000 + 5000 + 3200 + 3600 + 3000 + 1500 + 2400 = Rs.22700 Crore
Foreign investment in 2011 = 2000 + 1600 + 2800 + 3000 + 2000 + 2500 + 1000 = Rs.14900 Crore
= 22700 x 100 / 14900
= 152.3%

10. Option B
Average domestic investment in 2011 = Rs.21500/7 Crore
Average investment in transport = 2500 + 2000 + 1500 + 3200 + 3000 + 1600 + 4000 + 1000 / 4 = Rs.4700 Crore
So, required % = 21500 / 7 x 4700 × 100 = 65.34%

Directions (Q. 1-5): Study the following pie chart and table carefully to answer the given questions.

Total number of students in seven institutes = 56000
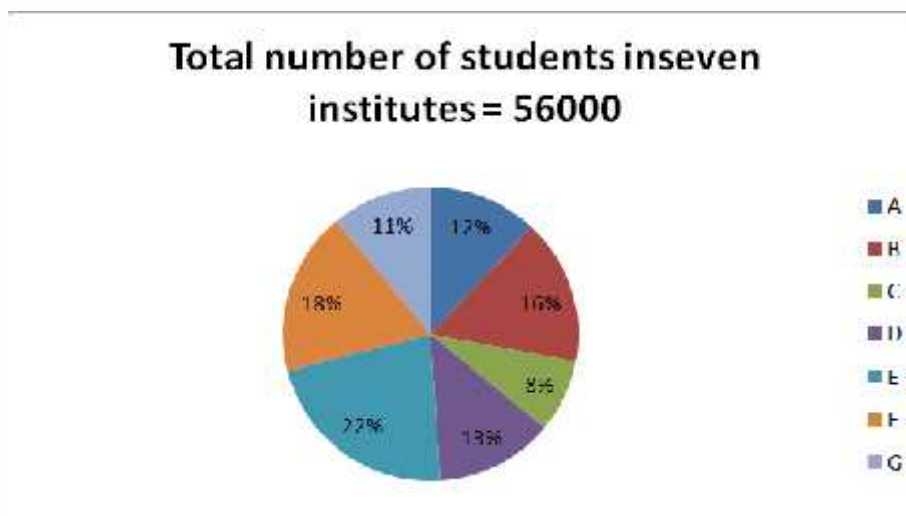
Ratio of male students to female students

Institute	M : F
A	7 : 9
B	5 : 3
C	6 : 2
D	6 : 8
E	3 : 4
F	8 : 12
G	12 : 4

1) What is the ratio of the number of female students in Institute F to that of male students in Institute C?
a) 1 : 6   b) 2 : 3   c) 1 : 4
d) 6 : 1   e) None of these

2) The total number of students studying in Institute F is what percent of the total number of students studying in Institute C?
a) 125%   b) 175%   c) 225%
d) 150%   e) None of these

3) Which institute has the maximum number of students and which has the minimum number of students respectively?
a) E and G   b) F and C   c) B and E
d) A and E   e) E and C

4) The number of female students from Institute E is what percent of the total number of students from all the institutes? (Calculate the approximate value)
a) 9%   b) 8%   c) 7%
d) 10%   e) 13%

5) What is the difference between the total number of students from all the institutes and the number of male students from Institute A, D and G?
a) 46000   b) 46520   c) 46550
d) 45320   e) 46250

Directions (Q. 6-11): Study the given line graph carefully and answer the following questions. The graph shows the ratio of imports to exports of two companies A and B over the years.

6) If the total import of Company A in the year 2010 was Rs.54.6 Lakh, then what was its export (in lakh) in that year?
a) 22.84   b) 21.84   c) 23.630
d) 23.86   e) None of these

7) The ratio of imports to exports of Company A in the year 2012 was what percent more than that of Company B in the year 2008?
a) 45%   b) 40%   c) 50%
d) 60%   e) 30%

8)If the imports of Company A in the year 2012 increased by 40% and the exports decreased by 20%, then what would be the new ratio of imports to exports of Company A in that year?
a) 5 : 21   b) 9 : 5   c) 14 : 5
d) 5 : 9   e) 21 : 5

9)If the imports of Company A in the year 2010 and the exports of Company B in the year 2010 were Rs.42 Lakh and rs.70 Lakh respectively, then the imports of Company B in the year 2010 would be what percent of the exports of Company A in the year 2014?
a) 350%   b) 200%   c) 300%

d) 400%   e) 250%

10) In which year is the difference between import and export of Company A the minimum?
a) 2009   b) 2012   c) 2013
d) 2014   e) None of these

11) For Company A, the export is greater than import for how many years from 2008 to 2014?
a) 4   b) 3   c) 2
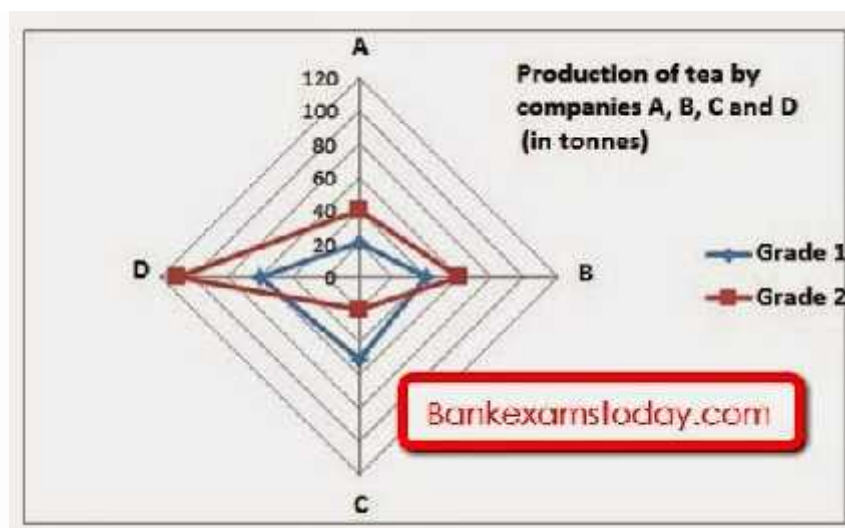d) 5   e) Cannot be determined

Answers:

1. E
2. C
3.E
4.E
5.D
6.B
7.C
8.E
9.E
10.C
11. B

Directions (Q. 1-5): Study the information carefully and answer the questions given below:

Use the given data to answer the following questions.

Grade	Rate/Tonne
1	Rs.75,000
2	Rs.60,000

Q 1. What is the difference between the average sales of grade 1 and 2 in all 4 companies?
a) 5 tonnes

b) 10 tonnes
c) 15 tonnes
d) 20 tonnes
e) 25 tonnes

Q 2. What is the difference between the total income of companies C and A?
a)Rs. 1.05 million
b) Rs. 10.05 million
c) Rs.1005 million
d) Rs. 1.05 crores
e)Rs. 10.05 crores

Q 3. In how many companies is the production of grade 2 tea at least 50% more than that of grade 1?
a) 0
b) 1
c) 2
d) 3
e) 4

Q 4. What percentage of the net income of company A is constituted by grade 1 tea?
a) 50%
b) 33.33%
c) 25%
d) 40%
e) 38.46%

Q 5. Total production by company D is what percentage of that of company B?
a) 140%
b) 150%
c) 160%
d) 170%
e) 180%

Solutions: 1.c 2.a 3.d 4.e 5.d

1. Average sales of grade 1= (20+40+50+60)/4= 42.5 tonnes
Average sales of grade 2= (40+60+20+110)/4= 57.5 tonnes
Difference= 57.5-42.5= 15 tonnes.

2. Total income of companies A= (75000*20) + (60000*40) = Rs.3900000
Total income of companies C= (75000*50) + (60000*20) = Rs.4950000
Difference= Rs.1050000= Rs. 1.05 million.

3. 3 companies= A, B and D. See the table below.

Company	Grade 1 (tonnes)	Grade 2 (tonnes)
A	20	40
B	40	60
C	50	20
D	60	110

4. Net income of company A= (75000*20)+(40*60000)= Rs.3900000
 Grade 1 constitutes 38.46% ((150000/3900000)*100)

5. Total production by company D= 60+110= 170 tonnes
Total production by company B= 40+60= 100 tonnes
Total production by company D is 170 % that of company B. (170/100)*100

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