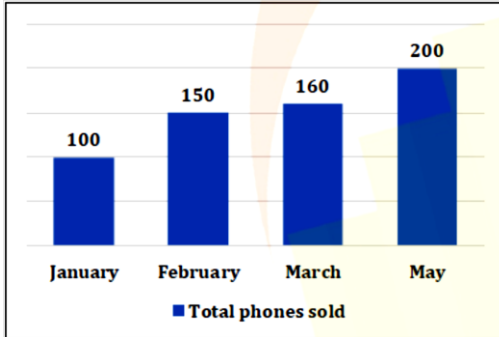


**DI Test 5**

**SET 1:-** Read the data given in the table and bar graph carefully and answer the following questions. A store sells phones at three different discount percentages 10%, 20% and 25% on the marked price in five different months. Some phones were sold at 10% discount, some at 20% discount and the remaining at 25% discount.

**Note :** Marked price of a phone is Rs. 1000.



Month	Ratio of phones sold at 10% discount to 20% discount	Percent of phones sold at 25% discount
January	2 : X	40%
February	10 : 11	30%
March	---	50%
April	3 : 5	60%
May	---	50%

- If the total amount of discount given by the seller on the phones in January is Rs. 18000, then what is the value of X?  
(A) 1 (B) 5 (C) 3 (D) 7 (E) None of these
- If the total amount of discount given on the phones sold at 10% discount is Rs. 1000 less than that of sold at 20% discount in March, then what is the ratio of phones sold at 25% discount to the phones sold at 20% discount in March?  
(A) 8 : 5 (B) 8 : 3 (C) 7 : 5 (D) 7 : 4 (E) None of these
- If the total amount of discount given on the phones in April is Rs. 33000 more than the difference between the total amount of discount given in March and May, then how many phones are sold in April by the seller, if the total discount in March is Rs. 31000 and in May is Rs. 41000?  
(A) 100 (B) 150 (C) 110 (D) 200 (E) None of these
- The difference between the total number of phones sold at 10% and 20% discount in February is what percent less than the difference between the total number of phones sold at 10% and 20% discount in May, if the total discount in May is Rs. 41000?  
(A) 75% (B) 85% (C) 60% (D) 40% (E) None of these
- If the total amount of discount given on the phones sold at 10% discount is Rs. 8000 less than that sold at 20% discount in May, then what is the ratio of phones sold at 25% discount to the phones sold at 20% discount in May?  
(A) 5 : 3 (B) 4 : 5 (C) 6 : 7 (D) 8 : 5 (E) None of these

**SET 2: Study the following information carefully and answer the questions given below.**

In an examination, there are six subjects P, Q, R, S, T and U have equal maximum marks. The mark scored by the student Ravi in subject Q is 30% less than his marks in subject T. The ratio of mark scored by Ravi in subject P to that of in S is 2 : 3 and the ratio of mark scored by Ravi in subject R to U is 7 : 8. The marks scored by Ravi in subject U is 20% less than that of T. He scored 60 marks in the subject S. He scored 7/12 of the total marks in the examination and the average of marks scored by Ravi in all the subjects is 70.

- What was the average of marks scored by Ravi in the subject P and R together?  
A.33 B.55 C.11 D.77 E. None of these
- The number of marks obtained by Ravi in subject Q was how much percentage less than that of subject T?  
A.10% B.20% C.30% D.40% E. None of these
- What was the total mark in the examination?  
A.600 B.640 C.700 D.720 E. None of these
- What percentage of marks the student Ravi had scored in the subject P over the maximum marks of that subject?  
A.33.33% B.39% C.66.66% D.44.44% E.60.12%
- The marks obtained by the student Ravi in subject U was how much percentage more than that of P?

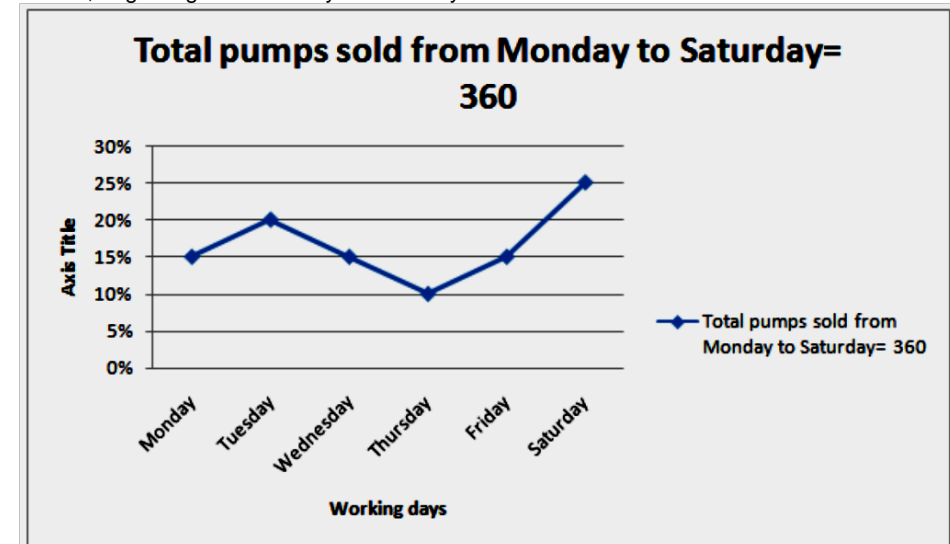
A.20% B.30% C.50% D.100% E. None of these

**SET 3. Read the following information carefully and answer the questions.**

The given table shows the total number of bikes(Hero and Honda) manufactured in four different months i.e. January, February, March and April and also given the number of Hero bikes manufactured is more than the number of Honda bikes manufactured in five different months.

Month	The total number of bikes (Hero and Honda) manufactured	The number of Hero bikes manufactured-The number of Honda bikes manufactured
In January	1400	200
Till February	3080	320
Till March	4592	582
Till April	5600	840

- Out of the total number of bikes manufactured in March, 25% of the bikes are unsold. If the ratio of the number of Honda bikes sold to unsold in March is 4:1, then find the number of Hero bikes sold in March?  
1.852 2.746 3.518 4.634 5.None of these
  - If the average number of bikes manufactured in April and May together is equal to the number of Hero bikes manufactured in February and the number of Hero bikes manufactured in May is 20% more than the number of Honda bikes manufactured in April, then find the average number of Honda bikes manufactured in January and May together?  
1.471 2.553 3.420 4.307 5.None of these
  - If the total number of (Honda, Hero and Bajaj) bikes manufactured in February is 50% more than the total number of bikes (Hero and Honda) manufactured in that month, then the number of Bajaj bikes manufactured in February is what percentage more/less than the number of Hero bikes manufactured in January?  
1.30% less 2.20% more 3.5% more 4.15% less 5.None of these
- SET 4:** Study the following information carefully and answer the questions given below.  
Given data shows the quantity of stilettos and pumps sold, by a shoes company, operating only for 6 days a week, beginning from Monday till Saturday.



DAYS	SALES (stilettos and pumps)
Till Saturday	500
Before Saturday	400
Before Friday	330
Before Thursday	250
Before Wednesday	180
Before Tuesday	80

14) On Saturday, there was a sale going on. So, the pumps were available for Rs. 2000 a pair, and stilettos for Rs. 1500 a pair. What was the total sales amount on that particular day?

a) Rs. 1,90,000 b) Rs. 1,75,000 c) Rs. 1,45,000 d) Rs. 1,95,000 e) None of these

15) Difference between total sales of pumps and stilettos (overall), is what percentage of total sales? a) 25% b) 30% c) 35% d) 40% e) None of these

16) Find the average number of pumps sold on Tuesday, Wednesday and Thursday.

a) 66 b) 54 c) 36 d) 72 e) None of these

17) On Thursday and Friday, by what percent does the population who prefer pumps, vary from those who prefer stilettos? a) 50% b) 45% c) 30% d) 25% e) None of these

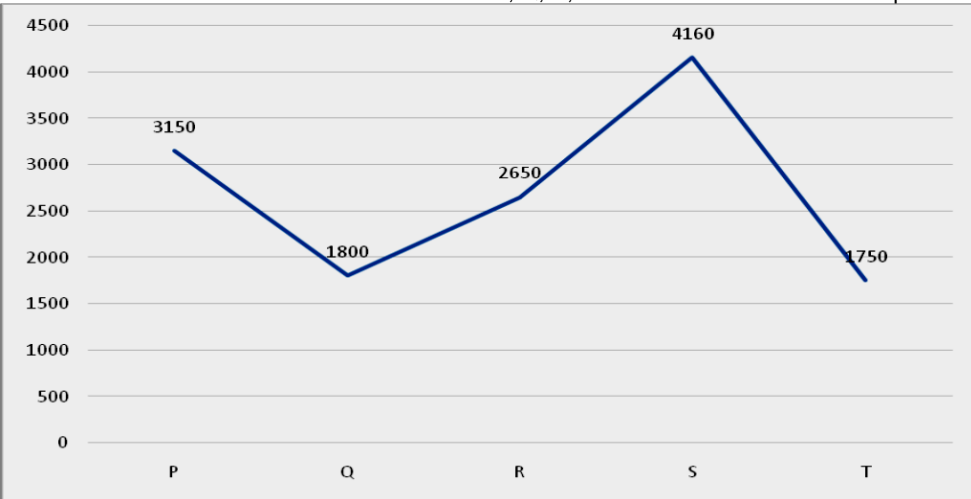
18) What is the ratio between total sales to the total pumps sold?

a) 4:5 b) 7:18 c) 25:18 d) 25:23 e) None of these

SET 5: Read the following information carefully and answer the questions based on it.

The given line graph shows the average of the sum of Cost price and Selling price of five different articles.

The ratio of the discount offered on five articles – P, Q, R, S and T are 25:18:32:27:10 respectively.



Note: Sum of the discounts offered on all given articles together is Rs. 3920

19) For article P, the difference between the selling price and cost price is Rs. 700 and the article has been marked up by 26.667% less than that of the original price, then find the new discount offered on article P if there is a profit of 18%. Initially, article P sold with a profit.

A. Rs. 691 B. Rs. 751 C. Rs. 651 D. Rs. 641 E. None of these

20) For article R, the selling price is Rs. 300 more than the cost price and the article is marked up by 25% more than the original markup amount. If the cost price of article R is 15% more, then find the approximate value of new profit/loss %, Consider the amount of discount offered is remains same?

A. 25% B. 21% C. 23% D. 29% E. 27%

21) For Article T, if the selling price of article is 100% more than the original selling price, then the profit amount increased by 175%. Find the original marked price of the article T?

A. Rs. 2825 B. Rs. 2700 C. Rs. 2450 D. Rs. 2800 E. None of these

22) If there is another article U, the cost price of article U is Rs. 2055 more than the discount offered on article S and the sum of selling price and cost price of the article U is twice that of article Q and the discount is given on article U is 20% of selling price of article S, which is sold at 60% profit. Find the mark – up% on article U.

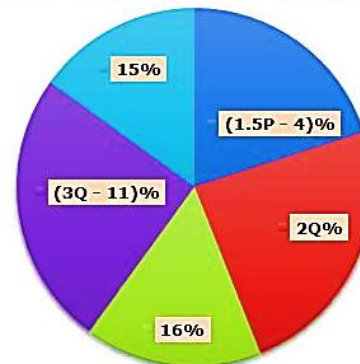
A. 74.13% B. 73.33% C. 74.33% D. 73.13% E. None of these

23) If the ratio of Profit and discount given on article Q is 40:63 respectively, then find the marked up % of article Q? A. 64.275% B. 64.375% C. 64.225% D. 64.775% E. None of these

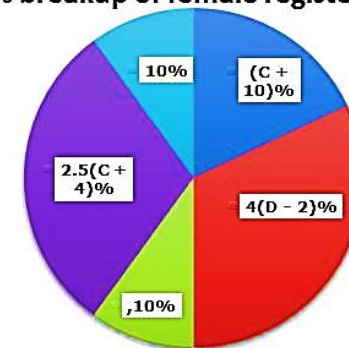
SET 6. Read the following information carefully and answer the questions based on it.

The pie chart given below shows the percentage breakup of the number of people registered on “CO–WIN” from five different states and the percentage breakup of the number of females registered from these five states.

% breakup of registered people



% breakup of female registered



Legend: Delhi (Blue), Punjab (Red), Assam (Green), Tripura (Purple), Nagaland (Cyan)

Note: a) Number of males registered from Delhi and Tripura is 720 and 600 respectively. P, Q, C and D are positive integers.

b) In Nagaland, the number of females and the total number of people is the least among the five cities.

24. The total number of males registered from all the states together is how much percent more or less than that of females? 1.40% 2.25% 3.20% 4.15% 5. None of these

25. Find which of the following statement(s) is/are true in the context of the above-given data. I. Out of the registered people from Delhi, 50% were males

II. Difference between males from Punjab and females from Assam, when divided by 13 leaves remainder 9.

III. Males from Nagaland are 70% more than females.

1. I only 2. II and III only 3. I and III only 4. I and II only 5. None of these

26. Find which of the following matches is possible in the context of the above-given data.

Box 1	Box 2
1) Punjab	I. Central angle belonging to male $> 50^\circ$
2) Tripura	II. Males $<$ Females
3) Assam	III. Difference between males and females $>$ 20% of total males

Match A) 1 – I, 2 – II, 3 – III Match B) 1 – III, 2 – I, 3 – I

Match C) 1 – I, 2 – II, 3 – I Match D) 1 – II, 2 – I, 3 – II

1. B and A only 2. C and D only 3. A, D and B only 4. B and C only 5. None of these

27. In Punjab, 75% of females and 87.5% of males registered got vaccinated. If the government collected Rs.80 for a vaccination, then find the total revenue generated by the government.

1. Rs.108260 2. Rs.108360 3. Rs.108860 4. Rs.107160 5. None of these

28. If all the data related to males are arranged in a pie chart, then find the difference between the central angle of Delhi and Tripura. 1.  $13.5^\circ$  2.  $27^\circ$  3.  $16^\circ$  4.  $14.5^\circ$  5. None of these

(1 - 5)

1. Ans. (A)

In January, Phones sold at

25% Discount =  $100 \times 0.4 = 40$ , 10%

Discount =  $x$ , 20% Discount =  $60 - x$

Total Discount =  $1000 \times [40 \times 0.25 + x \times 0.1 + (60 - x) \times 0.2] = 18000$

$10 + 0.1x + 12 - 0.2x = 18$

$0.1x = 4$

$x = 40$

Phone sold at, 10% Discount : 20%

Discount =  $2 : X = 40 : (60 - 40)$

=  $40 : 20 = 2 : 1$

$X = 1$

2. Ans. (B)

In March, Phone sold at

25% Discount =  $160 \times 0.50 = 80$ , 10%

Discount =  $x$ , 20% Discount =  $80 - x$

Discount on 20% - Discount on 10% = 1000

$1000 \times [(80 - x) \times 0.2 - x \times 0.1] = 1000$

$16 - 0.2x - 0.1x = 1$

$0.3x = 15$

$x = 50$

Phone sold at, 25% Discount : 20%

Discount =  $80 : (80 - 50) = 80 : 30$

=  $8 : 3$

3. Ans. (D)

In April, Amount of Discount =  $(41000 - 31000) + 33000 = 43000$  Rs.

Phone sold in April =  $x$

$1000 \times x \times (0.4 \times 3/8 \times 0.1 + 0.4 \times 5/8 \times 0.2 + 0.6 \times 0.25) = 43000$

$x \times (0.015 + 0.05 + 0.15) = 43$

$x \times 0.215 = 43$

$x = 200$

4. Ans. (A)

In February, Phone sold at, 20%

Discount - 10%

Discount =  $150 \times 0.7 \times (11 - 10)/21 = 5$

In May, Phone sold at,

25% Discount =  $200 \times 0.5 = 100$ , 10%

Discount =  $x$ , 20%

Discount =  $100 - x$

Total Discount =  $1000 \times [x \times 0.1 + (100 - x) \times 0.2 + 100 \times 0.25] = 41000$

$0.1x + 20 - 0.2x + 25 = 41$

$0.1x = 4$

$x = 40$

In May, Phone sold at, 20%

Discount - 10%

Discount =  $(100 - 40) - 40 = 20$

Required % =  $(20 - 5)/20 \times 100 = 75\%$

5. Ans. (A)

In May, Phone sold at,

25% Discount =  $200 \times 0.5 = 100$ , 10%

Discount =  $x$ , 20%

Discount =  $100 - x$

Discount on 20% - Discount on 10% = 8000

$1000 \times [(100 - x) \times 0.2 - x \times 0.1] = 8000$

$20 - 0.2x - 0.1x = 8$

$0.3x = 12$

$x = 40$

Phone sold at, 25%

Discount : 20%

Discount =  $100 : (100 - 40)$

=  $100 : 60 = 5 : 3$

Directions (6 - 10) :

Let the marks scored by Ravi in the subject T be  $10x$ .

Marks scored in the subject Q =  $70/100 \times 10x = 7x$

Ratio of marks scored by Ravi in subject P to that in S is 2: 3 and that in R to U is 7: 8

Marks scored in the subject U =  $80/100 \times 10x = 8x$

Marks scored in the subject R =  $7/8 \times 8x = 7x$

Marks scored in the subject S =  $3y = 60$

Marks scored in the subject P =  $2y = 2 \times 60/3 = 40$

Hence, P + Q + R + S + T + U =  $70 \times 6$

=>  $40 + 7x + 7x + 60 + 10x + 8x = 420$

=>  $x = 10$

Marks scored in the subject P = 40

Marks scored in the subject Q = 70

Marks scored in the subject R = 70

Marks scored in the subject S = 60

Marks scored in the subject T = 100

Marks scored in the subject U = 80

Let the total marks be  $z$ .

$7/12 \times z = 420$

=>  $z = 720$

6. Answer: B

Marks scored in the subject P = 40

Marks scored in the subject R = 70

Required average =  $(40 + 70)/2 = 55$

7. Answer: C

Marks scored in the subject Q = 70

Marks scored in the subject T = 100

Required % =  $(100 - 70)/100 \times 100 = 30\%$

8. Answer: D

Total marks in the examination,  $z = 720$

9. Answer: A

Marks scored in the subject P = 40

Maximum marks in each subject = 120

Required % =  $40/120 \times 100 = 33.33\%$

10 Answer: D

Marks scored in the subject U = 80

Marks scored in the subject P = 40

Required % =  $(80 - 40)/40 \times 100 = 100\%$

{11 - 13}

Solution

The total number of bikes manufactured in February =  $3080 - 1400 = 1680$

The total number of bikes manufactured in March =  $4592 - 3080 = 1512$

The total number of bikes manufactured in April =  $5600 - 4592 = 1008$

The difference between the number of Hero and Honda bikes manufactured in February =  $320 - 200 = 120$

The difference between the number of Hero and Honda bikes manufactured in March =  $582 - 320 = 262$

The difference between the number of Hero and Honda bikes manufactured in April =  $840 - 582 = 258$

The number of hero bikes manufactured in January = 800

The number of Honda bikes manufactured in January=600  
 The number of hero bikes manufactured in February=(1680+120)/2=900  
 The number of Honda bikes manufactured in February=1680-900=780  
 The number of hero bikes manufactured in March=(1512+262)/2=887  
 The number of Honda bikes manufactured in March=1512-887=625  
 The number of hero bikes manufactured in April=(1008+258)/2=633  
 The number of Honda bikes manufactured in April=1008-633=375

Month	The total number of bikes manufactured	The number of Hero bikes manufactured	The number of Honda bikes manufactured
January	1400	800	600
February	1680	900	780
March	1512	887	625
April	1008	633	375

**11. Answer: D**

The total number of bikes sold in March=1512\*75/100=1134  
 The number of Honda bikes sold in March=625\*4/5=500  
 The number of Hero bikes sold in March=1134-500=634

**12. Answer: A**

The total number of bikes manufactured in April=900\*2=1800  
 The total number of bikes manufactured in May=1800-1008=792  
 The number of Hero bikes manufactured in May=375\*120/100=450  
 The number of Honda bikes manufactured in May=792-450=342  
 Required average=(600+342)/2=471

**13. Answer: C**

The total number of Hero, Honda and Bajaj bikes manufactured in February =1680\*150/100=2520  
 The number of Bajaj bikes manufactured in February=2520-1680=840  
 Required percentage=(840-800)/800\*100=5% more

**{14 – 18}**

Firstly, we need to break-down the data in the pie chart

Pumps sold on Monday= 15% of 360= 54  
 Pumps sold on Tuesday= 20% of 360= 72  
 Pumps sold on Wednesday= 15% of 360= 54  
 Pumps sold on Thursday= 10% of 360= 36  
 Pumps sold on Friday= 15% of 360= 54  
 Pumps sold on Saturday= 25% of 360= 90

Now, we need to break-down the data for total sales on each day

Total sales on Monday= 80  
 Total sales on Tuesday= 100 ..... (180-80)  
 Total sales on Wednesday= 70 ..... (250-180)  
 Total sales on Thursday= 80 ..... (330-250)  
 Total sales on Friday= 70 ..... (400-330)  
 Total sales on Saturday= 100 ..... (500-400)

Now, we need to break-down the data for the sales of stiletto

Stiletto sold on Monday= 10 ..... (100-90)  
 Stiletto sold on Tuesday= 16 ..... (70-54)  
 Stiletto sold on Wednesday= 44 ..... (80-36)  
 Stiletto sold on Thursday= 16 ..... (70-54)  
 Stiletto sold on Friday= 28 ..... (100-72)  
 Stiletto sold on Saturday= 26 ..... (80-54)

DAYS	TOTAL SALES (stiletto and pumps)	Pumps sold	Stiletto sold
Saturday	100	90	10
Friday	70	54	16
Thursday	80	36	44
Wednesday	70	54	16
Tuesday	100	72	28
Monday	80	54	26
<b>TOTAL</b>	<b>500</b>	<b>360</b>	<b>140</b>

**14) Answer: D**

According to question,  
 On Saturday,  
 Pumps were available for Rs. 2000 a pair  
 Stiletto were available for Rs. 1500 a pair  
 Total SP of pumps= 90\*2000= Rs. 1,80,000  
 Total SP of stiletto= 10\*1500= Rs. 15,000  
 Thus, on Saturday, total sales amount= Rs. 1,95,000

Hence, answer is option D

**15) Answer: E**

According to question,  
 Total pumps sold=360  
 Total stiletto sold=140  
 Their difference= 220  
 Percentage required= (220/500)\*100= 44%  
 Thus, difference between total sales of pumps and stiletto (overall), is 44% of total sales  
 Hence, answer is option E

**16) Answer: B**

According to question,  
 Pumps sold on Tuesday=72  
 Pumps sold on Wednesday=54  
 Pumps sold on Thursday=36  
 Required average= (72+54+36)/3= 54  
 Thus, average number of pumps sold on Tuesday, Wednesday and Thursday= 54  
 Hence, answer is option B

**17) Answer: A**

According to question,  
 On Thursday and Friday, population who prefer pumps= 36 + 54 = 90  
 On Thursday and Friday, population who prefer stiletto= 44 + 16 = 60  
 Percentage difference= [(90-60)/60]\*100= 50%  
 Thus, on Thursday and Friday, population who prefer pumps, vary from those who prefer

stilettoes by 50%  
Hence, answer is option A

**18) Answer: C**

According to question,  
Total sales = 500  
Total pumps sold = 360  
Thus, ratio between total sales to the total pumps sold = 25:18  
Hence, answer is option C

**{19 – 23}**

**19) Answer: C**

Sum of the discount offered on all articles = 3920  
So,  $(25a + 18a + 32a + 27a + 10a) = 3920$   
 $112a = 3920$   
So, the value of  $a = 3920/112 = 35$   
Initial discount offered on P =  $25 \times 35 = 875$   
Selling price + cost price =  $2 \times 3150 = 6300$  -----

(1)  
Also, Selling price – cost price = 700 -----

(2)  
Initial Selling price =  $(6300 + 700)/2 = 3500$   
Cost price of article =  $3500 - 700 = 2800$

Initial MRP =  $3500 + 875 = 4375$   
Initial Mark-up =  $4375 - 2800 = 1575$   
New Mark-up =  $1575 \times (1 - 4/15) = 1155$   
New MRP =  $2800 + 1155 = 3955$   
New profit % = 18%  
New SP =  $2800 \times 1.18 = 3304$   
New discount offered =  $3955 - 3304 = \text{Rs. } 651$   
Hence, the answer is option C

**20) Answer: C**

For Article R,  
Selling price + cost price =  $2 \times 2650 = 5300$   
Also, Selling price – Cost price = 300  
So, the Initial Selling price of article R =  $(5300 + 300)/2 = \text{Rs. } 2800$   
Initial Cost price of article R =  $5300 - 2800 = \text{Rs. } 2500$   
Discount Offered on Article =  $32 \times 35 = \text{Rs. } 1120$   
Initial MRP =  $2800 + 1120 = 3920$   
Initial Mark-up =  $3920 - 2500 = 1420$   
New Mark-up =  $1420 \times 1.25 = \text{Rs. } 1775$   
New Cost price of Article =  $2500 \times 1.15 = 2875$   
New MRP of article =  $2875 + 1775 = \text{Rs. } 4650$   
New Selling price of article =  $4650 - 1120 = 3530$   
New profit % =  $(3530 - 2875)/2875 \times 100 = 23\%$   
Hence, the answer is option C

**21) Answer: D**

For Article T,  
Let the initial CP and SP of the article be Rs. a and Rs. b  
Initial profit on the article =  $(b - a)$   
After increasing SP by 100%, new SP = 2b  
New profit =  $(2b - a)$   
Now,  $(2b - a) = 275\% \times (b - a)$   
 $8b - 4a = 11b - 11a$   
 $3b = 7a$   
So,  $b/a = 7/3$

Also, the sum of initial CP and SP =  $1750 \times 2 = \text{Rs. } 3500$   
Selling price of article =  $7/10 \times 3500 = \text{Rs. } 2450$   
Discount given on Article =  $10 \times 35 = \text{Rs. } 350$   
So, the MRP of the article =  $350 + 2450 = \text{Rs. } 2800$   
Hence, the answer is option D

**22) Answer: A**

The cost price of article U =  $27 \times 35 + 2055 = \text{Rs. } 3000$   
Sum of SP and CP of U =  $2 \times (1800 \times 2) = \text{Rs. } 7200$   
So, the SP of article U =  $7200 - 3000 = 4200$   
Sum of the selling price and cost price of article  
 $S = 2 \times 4160 = 8320$   
Ratio of CP and SP of article S = 5:8  
Selling price of article S =  $8/13 \times 8320 = 5120$   
Discount given on article U =  $20\% \times 5120 = 1024$   
MRP of article U =  $4200 + 1024 = 5224$   
Mark-up% on article U =  $(5224 - 3000)/3000 \times 100 = 74.13\%$   
Hence, the answer is option A

**23) Answer: B**

Discount given on article Q =  $18 \times 35 = \text{Rs. } 630$   
So, the profit earned on article Q =  $40/63 \times 630 = 400$   
SP-CP = 400 ----- (1)  
SP + CP =  $2 \times 1800 = 3600$  ----- (2)  
From (1) and (2),  
CP of the article Q = 1600  
SP of the article Q = 2000  
MRP of the article Q =  $2000 + 630 = 2630$   
Required marked up % =  $(2630 - 1600)/1600 \times 100 = 64.375\%$   
Hence, the answer is option B

**{24 – 29}**

**Solution**

Number of people registered from (Assam + Nagaland)  
=  $16\% + 15\% = 31\%$   
So, number of people registered from (Delhi + Punjab + Tripura) =  $(100\% - 31\%) = 69\%$   
Now,  $(1.5P - 4)\% + 2Q\% + (3Q - 11)\% = 69\%$   
 $1.5P + 5Q = 84$   
 $3P + 10Q = 168$   
 $Q = (168 - 3P)/10$ ..... (1)  
Value of Q should be divisible by 10, that means  $(168 - 3P)$  has 0 as a unit place digit. So, 3P must have 8 as a unit digit.  
Only when 3 is multiplied with 6, gives unit digit 8.  
So the possible value of P = 6, 16, 26....  
If P = 6, then  $Q = (168 - 3 \times 6)/10 = 15$   
Also, we know that the total number of people registered from Nagaland is minimum. So, no other state other than Nagaland has a percentage distribution of less than 15%.  
When P = 6, % distribution of Delhi =  $1.5 \times 6 - 4 = 5\%$  (not possible)  
If P = 16, then Q = 12  
Percentage Distribution of Delhi =  $1.5 \times 16 - 4 = 20\%$   
Percentage Distribution of Punjab =  $2 \times 12 = 24\%$   
Percentage Distribution of Tripura =  $3 \times 12 - 11 = 25\%$   
This pair of values is possible.  
If P = 26, then Q = 9  
Percentage Distribution of Delhi =  $1.5 \times 26 - 4 = 35\%$   
Percentage Distribution of Punjab =  $2 \times 9 = 18\%$   
Percentage Distribution of Tripura =  $3 \times 9 - 11 = 16\%$

This pair is possible

If  $P = 36, Q = 6$

Percentage Distribution of Punjab =  $2 \times 6 = 12\%$  (not possible)

If we further increase the value of P, the value of Q will be less than 6. And the percentage of Punjab will be decreased, so no need to check further values.

Now, the number of females from (Delhi + Punjab + Tripura) =  $100 - 10 - 10 = 80\%$  of total females registered.

So,  $(C + 10) \% + 4(D - 2) \% + 2.5(C + 4) \% = 80\%$

$$3.5C + 4D = 68$$

$$7C + 8D = 136$$

$$\text{Value of } D = (136 - 7C) / 8$$

C should be exact multiple of 8,

If  $C = 8$ , then  $D = 10$

Percentage Distribution of Delhi =  $8 + 10 = 18\%$

Percentage Distribution of Punjab =  $4 \times (10 - 2) = 32\%$

Distribution of Tripura =  $2.5 \times (8 + 4) = 30\%$

This pair is possible

If  $C = 16$  then  $D = 3$

% Distribution of Punjab =  $4 \times (4 - 3) = 4\%$  (Not possible)

If  $C = 24$ , then D negative

So, we have 1 pair of possible values.

State	Percentage Of People	Percentage Of Female
Delhi	20% / 35%	18%
Punjab	24% / 18%	32%
Assam	16%	10%
Tripura	25% / 16%	30%
Nagaland	15%	10%

Also, we have a number of males from Delhi is 720 and from Tripura is 600

Case 1.

Let total people and number of females be 'a' and 'b' respectively

$$\text{So, } 20\% \times a - 18\% \times b = 720$$

$$10\% \times a - 9\% \times b = 360 \dots \dots \dots (1)$$

$$\text{Also, } 25\% \times a - 30\% \times b = 600$$

$$5\% \times a - 6\% \times b = 120 \dots \dots \dots (2)$$

Apply, 2 x equation (2) - equation (1), we get

$$3\% \text{ of } b = 120$$

$$\text{Value of } b = 4000$$

$$\text{So, value of } a = 7200$$

Case 2.

$$35\% \times a - 18\% \times b = 720 \dots \dots \dots (1)$$

$$16\% \times a - 30\% \times b = 600 \dots \dots \dots (2)$$

Apply, 5/3 x equation (1) - equation (2), we get

$$127/3\% \times a = 600$$

$$\text{So, value of } a = (600 \times 3 \times 100) / 127 = (\text{not an integer})$$

So, this pair is not possible.

Now, we can calculate all the related data.

State	Total People	Female	Male
Delhi	1440	720	720
Punjab	1728	1280	448
Assam	1152	400	752
Tripura	1800	1200	600
Nagaland	1080	400	680
Total	7200	4000	3200

**24. Answer: C**

According to the question,

Total number of males registered = 3200

Number of females registered = 4000

The required percentage =  $(4000 - 3200)/4000 \times 100 = 20\%$

**25. Answer: E**

Statement I.

Males in Delhi = 720

Females in Delhi = 720

The required percentage =  $720/1440 \times 100 = 50\%$

This statement is true.

Statement II. Males from Punjab = 448

Females from Assam = 400

Difference when divided by 13 =  $48/13 =$  remainder is 9

This statement is true.

Statement III. Males from Nagaland = 680, Females = 400

The required percentage =  $(680 - 400) = 280/400 \times 100 = 70\%$

This statement is true.

**26. Answer: D**

I. Central angle belongs to male  $> 50^\circ$

$$\text{Punjab} = 448/3200 \times 360 = 50.4^\circ (\text{follow})$$

Tripura and Assam have more males than Punjab then, obviously they have more than  $50^\circ$ .

II. Males < Females

Punjab and Tripura have males less than females.

III. Difference between males and females  $> 20\%$  of total males

$$20\% \text{ of } 3200 = 640$$

$$\text{Punjab} = 1280 - 448 = 832 (\text{follow})$$

$$\text{Tripura} = 1200 - 600 = 600 (\text{Not follow})$$

$$\text{Assam} = 752 - 400 = 352 (\text{Not follow})$$

**27. Answer: E**

$$\text{Total revenue generated by the government} = 80 \times (1280 \times 75\% + 448 \times 87.5\%) = \text{Rs.}108160$$

**28. Answer: A**

$$\text{Required difference} = [(720 - 600)/3200] \times 360^\circ = 13.5^\circ$$