1. A shopkeeper marks up his goods by 20% and then gives a discount of 20%. Besides he cheats both his supplier and customer by 100 g, i.e., he takes 1100 g from his supplier and sells only 900 g to his customer. What is his net profit percentage? (Rounded off to two decimal points)

a.24.5%

b.17.33%

c.25%

d.32.5%

e. None of these

2. A seller bought 2750 Mangoes and 1210 Apples at the same price. He sells in such a way that he can buy 406 Mangoes with the sale of 322 Mangoes and he can buy only 289 Apples with the sale of 391 Apples. Then what is the overall profit percentage made by him?

a.0%

b.2%

c.5%

d.6%

e.10%

3. The ratio selling prices three articles A, B, and C is 29:27:32., the ratio of percentage profit is 4:2:5, respectively. If the cost price of article A is equal to B and the cost price of article C is Rs. 480. Then what is the overall gain?

a.10%

b.12%

c.15%

d.18%

e.19%

4. A shopkeeper sold half of his items at 25% profit, half of the remaining at 20% loss and the rest was sold at the cost price. Find the gain/loss % in the whole transaction?

a.12 %

b.0.5 %

c.7.5 %

d.9 %

e. None of these

5. The teddy is marked 15% above the cost price. When the selling price of an article is increased by 25%, the profit gets increased Rs. 110. If the marked price of the article is Rs. 575, then find original selling price?

a. Rs. 560

b. Rs. 440
c. Rs. 390
d. Rs. 280
e. Rs. 620

6. A firm of readymade garments makes both men's and women's shirts. Its average profit is 5% of the sales. Its profit in men's shirts average 9% of the sales and women's shirts comprise 60% of the output. The average profit per sale rupee in women shirts is

a. 0.0266
b. 0.0466
c. 0.0433
d. 0.0233
e. None of these

7. A trader bought 20kg of sugar at the rate of Rs. 30 per kg. He sold 30% of the total quantity at the rate of Rs. 40 per kg. At what price per kg should he sell the remaining quantity to make 15% overall profit (approx)?

a. Rs. 25
b. Rs. 36
c. Rs. 22
d. Rs. 32
e. None of these

8. Preethi buys two books for a total cost of Rs. 300. By selling one book for 2/5 of its cost and the other for 5/2 of its cost, she makes a profit of Rs. 48 on the whole transaction. The cost of the lower priced book is(approx)?

a. Rs 108.50
b. Rs 135.25
c. Rs 82.50
d. Rs 76.50
e. None of these

9. Vinay sells a shirt for Rs 800 and earned some profit. The profit of that shirt is equal to the 15 times of the loss incurred when it is sold for Rs.360. If he wants to make a profit of 30%, then what will be the Selling Price?

a. Rs 387.50
b. Rs 503.75
c. Rs 425.70
d. Rs 640.50
e. None of these

10. Rahim marks up all Jeans in his shop 20% higher. He gave 25% discount on 2/5th of the total Jeans and 12% discount on 1/4th of the total Jeans. If Rahim gets an overall profit of 2.3%, then what percentage of discount should be given by Rahim to customers on the remaining Jeans.?

a.5% b.15% c.17% d.6% e.8%

11. A fruit-seller buys some oranges and by selling 40% of them he realizes the cost price of all the oranges. As the oranges being to grow over-ripe, he reduces the price and sells 60% of the remaining oranges at one third of the previous rate of profit.

The rest of the oranges being rotten are thrown away. The overall percentage of profit is

a.54% b.68% c.49% d.75% e. None of these

12. A merchant earns 25% profit in general. Once his 25% consignment was abducted forever by some goondas. Trying to compensate his loss he sold the rest amount by increasing his selling price by 20%. What is the new percentage of profit or loss?

a.12.5% b.14.5% c.16.8% d.18.5% e. None of these

13. The MRP of a article is 60% above its manufacturing cost. The article is sold through a retailer, who earns 19% profit on his purchase price. What is the approx. profit percentage for the manufacturer who sells his article to the retailer? The retailer gives 15% discount on MRP?

a.15.2%

b.14.2%

c.13%

d.12.5%

e. None of these

14. An Article costs Rs. 5000 and it is marked up 40% by the shopkeeper. A customer walks into the shop and seems really interested in the article. Sensing this, the shopkeeper gets greedy and he raises the markup % to 80% and gives a discount of 20% to the customer. How much more/less money would he had made, had he not gotten greedy?

a. Rs. 200 more

b. Rs. 200 less

c. Rs. 400 more

d. Rs. 400 less

e. None of these

15. A man owns five flowers pots all of the same value. He sells the first pot at 10% profit, 2nd at a 16.66% loss & the 3rd at 25% profit. He sells the last two for rupees 140 & Rs. 78 respectively. After selling all five pots he notice that he has not gained or lost anything on the entire deal. What would his total profit or loss % be if he had sold each pot for rupees 156?

a.20%

b.30%

c.35%

d.40%

e. None of these

16. Mr. Rajan invested Rs 1,00,000 in US Stock Markets when the GBPINR rate was 75. After one year his investment appreciated by 20% in GBP terms. He sold of his investments and repatriated the money to India at the then existing rate of 80. what was real returns in INR?

a. loss of 24%

b. gain of 28%

c. loss of 28%

d. gain of 20%

e. None of these

17. The Maximum Retail Price (MRP) of a product is 55% above its manufacturing cost. The product is sold through a retailer, who earns 23% profit on his purchase price. What is the profit percentage for the manufacturer who sells his product to the retailer? The retailer gives 10% discount on MRP.

a.31%

b.22%

c.15%

d.13%

e.11%

18. If the selling price of an article is doubled, then its loss per cent is converted into equal profit per cent. The loss per cent on the article is?

a. 31

b. 33 1/3

c. 38 2/5

d. 37 9/5

e. None of these

19. A dealer purchased a printing machine for Rs. 7660. He allows a discount of 12% on its marked price and still gains 10%. Find the marked price of the machine.

a. 9575

b. 8765

c. 10985

d. 8995

e. None of these

20. A person sold an toy for Rs. 136 and got 15% loss, had he sold it for Rs. N, he would have got a profit of 15%. Which one of the following is correct?

a. 190< N< 200

b. 180< N< 190

c. 170< N< 180

d. 160< N< 170

e. None of these

21. P, Q and R have 120 mangoes in total. P give 37.5% of his mangoes to Q and R such that now he has equal number of mangoes as Q and R together have. After that Q give same % of mangoes to R, after which Q and R have equal number of mangoes. How many mangoes Q gives to R?

a. 18

b. 24

c. 12

d. 30

e. 6

22. A shopkeeper has some mangoes. A costumer came and take some mangoes which is 2 more than the number of mangoes shopkeeper left with. In the same process shopkeeper sale mangoes such that he does not have any mango for 7th customer. Find the initial number of mangoes which he has?

a. 24

b. 100

c. 82

d. 62

e. 126

Direction (23-24): study the following carefully and answer accordingly:

In an island of the Maldives, the natives have a peculiar process of determining their average earnings and expenditures. According to an old tradition, the average monthly earnings had to be calculated on the basis of 14 months in the calendar year, while the average monthly expenditure was to be calculated on the basis of 9 months in the year. This weird system of calculation always resulted in the natives underestimating their savings because there occurs an underestimation of their earning. The expenditure per month gets overestimated. Now keeping the above points in view try to answer the below questions:

23. Mr. Ghosh comes to his native island from Africa and makes his native community comprising of 173 families to calculate their average earning and the average expenditure on the basis of 12 months per the calendar year. The average estimated earning in his community according to the old system is 77 fasios per month. Assuming there are no other changes, what will be the percentage change in savings of the 173 families?

a. 34% increase

b. 34 % decrease

c. No changes

d. 56 % increase

e. Cannot be determined

24. In the previous question, the average estimated monthly expenditure is 21 fasios per month for the island. Determine the percentage change in the estimated savings of the 173 families.

a. 35 % decrease

b. 38 % increase

c. 32.3% increase

d. No changes

e. Cannot be determined

25.A shopkeeper gave an additional 40% discount on the reduced price after giving 25% standard concession on that item, if a person bought that item for Rs.1260, what is the original price of the item?

a. Rs.2400

b. Rs.2800

c. Rs.3200

d. Rs.2000

e. None of these

26. A seller wants to earn 12% profit on an item after giving 20% discount to the customer. By what percentage should he increase his marked price to arrive at the label price?

a.24%

b.32%

c.42%

d.16%

e. None of these

27. If articles bought at prices ranging from Rs. 150 to Rs. 300 are sold at prices ranging from Rs. 250 to

Rs 350, what is the greatest possible profit that might be made in selling 15 articles?

a. Rs. 2500

b. Rs. 3000

c. Rs. 3500

d. Rs. 4500

e. None of Above

28. Neepa blends two varieties of fruits – one costing Rs. 180 per kg and another costing Rs. 200 per kg in the ratio 5 : 3. If she sells the blended variety at Rs. 210 per kg, then her gain is?

a.10%

b.12%

c.11%

d.13%

e. None of these

29.A cashew nut seller mixes three varieties of nuts costing 50, 20 and 30 per kg in the ratio 2 : 4 : 3 in terms of weight and sells the mixture at 33 per kg. What percentage of profit does he make?

a.8% b.10% c.9% d.11% e. None of these

30. A Seller purchased some notes from a publication worth Rs. 750. Because of some reasons, he had to sell two-fifth part of the book at a loss of 15%. On which gain he should sell his rest of the notes, so that he gets neither nor loss?

a.10%

b.9%

c.12%

d.15%

e. None of these

31. By selling a mobile at 52% discount, a seller incurs a loss of 8%. The marked price of the product is 18000 Rs. At what percent discount the seller should sell the mobile so as to have a profit of 33% (approx.)

a.31%

b.33%

c.34%

d.45%

e. None of these

32. In a certain mall, the profit is 160% of the cost. If the cost increases by 12.5% but the selling price remains constant, approximately what percentage of the selling price is the profit?

a.57%

b.55%

c.64%

d.21%

e. None of these

33.The market price of a novel was 50% more than its cost price. Vadi was going to sell it at market price to a customer, but he showed vadi some defects in the novel, due to which vadi gave him a discount of 33%.Next day he came again and showed vadi some more defects, hence he gave him another discount

that was equal to 14.5% of the cost price. What was the approximate profit/loss to vadi?

a.14.5% loss

b.14.5% profit

c.14% loss

d.14% profit

e. None of these

34. A taxi driver makes a profit of 25% on every trip when he carries 4 passengers and the price of petrol is Rs. 35 a litre. Find the approximate % profit for the same journey if he goes for 5 passengers per trip and the price of petrol reduces to Rs. 28 litres?

a.95.28%

b.95%

c.96%

d.90%

e. None of these

35. Wipro is the leading IT company then the profit earned by same organization is distributed among HR and officers in the ratio of 13:7 respectively. If the number of HR is 104 and the number of officers is 156 and the amount received by HR is Rs 6000. What was the total amount of profit earned (in lakhs) ?

a. 9.6 lakhs

b. 9lakhs

c. 8.6lakhs

d. 9.4lakhs

e. None of these

36. Mani went to purchase a mi mobile handset, the shopkeeper told him to pay 25% tax if he asked the bill. Mani manages to get the discount of 10% on the actual sale price of the mobile and he paid the shopkeeper Rs.3275 without tax. Besides he manages to avoid to pay 25% tax on the already discounted price, what is the amount of discount that he has gotten?

a. 369.9

b. 324.5

c. 537.6

d. 379.8

e. None of these

37. Sasi is a badham merchant in kerala. He has badham in sealed wooden boxes of 15kg each. The price of the badham increases by Rs.30 per kg for every year, but at the same time, 10% of the badham are eaten by rodents every year. If the price of a 1 kg of fresh badham is Rs.240, what is the change in his profits if he sells a sealed box after one year of storage, rather than selling it fresh ?(In Rs.)

a. 45 b. 55 c. 65 d. 75 e. None of these

38. The profit percentage of banu and renu is same on selling the articles at Rs 900 each but banu calculates his profit in the selling price while renu calculates it correctly on the cost price which is equal to 10%. What is the difference in their profits?

a. 8.18

b. 10.56

c. 1.25

d. 5.82

e. None of these

39. P and Q both are dealers of cars. The price of a car is Rs 56,000. P gives a discount of 10% on whole, while Q gives a discount of 12% on the first Rs 40,000 and 8% 0n the rest Rs 16000. What is the difference between their selling prices?

a. 480

b. 450

c. 510

d. 670

e. None of these

40.A Barbie doll is available at Ratna stores in salem at 20% discount and the same is available at only 18% discount at Royal stores in attur. Deepika has just sufficient amount of Rs 800 to purchase it at Ratna stores in salem. What is the amount that deepika has less than required amount to purchase it at Royal stores in attur?

a. 20 b. 35 c. 80 d. 56 e. None of these

41. The ratio of the cost price of product A to that of B is 5:7. product A was sold at a profit of 80% and product B was sold at a profit of 20%. If the total profit earned after selling both the (products A and B is Rs 296) what is the difference between the cost prices of product A and B?

a. 235 b. 110 c. 560 d. 247 e. None of these

42. Femina is the famous magazine in India. In that company there is a profit of Rs 150. If 2/3 part of n magazine is sold at 60% profit, 1/4 part at 32% profit and remaining part at 24% profit and the find the cost price of the magazine?

a. 300

b. 400

c. 500

d. 600

e. None of these

43. Rahim is dealer of magnetic components. He imports the components from Russia. Rahim sells a radio valve at profit of 20%. If he bought it at 20% less and sold it for Rs 5 less than the previous selling price, he would have gained 25%. Find the cost price?

a. 25 b. 55 c. 30 d. 45 e. None of these

44.An intern was paid a stipend of Rs. 1,792 for a period of 30 days calculated on daily basis. During this period, he was absent for 4 days and was fined Rs. 12 per day for absence. He was given full amount for only 20 days as he was late for the rest of the days and he got only half of the amount on the late days. Had the intern come on time every day, not being absent on any day, what stipend he would have been received?

a. Rs. 2,200

b. Rs. 2,100

c. Rs. 2,400

d. Rs, 2,500

e. None of these

45.In a job fair, 50% of the people are graduates, one fifth of them are post graduates and rest is double graduates. If three-fourth of the graduates, 60% of the post graduates and half of the double graduates are unemployed, what percentage of total people is already employed?

a.35.5% b.40.5% c.38% d.42% e. None of these

46. If each of them got the payments on time, what is the approximate percentage profit of the person getting the higher profit ?

a.19% b.21% c.25% d.17% e.20%

47. If Shashi defaults by 1 and 2 weeks in the second and third payments respectively, what would be the profit of Ramu in the sale of the car?

a. Rs. 5920

b. Rs. 6240

c. Rs. 5860

d. Rs. 5980

e. None of these

48. A car 'X' is manufactured in a company 'A'. Cost of raw material on a car is 25% of total cost and cost of labor is 20% of rest. 30% of total cost occur due to four engineers working there and remaining cost is due to machines and taxes which is in the ratio 7 : 3. Company sold the car 'X' at 28% profit. If cost of raw material is increased by 30% and all their 4 engineers leave the company, so they hire 2 new engineers by giving 50% more salary as they give to previous engineer each. Find the % change in selling price so overall profit must remain same?

a.0% b.100% c.2% d.50% e.3%

49. Two friends Shayam and Kailash own two versions of a car. Shayam owns the diesel version of the car, while Kailash owns the petrol version. Kailash's car gives an average that is 20% higher than Shayam's (in terms of litres per kilometer). It is known that petrol costs 60% of its price higher than diesel) The ratio of the cost per kilometer of Kailash's car to Shayam's car is?

a.3 : 1 b. 1 : 3 c. 1.92 : 1 d. 2 : 1

e. Cannot be determined

50. Two friends Shayam and Kailash own two versions of a car. Shayam owns the diesel version of the car, while Kailash owns the petrol version. Kailash's car gives an average that is 20% higher than Shayam's (in terms of litres per kilometer). It is known that petrol costs 60% of its price higher than diesel) If Shyam's car gives an average of 20 km per litre and diesel cost Rs. 12.5 per litre, then the difference in the cost of travel per kilometer between the two cars is ?

a. Rs. 4.3

b. Rs. 3.5

c. Rs. 2.5

d. Rs. 3

e. Rs. 1.25

Answer with Solution

Solution (1-50)

1. B

Let initial CP = 100 Rs.
When the shopkeeper cheats from manufacturer then he will get 110 units in the price of 100 units

$\therefore$ profit % $= \frac{10}{100} \times 100 = 10\%$

$\therefore$ New price = Rs. 110 Rs.

Now MP = 132

SP = 132 – 26.4 = 105.60

Now the shopkeeper cheats from the customer

If he sells 100 units then he will get a profit of 10 units

$\therefore$ profit % $= \frac{10}{90} \times 100 = \frac{100}{90}$

$\therefore$ New SP $= \left(100 + \frac{100}{90}\right) \times \frac{1}{100} \times 105.60$

$= \frac{10}{9} \times 105.60 = \frac{1056}{9}$

= 117.33 Rs.

$\therefore$ his net profit % = 17.33%

2. A

Cost of 2750 Mangoes = 1210 Apples

Total cost = 2420 Apples

Given: 406 = 322(100+x/100)

x = 6/23%

Given: 289 = 391(100+y/100)

y = 6/23% loss

Overall profit:

2750 Mangoes*(100+6/23/100) +1210 Apples*(100-6/23/100) = 2420*Apples (100+P/100)

1210 Apples*(100+6/23/100) +1210 Apples*(100-6/23/100) = 2420*Apples (100+P/100)

P = 0%

3. C

29y/27y = (100+4x/100+2x)

x = 4

% are 16%,8%,20%

32y = 480(120/100)

y =18

SP's are 522,486,576

CP of A

29*18 = CP (116/100)

CP =450

CP's are 450,450 and 480

Overall gain =

1584 =1380(100+g/100)

g =15%

4. C

Let the cost price of whole items be Rs. x,

CP of 1/2 of the items = Rs. x/2

CP of 1/4 of the items = Rs. x/4

Total SP = Rs. [(125% of x/2) + (80% of x/4) + x/4]

= > Rs. (5x/8 + x/5 + x/4)

= > Rs. 43x/40

Gain = Rs. (43x/40 – x)

= > Rs. 3x/40

Gain % = [(3x/40)/x]*100 = 7.5 %

5. B

Marked Price = Rs. 575

CP = 575 * (100/115) = 500

Profit = Selling Price – 500

And given that, when SP increased by 25%

Let the original selling price be Rs. x,

125/100 * SP – 500 = Profit + 110

5/4 x – 500 = (SP – CP) + 110

5x/4 – 500 = x – 500 + 110

5x/4 – x = 110

(5x – 4x) / 4 = 110

x = 440

Selling price = Rs. 440

6. D

Let the total sales be Rs. 100

Women's shirt comprise 60% of the output

⇒ Rs. 60 out of Rs. 100 is sales of female's shirts

∴ Men's shirts comprise (100 – 60) = 40% of the output

⇒ Rs. 40 out of Rs. 100 is the sales of male's shirts

∴ Average profit from men's shirt = 9% of 40 = Rs. 3.6

Overall average profit = 5 % of 100 = Rs. 5

∴ Average profit from women's shirts = 5 – 3.6 = Rs. 1.4

This is from the sale of Rs. 60

∴ The profit per rupee is $\frac{1.4}{60} = 0.0233$

7. D

Total quantity of sugar = 20 kg

Total CP of sugar = 20 * 30 = Rs 600

30% of Total Quantity = 30% of 20

= 30/100*20= 6

SP = 6*40 = Rs 240

SP = 600 * 115/100

= Rs 69000/100

= RS 690

SP of Remaining Quantity = 690– 240 = Rs 450

Remaining Quantity = 20-6=14 kg

Sugar per Kg = 450/14

= Rs. 32.14

8. A

CP of 1st book= x

CP of 2nd book= 300-x

SP of 1st book= 2x/5

SP of 2nd book=(300-X)5/2

Profit=SP-CP

48=[2x/5+(300-X)5/2]-300

48=2x/5 +1500/2-5x/2 -300

48=(4x+7500-25x/10)-300

48=(7500-21x/10)-300

48=(7500-21x-3000)/10

48=4500-21x/10

480=4500-21x

21x=4500-480

21x=4020

X= Rs. 191.50

The cost of lower priced book= Rs. 108.50

9. B

Vinay sells a shirt for Rs 800 and earned some profit. The profit of that shirt is equaled to the 15 times of the loss incurred when it is sold for Rs.360.

Selling price of a shirt = Rs 800;

Let the cost price of the shirt= x

Profit = Rs (800 – x)

Selling price of the shirt = Rs 360;

Loss = Rs (x – 360)

⇒ (800 – x) = 15 (x – 360)

⇒ 800 – x = 15x – 5400

15x+x= 800+5400

16x = 6200

⇒ x = 387.50

cost price of the shirt= Rs 387.50

Profit = 30%

Selling price = (100+gain %) /100*cp

=130*387.50/100

=50375/100

=Rs. 503.75

10. A

Let Rahim has 100 Jeans and C.P of each Jeans is Rs. 100.

Then, Marked price of each Jeans = 100 × 120 = Rs. 120

100

And, Selling price of 100 Jeans = $100 \times 100 \times \frac{102.3}{100}$ = Rs. 10230

Selling price of 40 Jeans (i.e., $\frac{2}{5}$ of 100) = $40 \times 120 \times \frac{75}{100} = 3600$

Selling price of 25 Jeans (i.e., $\frac{1}{4}$ of 100) = $25 \times 120 \times \frac{88}{100} = 2640$

Let Rahim gave a% discount on remaining (i.e., 100 – 40 – 25 = 35) Jeans.

Selling price of remaining 35 Jeans

$= 35 \times 120 \times \frac{100 - a}{100} = 4200 \times \frac{100 - a}{100}$

According to the question,

$10230 = 3600 + 2640 + 4200 \times \frac{100 - a}{100}$

$\Rightarrow 4200 \times \frac{100 - a}{100} = 10230 - 6240 = 3990$

$\Rightarrow \frac{100 - a}{100} = \frac{3990}{4200} = 0.95$

$\Rightarrow 100 - a = 95$

$\Rightarrow a = 100 - 95$

$\Rightarrow a = 5\%$

11. A

Let he bought 100 oranges for 100 rupees

$\therefore$ CP = 100/- (Rs 1/- for each orange)

Now, SP of 40 oranges = 100/- (equal to the total cost)

$\therefore$ Profit % he earned =

$\frac{100 - 40}{40} \times 100\% = 150\%$

2nd Scenario:

New, 60% of the remaining oranges =

$\frac{60 \times 60}{100} = 36$ oranges

SP of 36 oranges with one third profit he earned earlier =

$\frac{(100 + \text{Gain}\%)}{100} \times CP = \frac{150}{100} \times 36 = 54/-$

Gain% = As per the question the gain percent in 2nd Scenario is one third of the previous profit%)

Total CP = 100/-

Total SP = 100 + 54 = 154/-

$\therefore$ Profit % = $\frac{154 - 100}{100} \times 100\% = 54\%$

12. A

Method 1: Suppose he buys 100 goods at Re. 1 each. Therefore CP of 100 itmes = Rs. 100

It's further given that 25% i.e. 25 goods are abducted, so he is left with 75 goods.

Therefore, SP of the remaining 75 goods at 25% profit

$= 75 \times \frac{125}{100} \times 1 = \frac{5 \times 75}{5}$

From here, he increases his selling price by 20%. So,

New S.P of 75 goods = $\frac{120 \times 5 \times 75}{100 \times 5}$

= 112.5

i.e. Now overall the merchant has profit of 12.5% only.

Method 2: To solve this question, we can apply the net% effect formula

$x + y + \frac{xy}{100}\%$

In the 1st scenario, x = 25% (Profit), y = – 25% (Loss due to theft)

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

In the 2nd scenario, applying the net% effect formula again,

Here x = 20% (profit) and $y = -\frac{25}{4}\%$

(Resultant loss occurred after profit and loss happened in the 1st scenario)

$= 20 - \frac{25}{4} - \frac{25 \times 20}{4 \times 100} = 20 - 6.25 - 1.25 = 12.5\%$

13. B

The manufacturer sells the product to retailer, and then retailer sells to the customer.

Assume manufacturing cost = 100 and manufacturer profit = x

As Maximum Retail Price (MRP) of a product is 60% above its manufacturing cost,

MRP = 160% of 100 = 160

The retailer gives 15% discount on MRP. So, customer price is 85% of MRP.

Buyer Price = 85% of 160 = 136

Manufacturer makes x rupees profit, and then retailer makes 19% profit.

So, 119% of (100 + x) = 136

$\Rightarrow$ 119 (100 + x) = 13600

$\Rightarrow$ (100 + x) = 114.28

$\Rightarrow$ x = 14.28

Hence, Manufacturer profit = 14.2%

14. B

We can compare Selling Price to get the answer.

First Scenario: When markup was 40%

= 140% of 5000 = 7000

Second Scenario: When there is markup of 80 % and then a discount of 20%

= 80% of 180% of 5000 = 7200

In the second scenario, he is earning Rs. 200 less.

So we can say that he would have earned Rs. 200 less, had he not gotten greedy.

15. B

The sold first pot at 10% profit

Second at 16.66% loss and third at 25% profit

he sold last two (i.e. 4th and 5th) for

4th = Rs. 140; 5th = Rs. 78

let the cost of each pot be x

then Selling price of –

First pot = $\frac{110x}{100}$

Second pot = $\frac{83.34\ x}{100}$

Third pot = $\frac{125\ x}{100}$

4th pot = 140; 5th pot = 78.

Total cost of 5 pots = 5x

There is no profit no loss to that man, so

$\frac{110x}{100}+\frac{83.34x}{100}+\frac{125x}{100}+140+78=5x.$

3.18 + 218 = 5x; 1.82x = 218

x = 119.78 ≈ 120.

If all the pot have been sold for Rs. 156 then the profit is

$\Rightarrow \frac{(156 - 120) \times 100}{120} = 30\%.$

16. B

Money invested by Rajan before 1 year was = Rs. 100000

Money in UK pounds @ 75 is = 100000/75 = 1333.33 Pounds

Now, after 1 year invested amount was appreciated by 20%

=> 20% of 1333.33 = 266.66

Total investment becomes = 1333.33 + 266.66 = 1600 Pounds

This 1600 Pounds @ Indian currency at 80 = 1600 x 80 = Rs. 1,28,000

Hence, Rajan's investment of Rs. 1,00,000 becomes Rs. 1,28,000 in 1 year

Therefore, his profit % = [(128000 - 100000)/100000] x 100 = 28%.

17. D

Let the manufacturing cost = 100

The MRP of the product is 55% above its manufacturing cost

The MRP of the product = 100 + 55% of 100 = 155.

The retailer sells the product after offering a discount of 10% on the MRP

So, the retailer sells the product at 155 – 10% of 155 = 155 – 15.5 = 139.5

Let the purchase price for the retailer be x.

Therefore, the retailer sells the product at x + 23% of x = 123% of x.

Retailer sells the product at 139.5 = 123% of x

1.23x = 139.5

(or) x = 139.51.23139.51.23

Therefore, x = 113.4

The manufacturer sold the product at 113.4.

Cost to the manufacturer is 100.

So, profit made by the manufacturer is 13.4.

Rounded to the nearest integer, it is 13%

18. B

Let CP = C, SP = S, Loss% = x %

=> x = (C – S)/C x 100 ————(1)

When SP is doubled, loss% becomes profit%.

x = (2S – C)/C x 100 ————(2)

From eqns (1) and (2)

2S – C = C – S

3S = 2C => S = 2/3 C

Substituting b = 2/3 a in eqn (1)

x = (C – 2/3 C)/C x 100= (C/3)/C x 100 = 100/3 = 33 1/3%

19. A

Cost price of the machine = Rs. 7660, Gain% = 10%.

Therefore, selling price = [{(100 + gain%)/100} × CP]

= Rs. [{(100 + 10)/100} × 7660]

= Rs. [(110/100) × 7660]

= Rs. 8426.

Let the marked price be Rs. x.

Then, the discount = 12% of x

= {x × (12/100)}

= 3x/25

Therefore, SP = (Marked Price) – (discount)

= (x – 3x/25)

= 22x/25.

But, the SP = Rs. 8426.

Therefore, 22x/25 = 8426

⇒ x = (8426 × 25/22)

⇒ x = 9575.

Hence, the marked price of the Printing machine is Rs. 9575.

20. B

Cost price = (selling price x 100)/(100 – loss%)

= (136 x 100)/(100 – 15)

= (136 x 100)/85

= Rs. 160

Selling price (N) = 160 x (100 + 15)/100 = (160 x 115)/100

= Rs. 184

∴ Option (b) is correct because [180< N< 190].

21. A

Let P and R have initially x, y and z mangoes
After giving 37.5% mangoes P have 50% of total mangoes i.e. 60
$\frac{x\times5}{8} = 60$
$x = 96$
So,
$z + y = 120 - 96 = 24$
Now,
Now Q and R got some mangoes
So, let Q and R now have s *and* t mangoes
ATQ
$\frac{5}{8} \times s = 30$
$S = 48$
$t + s = 60$
$t = 12$
Q gives '48−30=18' mangoes to R such that they both got equal number of mangoes

22. E

7^{th} customer go empty handed
He have → 0 mango
for 6^{th} customer he have ⇒ 0 + 2 = 2 mangoes
For 5^{th} customer = (4 + 2) = 6 mangoes
For 4^{th} customer = (8 + 6) = 14 mangoes
For 3^{rd} customer = (16 + 14) = 30 mangoes
For 2^{nd} customer = (32 + 30) = 62 mangoes
For 1^{st} customer = (64 + 62) = 126 mangoes

23. E

Average Monthly earning (old system) = 77
So, Total Income of 173 families/14 = 77
So, Total Income of 173 families = 77×14
Now,

Average Monthly earning of 173 families (new system) =

Total Income/12 = 77×14/12 = 89.83 fasios

But, we do not know the average monthly expenditure in either system.

Nor do we know the savings.

So, the required answer cannot be determined.

24. C

Average Monthly Income (old system) = 77

So, Total Income of 173 families/14 = 77

So, Total Income of 173 families = 77×14

Now, Average Monthly Income of 173 families (new system) =

Total Income/12 = 77×14/12 = 89.83 fasios

Now, Average Monthly expenditure (old system) = 21

So Average Monthly Expenditure (new system) = 21×9/12 = 15.75

Total Savings (old system) = 77-21=56

Total Savings (new system) = 89.83-15.75 = 74.08

%change = (74.08-56)/56 x100 = 32.3%

25. B

Let the original price be 'x'

The price after 1st concession of 25% = x – 25x/100 = x – x/4 = 3x/4

The Price after additional discount 40% = 3x/4 – 3x/4 X 40/100 = 30x – 12x/40

= 9x/20, i.e. 9x/20 = Rs.1260,

:. x = 1260 x 20 /9 = Rs.2800.

26. E

Let x = marked price and the CP be Rs.100.

Initial SP = Rs.112.

To give 20% discount = x – 20x/100 = Rs.112.

= x – x/5 = Rs.112, 4x = 112 x 5

x = Rs.140.

Here marked profit = Rs.40.

Percent profit = 40%

27. B

The greatest profit is possible only if the cost price of the articles is minimum and selling prices are maximum.

Let lowest cost price of the 15 articles = 150*15 = Rs. 2,250

Maximum selling price of 15 articles = 350 *15 = Rs. 5,250

So, maximum profit = 5250 – 2250 = Rs. 3,000

28. C

Let 5 kg of cheaper be mixed with 3 kg of dearer.

Then, Total C.P. = Rs. (180 x 5 + 200 x 3) = Rs. 1500

Total S.P. = Rs. (210 x 8) = Rs. 1680

Gain % = (180/1500 x 100) % = 12%

29. C

Let 2x, 4x and 3x kg of three varieties be mixed.

Then, C.P. = Rs. [(2x × 50) + (4x × 20) + (3x × 30)] = Rs. 270x

S.P. = Rs. [(2x + 4x + 3x) × 33] = Rs. 297x

Gain % = (27x / 270x × 100) % = 10%

30. A

Here, A = 2/5, R = 15%

According to the formula

Gain % = AR/(1 – A)%

= [(2/5) x 15]/[1 – (2/5)]%

= (6 x 5)/3%

= 10%

31. A

Since, Marked Price = 18000

Therefore, Selling Price = 18000*0.48 = 8640

Loss of 8% is there

Therefore, Cost price = 8640/0.92 = 9391.30Rs

To have profit of 33%

The Selling Price should be = 9391.30*1.33 = 12490.42

Hence, Discount should be 18000 – 12490.42 = 5509.58Rs

Discount% should be [5509.58/18000]*100 = 30.60 ≈ 31%.

32. A

Let C.P.= Rs. 100.

Then, Profit = Rs. 160, S.P. = Rs. 260.

New C.P. = 112.5% of Rs. 100 = Rs. 112.5

New S.P. = Rs. 260.

Profit = Rs. (260– 112.5) = Rs. 147.5

Required percentage = 147.5/260*100=57% (approx.)

33. A

Let the cost price be Rs. 100

Then, market price is Rs. 150

Now, the first discount is of 33% Rs.150 =Rs. 50

Hence, its selling price = 150 - 50 = Rs. 100

since vadi's selling at cost price, any further discount will be equal to loss %

The next discount of 14.5% will be the loss percentage to valid

34. A

When 4 passengers income was 4x

Expense= Rs.35.

Profit =25% of 35+35= Rs.43.75

That means his earning is Rs.44.775.so that per passenger fare must be Rs.10.93

When 5 passengers earning = 10.99x5=Rs.54.68

Expense =Rs.28

Profit = 95.28 % approx.

35. A

Total amount distributed among 104 HR's= Rs. 104*6000 =Rs. 624000

Let the amount distributed to 156 officers be x

Then 624000/x = 13/ 7

Then x = Rs, 336000

The total profit = Rs. 624000+336000= Rs. 9.6lakhs

36. A

Total CP= Rs(240*200)=Rs. 48000

Total expenditure=(960+1*240+120)= Rs. 1320

totalCp= 48000+1320=Rs. 49320

gain= 80%

sp of 240reams = 49320*180/100 = Rs.88776

Sp per ream= 88776/240= Rs 369.9

37. A

Price of 1kg fresh batham= Rs.240

Therefore, price of 15kg = Rs.15*240= 3600

10% of 15kg which eaten by rodents = 10 x 15/100 = 1.5kg.

So, End of Year he had 15kg – 1.5kg = 13.5kg

So, he sells that 13.5kg with Rs.30 per kg profit = 13.5*270=3645

He buy 15kg wooden box with badham for Rs.3600 and sell that for Rs. 3645

So, profit = 3645-3600= Rs.45 more money he get.

38. A

When profit calculate on SP the profit = 10% of 900 = 90

When profit calculate on CP(x) = x+X/10 = 900

11X=9000

X=818.18

Profit= 81.82

Required difference= 90-81.82 = Rs 8.18

39. A

Discount offer by by P= 10 % of 56000 = Rs. 5600

Total discount offer by Q= 12% of 40,000+8% of 16000

=4800+1280=Rs. 6080

Required difference= 6080-5600= Rs.480

40. A

100%= 1000

When discount 18%,then,

SP= 1000-180=820

Required difference= 820-800 = Rs. 20

41. B

CP of product A= 5X

CP of product B=7x

Total price = (5x*0.8)+(7x*0.2) =296

4X+1.4X=296

5.4X=296

x=54.81=55(approx.)

Difference of the CP= 7x-5x=2x=2*55

= Rs. 110

42. A

S1= 2/3 P1=60%

S2=1/4, P2= 32%

S3=1-[2/3 +1/4] =1/12, P3=24%

total profit = Rs 150

CP of an entire magazine = (total profit *100)/(S1*P1+S2*P2+S3*P3)

CP of an entire magazine = (150*100)/(2/3*60+1/4*32+1/12*24)

=15000/(40+8+2)

=15000/50

=RS.300

43. A

let CP= Rs 100 then SP= 120

New CP= Rs. 80 then New SP=80* 125/ 100 = 100

from question,

Rs 120- Rs 100= Rs 20 is equivalent to Rs 5

Rs 100 is equivalent to Rs 25

CP = Rs 25

44. C

Let the stipend per day of the intern be Rs.x .

He came late for 30-(20 +4) = 6 days

Then,

$20x + \frac{6\times x}{2} - 12 \times 4 = 1,792$

$23x = 1840$

$x = 80$

Total stipend for the month = 80 × 30 = Rs. 2,400

45. A

Let the total number of people be x

According to the question,

Number of graduates = $\frac{1}{2}x$

Number of post graduates = $\frac{1}{5}x$

Number of double graduates = $x-\frac{1}{2}x-\frac{1}{5}x=\frac{3}{10}x$

Number of graduates who are unemployed = $\frac{3}{4}\times\frac{1}{2}x=\frac{3x}{8}$ = Number of post graduates who are unemployed = $\frac{3}{5}\times\frac{1}{5}x=\frac{3x}{25}$

Number of double graduates who are unemployed = $\frac{1}{2}\times\frac{3}{10}x=\frac{3x}{20}$

Total number of people who are employed =

The percentage of people who are employed = $\frac{71x}{200x}$ X 100 = 35.5%

46. A

Ramu's discount:
8% on 8000 = 640
5% on 12000 = 600
3% on 16000 = 480
Total = 1720 on 36000
Final S.P. for Ramu = 34280
Shyamu's Discount:
7% on 12000 = 840
6% on 8000 = 480
5% on 16000 = 800
Total = 2120 on 36000
Final SP for Shyamu = 33880
C.P. for both of them = $36000 \times \frac{100}{125} = 28800$
Ramu has greater Profit
Profit% for Ramu = $\frac{(34280-28800)}{28800} \times 100 = 19\%$ (approx.)

47. A

Ramu's Discount:
8% on 8000 = 640
4% on 12000 = 480
1% on 16000 = 160
Total = 1280 on 36000
Final SP for him = 36000 – 1280 = 34720
Profit = 34720 – 28800 = 5920

48. A

Let total cost of car X = $100x$
Cost of raw material = $25x$
Cost of labor = $\frac{(100-25x)\times 20}{100} = 15x$
Cost of engineers = $30x$
Cost of machine = $21x$
Cost of taxes = $9x$
Profit = $28x$
So, proposed selling price = $128x$

New cost of raw material = $\frac{25x \times 13}{100} = 32.5x$

Now cost of each engineer = $\frac{30x}{4} = 7.5x$

Cost on new engineer = $2 \times 7.5x \times \frac{150}{100} = 22.5$

So new CP = $100x + 7.5x - 7.5x = 100x$

So, % change in S.P. = 0%

49. A

Given that Kailash car's average (in term of litres per kilometer is 20% higher the Shyam is car)

Let Kailash car takes x litres of petrol per kilometer then, Shyam car will take 5/6 x litres of diesel per kilometer

Also,

Cost price/ litre of petrol = cost price / litre of diesel + 60% of cost price/litre of petrol.

$$\frac{\text{cost price / L of petrol}}{\text{cost price /L of diesel}} = \frac{5}{2}$$

$$\text{Required ratio} = \frac{\text{cost/kilometere kailash car}}{\text{cost /kilometer of shyam's car}}$$

$$= \frac{x \times 5}{\frac{5}{6}x \times 2} = 3 : 1$$

50. E

Shyam's car gives 20 km/litre means, it takes 0.05 litres of diesel per kilometer

$\frac{5}{6}x \rightarrow 0.05$

$x \rightarrow .06$ (litre/km for kailash car)

cost price per litre of diesel = 12.5 Rs/L

so, cost per litre of petrol = $\frac{12.5}{2} \times 5$

= 31.25 Rs/L

Required difference = $0.6 \times 31.25 - 0.05 \times 12.5$

= 1.25

1. A shopkeeper bought 30 kg of wheat at rate of Rs.45 per kg. He sold 40% of the total quantity at the rate of Rs.50 per kg. Approximately, at what price per kg should he sell the remaining quantity to make 25% overall profit?

a. Rs. 54
b. Rs. 52
c. Rs. 50
d. Rs. 60
e. None of these

2. A shopkeeper marked an article at some percentage more than the cost price of the article. The shopkeeper sold the article at 12% profit and allows a discount of 20%. Find the percentage by which the article was marked above the cost price?

a.30%
b.70%
c.60%
d.50%
e.40%

3. Rajni purchased a mobile phone and a refrigerator for Rs. 12000 and Rs. 10000 respectively. She sold the refrigerator at a loss of 12 percent and mobile phone at a profit of 8 percent. What is her overall loss/profit ?

a. loss of Rs. 280
b. profit of Rs. 2160
c. loss of Rs. 240
d. profit of Rs. 2060
e. None of these

4. Aman marked his bike 40% above cost price and sold it to Arun after two consecutive discounts of 10% and 20%. In this transaction Aman made a profit of Rs.416. Find the profit earned by Arun if he sold the bike to Alok at a profit of 12%?

a. Rs.6901.98
b. Rs.6289.92
c. Rs.7250.23
d. Rs.6670.74
e. Rs.6115.85

5. Rahim went shopping to buy a Mobile, the shopkeeper asked him to pay 18% Tax if he wants a bill. If not you can get 7% discount on the actual price of the mobile. Then Rahim decided not to take the bill and paid Rs. 4650. By this how much money could Rahim saved on purchasing mobile?

a. Rs.250
b. Rs.350
c. Rs.650
d. Rs.850
e. Rs.1250

6. A sells an item at 20% profit to B. B sells it to C at 10% profit. C sells it to D at Rs.16 profit. Difference between the cost price of D and the cost price of A was Rs.500. How much did B pay to A for the item?

a. Rs. 1250
b. Rs. 1550
c. Rs. 1350
d. Rs. 1289
e. None of these

7. Naman bought a bike for Rs.18000. He spent 20% of the amount that he had paid for buying it for its repair. He then sold the bike to Charu and earned a profit of 25%. Find the amount paid by Charu to Naman?

a. Rs.44000
b. Rs.38000
c. Rs.33000
d. Rs.27000
e. Rs.20000

8. A manufacture undertakes to supply 2000 pieces of a particular component at Rs.25 per piece. According to his estimates, even if 5% fail to pass the quality tests, then he will make a profit of 25%. However as it turned out, 50% of the components were rejected. What is the loss to the manufacture?

a. Rs 12,000
b. Rs 13,000
c. Rs 14,000
d. Rs 15,000
e. None of these

9.Profit earned by an organization is distributed among officers and clerks in the ratio of 5:3 respectively. If the number of officers is 45 and the number of clerks is 80 and the amount received by each officer is Rs.25000, what was the total amount of profit earned?

a. Rs. 22 lakhs
b. Rs. 18.25 lakhs
c. Rs. 18 lakhs
d. Rs. 23.25 lakhs
e. None of these

10.Gopal bought a laptop for Rs.48900. He marked the price of the laptop 60% above the cost price and sold to Radha at 35% discount. If Radha sold the same laptop to Komal at 25% profit. Find the discount offered by Radha provided the marked price of the laptop was same as Gopal had marked?

a.18.75%
b.13.34%
c.19.12%
d.14.35%
e.15.68%

11. A milkman buys two cows for Rs. 3000. He sells first cow at a profit of 22% and the second cow at a loss of 8%. What is the SP of second cow if in the whole transaction there is no profit no loss?

a.Rs. 2312

b.Rs. 2024

c.Rs. 2484

d.Rs. 2532

e. None of these

12. Puja marks an article at 30% above its cost price and sells it to Priya at 12% discount. Priya marks it up by 50% and sells it to Gita at a discount of 25%. If selling price by Priya is Rs.1001 more than the selling price by Puja, find the price at which Sita buys the article?

a. Rs.8100

b. Rs.9700

c. Rs.9200

d. Rs.9000

e. Rs.9009

13. Aryan sold a repair mobile to Bhaskar at a profit of 30% and Bhaskar sold it to Chandu at a profit of 20%. Chandu sold it to Dinesh at a loss of 23.07%. Dinesh repaired the mobile by spending 5% of his purchasing price and then sold it again to Aryan at a profit of 3.17%.Then what is the loss of Aryan?

a.5%

b.10%

c.15%

d.20%

e. No Loss No Profit

14. Jim sells a book to Carrey at a profit of 20% and Carrey sells this book to Sid at a profit of 25%. Now Sid sells this book at a loss of 10% to Simba. At what percentage loss should Simba sells this book now so that his SP becomes equal to Jim's CP?

a.26.68%

b.25.92%

c.58.66

d. Cannot be determined

e. None of these

15. Swati went shopping to buy a watch with some money. She selected a watch, which is marked Rs.400 higher price than the money she had. But shopkeeper gave two successive discounts of 10% and 15% respectively on the marked price of the watch. Then she could buy that watch and also another watch worth Rs.540 with all the money she had. Then what is the marked price on the first watch?

a. Rs.3060

b. Rs.3600

c. Rs.4000

d. Rs.4200

e. Cannot be determined

16. Some mangoes are purchased at the rate of 8 mangoes/Rs and some more mangoes at the rate of 6 mangoes/Rs, investment being equal in both the cases.

Now, the whole quantity is sold at the rate of 3.5 mangoes/RsWhat is the net percentage profit/loss?

a.100% profit

b.60% loss

c.80% loss

d. No profit/no loss

e. None of these

17. A shopkeeper marked an article at x% above the cost price and sold it after two consecutive discounts of 10% and 20%. In this transaction he had a profit of Rs.360. Find the value of x if the marked price of the article is Rs.6750?

a. 40%

b. 30%

c. 60%

d. 20%

e. 50%

18. A man would gain 25% by selling a chair for Rs. 47.5 and would gain 15% by selling a table for Rs. 57.5. He sells the chair for Rs. 45; what is the least price for which he must sell the table to avoid any loss on the two together?

a.Rs. 41.2

b.Rs. 48.5

c.Rs. 42.5

d.Rs. 43

e. Cannot be determined

19. A bookseller marks his books at an advance of 69% on the actual cost of producton He allows a discount of 15% and also given a copy free for every dozen sold aa time. What rate per cent profit does the book seller make, if books are sold in lots of 24? (find the approximate value)

a.38%

b.47%

c.24%

d. None of these

e. Cannot be determined

20. Mousumi is a shopaholic. She went to a bag shop to buy a handmade wallet. She took ₹ 15 to the shop in the form of one rupee notes and 20 paise coins. After returning from the shop after buying the wallet, she was left with as many one rupee notes as she originally had 20 paise coins and as many 20 paise coins as she had originally one rupee notes. The total amount also reduced by two-third. What was the cost of the wallet?

a. ₹ 9.60

b. ₹11.50

c. ₹7

d. ₹5.75

e. None of the above

21.Akash bought a Sopha for Rs. 50,000. After one year he sold it to Bhuvan at 10% less of his cost price. Bhuvan spends extra Rs.600 for its repair. And offered Sopha to Charan for Rs.X. Charan requested to get a discount of 15% on that price. But Bhuvan gave him two successive discounts of 10% and 5%

instead of 15%.By this Bhuvan got Rs.300 more from Charan. What is the profit % of Bhuvan?

a.10%

b.12.5%

c.15%

d.20%

e.None of these

22. The ratio of number of books and number of pens sold by a shopkeeper is 5:3 resp. If the price of 6 pens is Rs.270 and the price of a book is 60% more than the price of a pen. If the total revenue earned by the shopkeeper is Rs.2475 find the number of books sold by shopkeeper?

a. 23

b. 25

c. 24

d. 28

e. 22

23. A shopkeeper bought an article for Rs.x. He spent Rs.650 on its repair. He marked the article 60% above the total price of the article for the shopkeeper and then sold the article offering two consecutive discounts of 10% and 25%. If he made a profit of Rs.248 then find the value of x.

a. 2000

b. 2450

c. 2370

d. 2200

e. 2780

24.A mobile of Rs.8000 was offered 20% discount on Diwali by Flipkart. Shriya availed the offer and she got additional 10% by paying through Debit card. After that, she spent 10% of the purchased price for buying Screen guard and Back Cover. At what price she should sell to Sravani the Mobile (with screen guard and Back Cover)to incur a loss of 25%?

a. 4752

b. 5140

c. 5422

d. 5760

e. None of these

25. The ratio selling prices three articles A, B, and C is 19:25:27., the ratio of percentage profit is 7:10:4, respectively. If the cost price of article A and B is 400 and 500 respectively. Then what is the total Selling price of all three articles?

a. Rs.1644

b. Rs.1674

c. Rs.1694

d. Rs.1704

e. None of these

26. Cost of 4 fans and 3 blowers is Rs. 16500. Also cost of 2 fans, 2 tables and 2 blowers is Rs. 12000. Cost of 1 table is Rs. 1000. What is the cost of 3 fans and one blower?

a. Rs. 8000

b. Rs. 7500

c. Rs. 8500

d. Rs. 9000

e. None of these

27. Of the two varieties of rice available, variety A is bought at Rs. 32 per kg. And variety B at Rs. 80 per kg. Two varieties of rice are mixed together in the respective ratio of 8:5 and the mixture is sold at Rs. 72 per kg. What percent of profit approximately the seller receives?

a.43%

b.46%

c.38%

d.39%

e. None of these

28. A person sold a pen at Rs. 96 in such a way that his percentage profit is same as the cost price of the watch. If he sells it at twice the percentage profit of its previous percentage profit then new selling price will be?

a. Rs.132

b. Rs.150

c. Rs.192

d. Rs.180

e. None of these

29. There is some profit when an article is sold for Rs. 450. However when the same article is sold for Rs. 240, there is some loss. If the amount of loss is two times the quantum of profit, find the cost price of the article?

a. Rs290

b. Rs340

c. Rs380

d. Cannot be determined

e. None of these

30. The profit percentage of P and Q is same on selling the articles at Rs. 1800 each but P calculates his profit on the selling price while Q calculates it correctly on the cost price which is equal to 20%. What is the difference in their profits?

a. 40

b. 50

c. 60

d. 70

e. None of these

31. A shopkeeper marks up the price of his product by 60%. If he increases the discount from 5% to 10% ,the profit would decrease by Rs 24. How much profit would he earn if he gives a discount of 20% on the marked price?

a. Rs384

b. Rs420

c. Rs410

d. Rs366

e. None of these

32. The profit Percentage on 3 bikes are 15%, 35% and 10% and the ratio of CP is 5:3:1. Also the ratio of the Bike sold of P, Q and R is 2:3:5. Then the overall approximate Profit Percentage is?

a.19%

b.20%
c.16%
d.21%
e. None of these

33. A scientist mixes 10% water in his solution but he is not content with it so he again mixes 10% more water in the previous mixture. What is the profit percentage of the scientist if he sells it at cost price?

a.15%
b.21%
c.18%
d.16%
e. None of these

34. A merchant sells his two cars one at 15% loss and another at 12% profit. If the cost prices of the two cars are in the ratio of 1:2, what is his percent profit or loss?

a.3% loss
b.3% profit
c.5% profit
d.5% loss
e. None of these

35.Ganesh bought 50 dozen of pens at Rs.6 per dozen. He spent Rs.250 on a particular tax and he sold them at Rs. 1 per each pen. What was his profit or loss percent?

a.8.08%
b.9.09%
c.7.07%
d.6.06%
e. None of these

36.Nithisha bought a cooker and paid 5% less than the original cost. She sold it with 15% profit on the cost she had paid. What percentage of profit did Nithisha earn on the original cost?

a.9.25%
b.12.5%
c.15.75%
d.17.20%
e. None of these

37. A costs twice as much as B. A is sold at a loss of 10% and B is sold at 7/5th of its price. If selling price of A is Rs. 1200 more than selling price of B, what is the cost price of A?

a. Rs. 2400
b. Rs. 3000
c. Can't be determined
d. Rs. 6000
e. None of these

38. A shop keeper sells an article at a loss of 8%, but when he increases the selling price of the article by Rs. 164 he earns a profit of 2.25% on the cost price. If he sells the same article at Rs. 1760, what is his profit percentage?

a.2.5%
b.5%
c.10%

d.7.5%

e. None of these

39. Arun is a wholesaler and he fixed the MRP of his typewriters at 55% above its production cost. The typewriter was then dispatched to a retailer named Harish to be sold in the local market, who plans to gain 23% profit on his purchase price. If Harish gives 10% discount on MRP, then find the profit percentage for Arun who sells his product to Harish calculated to the nearest integer?

a. 22%

b. 15%

c. 13%

d. 11%

e. None of these

40. The marked price of a Pant and a T-Shirt are in the ratio of 2 : 3. The shopkeeper gives 40% discount on the Pant. If the total discount on the Pant and the T-Shirt is 40% the discount offered on the T-Shirt is?

a. $28\frac{1}{3}\%$

b. $18\frac{2}{3}\%$

c. $26\frac{2}{3}\%$

d. $12\frac{2}{3}\%$

e. None of these

41.A guy walks into a store and steals Rs. 100 from the store without the owner's knowledge. He then buys Rs. 60 worth of goods using that Rs. 100 and the owner giesRs. 40 in change. How much money did the owner lose?

a. RS. 200

b. Rs. 160

c. Rs. 100

d. Rs. 40

e. None of these

42. A shopkeeper gives a discount of 10% in every 4 months at an article. If a man purchases it for Rs. 25515 in the month of December, then what was the initial price of that article in the month of January?

a. Rs. 40000

b. Rs. 36000

c. Rs. 35000

d. Rs. 45000

e. None of these

43. A milkman buys some milk contained in 10 vessels of equal size. If he sells his milk at Rs 5 a litre, he loses Rs 200; while selling it at Rs6 a litre, he would gain Rs150 on the whole. Find the number of litres contained in each vessel?

a. 30

b. 35

c. 40

d. 45

e. 50

44. Anil makes a profit of 18% on cost price by selling a washing machine for Rs. 5900. If the cost price of the machine is increased by 5% and he wants to earn

the same profit, what will be the new profit percent on selling price?

a.14.63%

b.12.25%

c.15.96%

d.17.14%

e. None of these

45. A profit of 20% is made on goods when a discount of 10% is given on the marked price. What profit per cent will be made when a discount of 20% is given on the marked price?

a. $\frac{62}{3}\%$

b. $7\frac{2}{3}\%$

c. $3\frac{1}{4}\%$

d. $7\frac{4}{5}\%$

e. $9\frac{1}{4}\%$

46.Hemant had 1 bicycle and 1 car. He sold the bicycle at a profit of 15% and the car at a loss of 8% and earned a profit of Rs 1150 in total. If he had sold the bicycle for Rs 54000 he would have earned a profit of 20%, find the sum of the selling price of both the items.

a. Rs 110600

b. Rs 110680

c. Rs 125960

d. Rs 115690

e. None of these

47. A shopkeeper labelled the price of his articles so as to earn a profit of 30% on the cost price. He, then sold the articles by offering a discount of 10% on the labelled price. What is the actual per cent profit earned in the deal?

a.18%

b.15%

c.20%

d. Cannot be determined

e. None of these

48. A shop-owner has 90 kg of Toor Dal. One day he decides to sell out all his Toor Dal stock. He sells some certain part of it at 40% profit and the remaining stock at 20% profit. If he gains 30% on the overall transaction, what is the quantity of each part of Toor Dal?

a. 40 kg, 50 kg

b. 45 kg, 45 kg

c. 30 kg, 60 kg

d. 64 kg, 26 kg

e. None of these

49. Nikita bought 30 kg of wheat at the rate of Rs. 9.50 per kg and 40 kg of wheat at the rate of Rs. 8.50 per kg and mixed them. She sold the mixture at the rate of Rs. 8.90 per kg. Her total profit or loss in the transaction was?

a. Rs. 2 loss

b.Rs. 5 profit

c.Rs. 7 loss

d.Rs. 7 profit

e.Rs. 9 loss

50. A shopkeeper buys some vegetables at a discount of 15% on label price if he want to make profit of 20% after allowing a discount of 10%, then buy what % should his marked price be greater than the original labeled price?

a.12.33%

b.17.8%

c.13.33%

d.23.67%

e. None of these

Answer Key with Solution

Solution (1-50)

1. D

Total cost price of wheat = 30 * 45 = 1350

40% of 30kg = 12kg.

Remaining quantity = 30 – 12 = 18

12kg wheat sold at Rs. 50 per kg. = 12 * 50 = 600

profit of wheat = (1350 * 25)/100 = 337.5

s.p of wheat = 1350 + 337.5 =1687.5

Remaining s.p = 1687.5 - 600 = 1087.5

Price of wheat = 1087.5/18 = Rs. 60.4

2. E

Let the marked price of the article be Rs.y.

Article was marked by x% above the cost price.

SP of the article = 80% of y = Rs. 4y/5

112% of the CP = 4y/5

CP of the article = (4y*100)/(5*112) = Rs.5y/7

(100+x)% of 5y/7 = y

=> (100+x)% = 7/5

=> x = 40%

3. C

Total cost price = 12000 + 10000 = Rs. 22000

Loss on refrigerator = (10000 * 12)/100 = Rs. 1200

s.p of refrigerator = 10000 - 1200 = Rs. 8800

Profit on mobile phone = (12000 * 8)/100 = Rs. 960

s.p of mobile phone = 12000 + 960 = Rs. 12960

Total s.p = 12960 + 8800 = Rs. 21760

Loss = 22000 - 21760 = Rs. 240

4. B

Let the CP of the bike be Rs.x.

MP of the bike = 1.40*x = Rs.1.4x

SP of the bike = 0.90*0.80*1.4x = Rs.1.008x

Profit = 1.008x – x = 416

=> x = 52000

CP of the bike for Aman = Rs.52000

SP of bike for Aman = CP of bike for Arun = 52000+416 = Rs.52416

Profit earned by Arun = 52416*0.12 = Rs.6289.92

5. E

SP*93/100 = 4650

SP = 5000

Including tax= 5000+900 = 5900

Saving = 5900-4650 = 1250

6. E

Let A's purchase it at Rs x.

A sells to B at a price of : x + (x * 20)/100 = 6x/5

B sells to C at a price of : 6x/5 * (6x/5*10/100) = 6x/5 + 3x/25 = 33x/25

C sells to D at a price of : 33x/25 + 16

Now, difference between D and A

=> (33x/25 + 16) – x = 500

=> 33x + 400 – 25x = 500 * 25

=> 8x = 12500 – 400

=> x = 1512.5

Amount paid by B to A : 6x/5 = (6 * 1512.5)/5 = Rs. 1815

7. D

Total cost of the bike = 18000*1.20 = Rs.21600

Amount paid by Charu = 21600*1.25 = Rs.27000

8. B

5% of 2000=100 so 2000-100=1900 so,if he sells 1900 he will get 25% profit

cost per piece rs 25……so 25x 1900 don't solve here

if 125%……..25×1900

100 %…….?

?= 25x1900x100/125=38000=CP

if 50% rejected, only 1000 pieces sold

so 1000×25=25000=SP

Loss=cp-sp= 38000-25000=13000

9. D

Profit for officer = 25000

Profit for clerk = 3/5 * 25000 = 15000

Total profit for officers = 45 * 25000 = 1125000

Total profit for clerks = 80 * 15000 = 1200000

Total amount = 1125000 + 120000 = 2325000 = 23.25 lakhs

10. A

MP of the laptop = 160% of 48900 = Rs.78240

The price at which Gopal sold the laptop to Radha = 65% of 78240 = Rs.50856

The price at which Radha sold the laptop to Komal = 125% of 50856 = Rs.63570

Discount = 78240 – 63570 = Rs.14670

Discount% = 14670/78240*100 = 18.75%

11. B

	First Cow	Second cow
CP	x	$(750-x)$
SP	$\frac{122x}{100}$	$\frac{92}{100}(750-x)$

$$3000 = \frac{122x}{100} + \frac{92}{100}(300$$

$$\therefore 3000 = \frac{122x}{100} + \frac{92}{100}\left(3000\right.$$

$$x = 800$$

$\therefore$ CP of second Cow $= 3000 - 800$

$= 2200$ Rs.

$\therefore$ Required S.P. $= \frac{92}{100} \times 2200$

$= 2024$ Rs.

12. E

Let the price of the article but by Puja be Rs.x

MP for Puja =x+30% of x = Rs.1.3x

SP for Puja = 1.3x*0.88 = Rs.1.144x

MP for Priya = 1.144x * 1.5 = Rs.1.716x

SP for Priya = 1.716x*0.75 = 1.287x

Now, 1.287x – 1.144x = 1001 => x = Rs.7000

CP for Sita = SP for Priya = 1.287x = 1.287*7000 = Rs.9009

13. E

Aryan

Let CP = 100

SP = 130

Bhaskar = 156

Chandu = 120

Dinesh = 126+3.17% = 130

Aryan = 130-130 = 0

14. B

Jim Carrey Sid Simba
100→ 120 → 150 1325

$$\text{Required \%} = \frac{135-100}{135} \times 100$$

$$= \frac{35}{135} \times 100 = 25.92$$

15. C

(x+400)*90/100*85/100+540 =x

x = 3600

MP = 3600+400 = 4000

16. A

Let 1 Rs. invested in both the cases →
∴ in 2 Rs. no. of mangoes Purchased = 8 + 6= 14
SP of 14 mangoes = $= 14 \times \frac{1}{3.5} = 4$ Rs.
∴ 100% profit.

17. E

SP of the article = 6750*0.80*0.90 = Rs.4860

CP = 4860 – 360 = Rs.4500

MP = 4500*(100+x)/100 = 6750

Therefore, 4500+45x = 6750

=> x = 50%

18. D

$$\text{CP of chair} = \frac{100}{125} \times 47.5$$
$$= 38 \text{ Rs.}$$
$$\text{CP of table} = \frac{100}{115} \times 57.5$$
$$= 50 \text{ Rs.}$$
$$\therefore \text{Required SP of table} = (50 + 38) - 45$$
$$= 43 \text{ Rs.}$$

19. A

CP MP SP
100 169 143.65

CP of 25 books = 2500 Rs.
SP of 24 books = 143.65× 24=3447.6
Required % profit = $\frac{947.6}{2500} \times 100 = 38\%$

20. A

Let number of one rupee notes=X

Number of 20 paise coins=Y

Mousumi started with (100X+20Y) and came back with (100Y and 20A) paise

Also, 100Y+20X=(1/3) (100X+20Y)

=>X=7Y

By hit and trial method,

Put Y=1=>X=7=>total ₹ 7.2 is less

Put Y=2=>X=14=>Total=₹ 14.4

This is correct.

Hence she spent=(2/3)x14.4=₹ 9.60=cost of wallet

21. B

x*(90/100*95/100 – 85/100) = 300

x =60,000

Now Charan purchased for 60,000*90/100*95/100 = 51300

Bhuvan CP =45000+600 =45600

51300 = 45600*(100+p/100)

p = 12.5%

22. B

Price of each pen = 270/6 = Rs.45

Price of each book = 45*1.6 = Rs.72

Now, 3x*45 + 5x*72 = 2475

=> x = 5

Number of books sold by the shopkeeper = 5*5 = 25

23. B

Total CP of the article = Rs.(x+650)

MP = (x+650)*1.60 = Rs.(1.6x+1040)

SP = x+650+248 = Rs.(1.6x+1040)*0.90*0.75

=> x + 898 = 1.08x + 702

=>x = 2450

24. A

8000*80/100*90/100 = 5760

Back cover+screen guard =576

Total = 6336

Sravani = 6336*75/100 = 4752

25. D

400*(1+7x/100)/ 500*(1+10x/100) = 19/25

x = 2

Profit percentages = 14%, 20% and 8%

19*y = 400*114/100

y = 24

Total SP = (19+25+27)*24 = 1704

26. A

4F + 3B = 16500....(1)

2F + 2B +2T = 12000....(2)

T = 1000

From equ. (2)

2F + 2B = 12000 – 2000 = 10000

Or 4F + 4B = 20000 …(3)

From equ (1) and (3)

4F + 4B = 20000

4F + 3B = 16500

=> B = 3500

=> 4F + 3 * 3500 = 16500

=> F = 1500

Therefore; 3F + B

=> 3 * 1500 + 3500 = 4500 +3500 = Rs. 8000

27. A

Variety A's cost = 32 * 8 = Rs. 256

Variety B's cost = 80 * 5 = Rs. 400

Total cost = Rs. 656

Total variety = 8 + 5 = 13 kg.

=>cost of mixture = 13 * 72 = 936

Profit = 936 – 656 = 280

% Profit = (280 * 100)/656 = 42.73 = 43%

28. A

CP = x

Profit Percentage = x%

SP = x(100 + x)/100

x(100 + x)/100 = 96

x = 60

Profit Percentage = 60%

New SP = 60 * 220 / 100 = 132

29. C

Let the profit be x, when the article is sold at Rs450.

2(450-x) = x-240

900-2x=x-240

3x=1140

x=Rs380.

30. C

Profit(Calculated on SP) = 20% of 1800 = 360

Profit(calculated on CP)

x + x/5 = 1800

x = 1500

Profit = 300

Difference = 360 – 300 = 60

31. A

Let the CP be 100.

Then MP 160

Ist discount 5%=152

IInd discount 10%=144.

Diff 152-144=8

8——24

1——?==>3.

CP=3*100=Rs300

Then MP=Rs480

SP=480*80/100

=Rs384.

32. D

5x * 2y + 3x * 3y + x * 5y = 24xy

Total Profit =

(5x*2y*15/100)+(3x*3y*35/100)+(x*5y*10/100)

= 515xy/100

= 5.15xy

Overall Profit Percentage = 5.15xy * 100/24xy = 21.46%

33. B

Let Initial Quantity of Solution = 100 litre

After mixing 10% water, Quantity of the mixture = 110 * 110 / 100 = 121 litre

CP of One litre of Solution = Rs.1

Total CP = Rs.100

Total SP = Rs.121

Profit = 121 – 100 = 21

Profit % = 21 * 100/100 = 21%

34. B

CP are in the ratio 1:2

Then let the CPs be Rs.100 & Rs.200 respectively,

1st SP = 100-15% of 100 = Rs.86.

2nd SP = 200 + 12% of 200 = Rs.224.

Total CP = Rs.300.

Total SP = 85+224 = Rs.309.

Profit = Rs.309-300 = Rs.9.

Profit percent = 9×100/300 = 3% profit.

35. B

Cost price of 1 dozen of pens = Rs.6

Cost price of 50 dozen of pens = Rs. 50 x 6 = 300

Amount of tax paid = Rs.250

Therefore total cost price = 250+ 300= Rs.550

Selling price of total number of pens = 50 x 12 x 1 = Rs. 600

Therefore, Gain = s.p-c.p

=600-550

=Rs 50

Gain % = gain/c.p *100

=(50/550) *100

=9.09%

36. A

Let original cost = Rs.100

The cost price = Rs.95

Selling price = 115% of Rs.95

=Rs (115/100*95)

=Rs(10925 / 100)

=Rs.109.25

Required percentage = ((109.25 – 100)/100)*100 %

=9.25%

37. D

Let the cost of B be 100x (for the sake of ease in computation)

So cost of A becomes 200x

Now SP of A becomes 90% of 200x = 180x

And SP of B becomes $100x \times \frac{7}{5}/5 = 140x$

The difference between both of them is 40x

Since this difference corresponds to Rs. 1200, 40x = 1200 or x = 30

Their cost of A becomes 200 × 30 = Rs. 6000

38. C

According to the given data,

Let Cost price of the article be 'cp'

Then,

102.25 cp - 92 cp = 164 x 100

10.25 cp = 16400

cp = 1600

Now, if he sells at Rs. 1760

Profit = 1760 - 1600 = 160

Profit% = 160/1600 x 100 = 10%.

39. D

Arun sells the product to Harish, and then Harish sells to the buyer.

Assume production cost = 100 and Arun's profit = x%

As MRP of a product is 55% above its production cost,

MRP = 100(1 + 0.55) = 155

Harish gives 10% discount on MRP. So, buyer's price is 90% of MRP.

Buyer's Price = 155×0.9

Arun makes x% profit, and Harish makes 23% profit.

So, 100(1 + x)×(1 + 0.23) = 155×0.9

x = 0.134

Hence, Arun's profit = 13% (nearest integer)

40. E

Let the marked price of the pant be Rs. 200.

Then marked price of T-Shirt will be Rs. 300.

$\text{Discounted price of Pant} = 200 \times \frac{60}{100} = \text{Rs. } 120$

Let the discounted price of T- Shirt be x.

According to the question,

$120 + x = \frac{60}{100} \times (200 + 300)$

or, 120 + x = 300

or, x = 180

Discounted offered on the T - Shirt

$= \frac{300 - 180}{300} \times 100 = 40\%$

Note: If overall discount is 40% and discount on one part is also 40% then naturally the discount on the second part is also 40%.

41. C

The first lost Rs. 100, but after the thief bought Rs. 60 goods, he get that Rs. 100 back but he lost Rs. 60 value of goods and Rs. 40 in change.

So, a total of 60 + 40 = 100 Rs. the owner lose.

42. C

Let the cost of article in January was Rs. x

In the month of April the cost of the article = Rs. $\frac{90x}{100}$

In the month of August, the cost of that article

$= \frac{90x}{100} \times \frac{90}{100} = \text{Rs.} \frac{81x}{100}$

In the month of December, the cost of that article

$= \frac{81x}{100} \times \frac{90}{100} = \text{Rs.} \frac{729x}{1000}$

Given, $\frac{729x}{1000} = 25515$

X = Rs.35000

43. B

Suppose he has x liter of milk in total

Thus, we have 5x + 200 = 6x-150

or x (6-5) = 200 +150

x= 350 liter

Each vessel contains= 35 liter

44. A

Cost price of the washing machine

$= \frac{5900}{118} \times 100 = 5000$ Rs.

Profit = 5900 – 5000 = 900 Rs.

New cost price = 5000 × 105% = 5250 Rs.

New selling price = 5250 + 900 = 6150 Rs.

Profit % $= \frac{900}{6150} \times 100 = 14.63\%$

45. A

Suppose the cost price of the goods is 100.

Then, selling price in the first case $= 100 \cdot \frac{120}{100} = 120$

Therefore, marked price $= 120 \cdot \frac{100}{100-10} = \frac{400}{3}$

Now, selling price in the second case $= \frac{400}{3} \cdot \frac{100-20}{100} = \frac{320}{3}$

Therefore, % profit $= \frac{320}{3} - 100 = \frac{20}{3} = 6\frac{2}{3}\%$

46. E

Cost price of the bicycle = $\frac{54000}{120\%}$ = Rs 45000

According to the question,

Let the cost price of car = Rs x

45000 × 15% – x × 8% = 1150

6750 – 1150 = x × 8%

5600 = x × 8%

x = 70000

Selling price of the bicycle = 45000 × 115% = Rs 51750

Selling price of the car = 70000 × 92% = Rs 64400

Sum = 51750 + 64400 = Rs 116150

47. E

Let the cost price of the articles be 100

Marked Price = 130

After giving a discount of 10% the selling price of the articles= 0.9 * 130 = 117

So, actual profit percent = [(117-100)/100]*100= 17%

48. B

By allegation method:

40% 20%

\ /

30%

/ \

30 – 20 40 – 30

= 10 = 10

Quantity sold at 40% profit = $\frac{10}{20} \times 90 = 45$ kg

Quantity sold at 20% profit = $\frac{10}{20} \times 90 = 45$kg

49. A

Total CP of 70 kg of wheat
= (30 × 9.5 + 40 × 8.5
= 285 + 340 = Rs. 625
Total SP of 70 kg of wheat
= 8.90 × 70 = Rs. 623
∴ Loss = 625 - 623 = Rs. 2

50. C

By hypothesis let the labeled price of the vegetables be Rs. 100

After 15% discount the shopkeeper buy them for rupees 85.

New price after 20% profit = $\frac{120}{100} \times 85 = 102$

This is the price after 10% discount on marked price

i.e. MP is Rs. $\frac{102 \times 100}{90} = 113.33$

So, the marked price is 13.33% more then labeled price.

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

Nine persons A, Q, B, S, C, U, V, D and X. They live on a separate floor each of a nine floor building but not necessarily in the same order. The ground floor is numbered 1, the first floor is numbered 2 and so on until the topmost floor is numbered Nine. X lives an odd number floor above the floor number 5. There are two persons live between X and S. B lives on odd number floor but not immediate above and immediate below S. There are as many persons live between S and U as live between S and V. U lives below S. Q live on ground floor. There is one person lives between C and X. D does not live on an even number floor. A lives on even numbered floor but above on 2nd floor.

1. Which of the following is true with respect to A as per the given arrangement?

a. Only three persons live between A and Q

b. Only three persons live above A.

c . Only one person lives between A and S.

d . A lives on even numbered floor.

e . None of these.

2. On which of the following floor numbers does D live?

a. Three

b. One

c. Two

d. Five

e. Seven

3. Who lives on the floor immediately below C?

a. U

b. T

c. S

d. Q

e. X

4. How many persons live between the floors on which Q and S live?

a. Three

b. More than three

c. None

d. Two

e. One

5. Who lives on the floor numbered 5?

a. U

b. Q

c. S

d. P

e. None of these

Directions (6-10): Read the given information carefully and answer the questions given beside:

Eight people Aarush, Bindu, Chunnu, Divya, Etti, Prithvi, Gopal and Harish live in an eight storey building, but not necessarily in the same order. The lowermost floor is numbered 1 and the topmost floor is numbered 8.Aarush lives on an even-numbered floor but not on the floor numbered second or fourth. Only three floors are there between Aarush and Bindu. Only two people live between Chunnu and Etti. Prithvi lives on a floor above Divya. There are equal numbers of floors between the floors on which Etti and Bindu live and between the floors on which Aarush and Etti live. Harish lives immediately below Divya's floor. Gopal lives immediately below Aarush's floor.

6. Prithvi lives on which of the following floors?

a. Third
b. Fifth
c. Sixth
d. Second
e. None of these

7. How many floors are there between Bindu and Divya?

a. Five
b. One
c. Two
d. Three
e. None of these

8. Who among the following lives on the first floor?

a. Harish
b. Chunnu
c. Prithvi
d. Etti
e. None of these

9. Who among the following lives on the seventh floor?

a. Etti
b. Prithvi
c. Gopal
d. Chunnu
e. None of these

10. Which of the following statements is/are true?

a. Aarush lives on the sixth floor.
b. Divya lives on the topmost floor.
c. There are two people between Prithvi and Chunnu.
d. Harish lives just above Aarush.
e. Chunnu lives on the third floor.

Directions (11 – 15): Answer the questions on the basis of the information given below.

8 boxes – A, B, C, D, E, F, G and H are placed one above the another but not necessarily in the same order. There are four boxes placed between D and G. Two boxes are placed between B and G. Number of boxes between A and G is same as between H and B. A is placed above G. Two boxes are placed between A and H. C is placed just above G. There are at least 2 boxes between E and B.

11. Which box is at top most position?

a. C

b. A

c. E

d. H

e. None of these

12. How many boxes are between boxes E and A?

a. None

b. Three

c. One

d. Five

e. Four

13. Which box is placed just above box B?

a. A

b. C

c. E

d. H

e. D

14. How many boxes are below box F?

a. Three

b. Four

c. None

d. Two

e. Six

15. If all the box are arranged in the alphabetical order from top to bottom, then how many boxes are remain same position after the arrangement?

a. 0

b. 1

c. 2

d. 3

e. 4

Direction (16-20): Read the given information carefully and answer the questions;

Eight boxes A, B, C, D, E, G, H, and F are placed one above another (but not necessarily in the same order). No two boxes according to alphabetical order are placed adjacent to each other. (A is not placed just above and below B). Box E is placed at 2nd position either from top or from bottom. Only 2 boxes are between F and C. Box D is placed just below F. Box B is placed above C but not at top. Only 1 box is placed between C and G.

16. Which of the following box is placed at top?

a. C

b. B

c. A

d. H

e. None of these

17. How many boxes are in between box E and box F?

a. Three

b. Two

c. Four

d. More than four

e. None of these

18. Which of the following box is placed just above box A?

a. B
b. H
c. D
d. E
e. None of these

19. Which of the following box is placed at bottom?

a. G
b. A
c. B
d. D
e. None of these

20. Which of the following is true regarding E?

a. E is placed above A
b. E is at 2nd position from bottom
c. C is just below E
d. E is placed below G
e. None of these

Directions (21-25): Read the following information carefully and answer the questions given below.

Six persons A, C, Q, R, T, Y were born in six different months January, April, May, August, September, December of a year. Three persons were born in between A and Y. A was born before Y. No one was born in between C and A. Two persons were born in between C and R. T was born before Q.

21. Who among the following was born in May?

a. C
b. A
c. Q
d. T
e. Y

22. How many persons were born between A and Q?

a. One
b. Three
c. Four
d. Two
e. None of these

23. How many persons born were before R?

a. One
b. Three
c. Four
d. Two
e. None of these

24. Who among the following is the oldest?

a. C
b. A
c. Q
d. T
e. Y

25. Which of the following is not true regarding Y?

a. Four persons born between box C and Y
b. R was born before Y
c. Q is born immediately after Y
d. Only Q was born between Y and R
e. No one was born after Y

Directions:(26-30) Read the following information and answer the questions.

Eight persons A, B, C, D, E, F, G, H are going to visit WOW on two different dates 4 and 27 of four different months viz. August, September, October and November. Only one person goes to WOW on one date of one month. D goes on an even date of a month. Three person goes in between D and B. A goes immediately before H. F goes immediately before C in same month. D goes in a month which has 30 days. Only one person goes in between C and A. A goes before B. E does not go in a month which has 30 days.

26. Who among the following goes immediately after B?

a. C
b. H
c. E
d. G
e. None of these

27. How many persons go in between F and H?

a. Four
b. Three
c. Two
d. One
e. None of these

28. Who among the following go on 27th September?

a. C
b. A
c. E
d. G
e. None of these

29. Four of the following are alike in a certain way so form a group then which of the following does not belong to that group?

a. D
b. F
c. H
d. B
e. C

30. Who among the following go on 4th October?

a. C
b. H
c. E
d. G
e. None of these

Directions(31-35): Read the given information carefully and answer the questions given beside:

Eight persons A, B, C, D, E, F, G and H have their birthdays on different months of the year viz. January, April, May and July, such that not more than two persons have their birthdays in the same months. All the birthdays are either on 14th or 23rd of the month. No two persons have their birthdays on the same day of the same month. The following information is also known about them. F does not have birthday in May. E wasn't born in July. H's birthday is immediately after B's. E celebrates his birthday before B. The number of persons who have

their birthdays between the birthdays of G and H is equal to the number of persons who have their birthdays between the birthdays of B and D.D was born in July. Birthdays of both E and B are in the same month. There are three birthdays between the birthdays of F and C. G and F have birthday in same month.

31. Who among the following were born in the same month?

a. A and D

b. B and C

c. C and F

d. D and G

e. None of these

32. Who was born on 23rd July?

a. A

b. B

c. C

d. D

e. None of these

33. Which of the following Birthday – Person combination is correct?

a. January 23rd – G

b. April 14th – E

c. May 23rd – H

d. July 14th – C

e. None of these

34. In which month C has his birthday?

a. January

b. April

c. May

d. July

e. Can't be determined

35. How many people have birthdays before G?

a. 1

b. 3

c. 5

d.7

e. None of these

Directions (36-40): Study the following information and answer the questions given below:

There are seven persons, namely A, B, C, D, E, F and G. All of them go to market in a week starting from Monday to Sunday (of the same week) but not necessarily in the same order. Only one person goes to market on each day. Three persons go to market between F and A. F goes to market one of the days before on which A goes to market. Only one person goes to market between A and G. Two persons go to market between G and B. Only one person goes to market between B and E. D does not go to market immediately before or immediately after the days on which G goes to market. D goes to market immediately before the days on which C goes to market.

36. Who among the following goes to market on Sunday?

a. B

b. C

c. D

d. G

e. F

37. Four of the following five are alike in a certain way and so form a group. Which of the following does not belong to that group?

a. F-Wednesday

b. A-Sunday

c. D-Thursday

d. C-Friday

e. B-Tuesday

38. Which of the following is true about C?

a. C goes to market on Wednesday.

b. C goes to market immediately before the days on which E goes to market.

c. Only two people go to market between C and G.

d. C goes to market immediately after the days on which A goes to market.

e. None of these

39. D goes to market on which of the following days?

a. Friday

b. Sunday

c. Monday

d. Wednesday

e. Tuesday

40. How many person go/es to market before the days on which F goes to market?

a. No one.

b. Two

c. Three

d. Four

e. One.

Directions (41-45): Study the following information and answer the questions given below:

There are seven students R, S, T, U, V, X and Y. All of them go to library in a week starting from Monday to Sunday (of the same week) but not necessarily in the same order. Only one student goes to library on each day. T goes to library one of the days before on Wednesday. Two students go to library between T and X. Only one student goes to library between X and V. Two students go to library between V and R. Only one students go to library between R and Y. Two students go to library between S and U. U does not go to library on Wednesday.

41. Who among the following goes to library on Saturday?

a. Y

b. S

c. U

d. V

e. R

42. Four of the following five are alike in a certain way and so form a group. Which of the following does not belong to that group?

a. T- Tuesday

b. S-Thursday

c. U- Sunday

d. V- Friday

e. None of these

43. Who among following goes to library immediately before the days on which R goes to library?

a. Y

b. S

c. U

d. V

e. X

44. S goes to library on which of the following days?

a. Friday

b. Saturday

c. Monday

d. Wednesday

e. Tuesday

45. How many students go to library before T?

a. One

b. Two

c. Three

d. No one.

e. Four

Directions (46-50): Read the following information carefully and answer the following questions.

Seven persons A, B, C, D, E, F and G were born on different months viz. January, February, March, April, June, August and October of the same year, but not necessarily in the same order. Only three persons were born before E and D is not one of them. F was not born immediately after E. B was born after F. A was born immediately before the month in which G was born. Only two persons were born between G and F.

46. How many persons were born between C and E?

a. Three

b. Two

c. Four

d. Five

e. None of these

47. Who amongst the following is the oldest?

a. A

b. C

c. E

d. B

e. F

48. Who amongst the following was born between the months in which A and D were born?

a. E

b. G

c. C

d. B

e. Both E and G

49. How many persons were born after D?

a. One

b. Three

c. Four

d. Two

e. None of these

50. Who amongst the following is the person who was born in the month which has less than 30 days?

a. F

b. B

c. G

d. C

e. A

Answer Key with Explanation

Solutions (1-5):

Floor	Persons
9	B
8	A
7	X
6	V
5	C
4	S
3	D
2	U
1	Q

1. D 2. A 3. C 4. D 5. E

Solutions (6-10):

Floor Number	Person
8	Aarush
7	Gopal
6	Etti
5	Prithvi
4	Bindu
3	Chunnu
2	Divya
1	Harish

6. B 7. B 8. A 9. C 10. E

Solutions (11-15):

From top to bottom – H > W > D > A > B > F > C > G

11. D 12. C 13. A 14. D 15. B

Solutions (16-20):

Box
H
B
F
D
A
C
E
G

16. D 17. A 18. C 19. A 20. B

Solutions (21-25):

Months	Persons
January	C
April	A
May	T
August	R
September	Q
December	Y

21. D 22. D 23. B 24. A 25. C

Solutions (26-30):

Months (Days)/ Dates	4th	27th
August (31)	F	C
September (30)	D	A
October (31)	H	E
November (30)	B	G

26. D 27. B 28. B 29. E 30. B

Solutions (31-35):

Month	Day	Person
January	14th	G
January	23rd	F
April	14th	E
April	23rd	B
May	14th	H
May	23rd	C
July	14th	A
July	23rd	D

31. A 32. D 33. B 34. C 35. E

Solutions (36-40):

Days	Person
Monday	F
Tuesday	D
Wednesday	C
Thursday	B
Friday	A
Saturday	E
Sunday	G

36. D 37. E 38. A 39. E 40. A

Solution (41-45):

Days	Person
Monday	T
Tuesday	V
Wednesday	S
Thursday	X
Friday	R
Saturday	U
Sunday	Y

41. C 42. D 43. E 44. D 45. D

Solution (46-50):

Month	Person
January	C
February	A
March	G
April	E
June	D
August	F
October	B

46. B 47. B 48. E 49. D 50. E

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

Seven persons P, Q, R, S, T, U and V are born in a month of March in different years. Their ages are calculated on the same month with respect to 2018.

Note: If it is mentioned that a person's age is considered as the last two digits of another person's birth year, then it will be at any sequence. For example, if the age of X is considered as last two digit of birth year of Y which is 1945; then the age of X might be either 45 or 54.

None of the persons were born before 1974 and after 2008.

P was born on1998.The difference between the age of P and T is 5 years. R's age is equal to the last two digit of birth year of T and his age is not an even number. U's age is a square number between T's age and R's age. S's age is half of the age of V's age whose age is last two digit of U's birth year. The sum of ages of P and S is two more than that of the age of Q.

1. What is the age of S?

a) None of these

b) 16 years

c) 14 years

d) 22 years

e) 38 years

2. Which of the following year is the birth year of U?

a) 1984

b) 1993

c) 2000

d) None of these

e) 1982

3. If W was born between R and U then which of the following can be the birth year of W?

a) 1980

b) None of these

c) 1990

d) 1982

e) 1985

4. What will be the sum of ages of Second youngest and Third eldest person in the group?

a) 55 years

b) 52 years

c) 60 years

d) 49 years

e) None of these

5. Which of the following statement is true?

a) U is younger than Q

b) T is three year elder than V

c) None of the options are true
d) S is not the youngest person
e) Number of person born after Q is same as before T

Directions (6-10): Study the following information to answer the given questions:

There are six people namely K, M, N, J, P and T; each likes six different destinations viz. Trissur, Goa, Cuttack, Shimla, Kochi and Gwalior but not necessarily in the same order. Each of them are in different designations viz. General Manager (GM), Deputy General Manager (DGM), Chief Manager (CM), Manager (MG), Officer (OR) and Clerk (CK) such that lower most post is Clerk and the higher most post is General Manager. Only two people are Junior to the one who likes Kochi. The one who like Trissur is senior to the one who like Kochi. Only two people hold a position between K and the one who like Trissur. As many people senior to the one who likes Cuttack is as same as Junior to K. No one hold a position between N and the one who like Cuttack. The one who like Gwalior is immediate senior of the one who like Cuttack. Two people hold a position between the one who like Cuttack and the one who like Shimla. M is senior to T and P but not the senior most people. T doesn't like Goa.

6. Who among the following likes Shimla?

a. J
b. The one who is an Officer
c. T
d. The one who is a Manager
e. None of these

7. Which of the following combination is true?

a. N, Cuttack
b. None of those given as option
c. P, CK
d. K, MG
e. J, Gwalior

8. How many people hold a position between M and the one who like Shimla?

a. One
b. Two
c. Three
d. None
e. More than three

9. In a certain way J is related to Gwalior, N is related to Cuttack to form a group, in the same way K is related to?

a. Shimla
b. Cuttack
c. None of those given as option
d. Trissur
e. Goa

10. Who among the following hold the position of DGM?

a. J
b. None of those given as option
c. The one who like Gwalior
d. P

e. The one like Kochi

Direction (11-15) Study the following information carefully and answer the question given below

Eight students A, B, C, D, E, F, G and H gave paper in three different shifts i.e. II, III and IV and on three different dates i.e. 11th, 12th and 16th of the same month. They gave paper in different exam centers i.e. Agra, Etawah, Ghaziabad, Mathura, Meerut, Hapur, Delhi, Faridabad but not necessarily in the same order. Not less than two students gave paper in one shift or on a date.

D gave paper in same shift only with the one who gave paper in Hapur on 12th. A gave paper in II shift on 16th in Faridabad. F gave paper in on 12th but not in Delhi or Meerut. Neither G nor H gave paper on 11th. Only one pair of students gave paper in same shift and on same date and one of them is C, which did not give paper in the same shift as D nor on same date as G. The one who gave paper in Delhi, the one who gave paper on 12th and the one who gave paper in Meerut gave in same shift i.e. the last shift. E gave paper in the last shift but not on 12th. G gave paper in Ghaziabad. The one who gave paper in Delhi gave paper on the same date with the one who gave in Meerut but not on the last date. D did not give paper in Meerut or in Agra. The one who gave paper in Etawah gave in the last shift and on the last date. E gave paper on the same date as the one who gave paper in Mathura. The distribution of the number of students giving paper according to dates is not same as the distribution of the number of students giving paper according to shifts. B gave paper in the shift in which more than 1 person gave paper. G neither gave paper before the one who gave in Delhi nor after the one who gave in Mathura according to date. The one from Ghaziabad gave paper after the one who gave in Agra shift wise. B did not give paper in Etawah or Meerut. H gave paper in the shift which is just before the one who gave paper in Meerut.E did not give paper in Meerut.

11. What is the ratio of the number of students giving paper in II, III, IV shift respectively?

a. 3:3:2

b. 4:1:3

c. 3:2:3

d. 2:2:4

e. None of these

12. Which of the following gave paper in Mathura?

a. C

b. A

c. F

d. G

e. None of these

13. Which two persons gave paper in the same shift and on same date?

a. C, B

b. A, D

c. F, E

d. G, H

e. None of these

14. Which of the following is true regarding H?

a. the one gave paper in Meerut

b. The one who has same shift as A

c. the one who gave paper in Hapur

d. the one who gave on same date as E

e. the one who gave in II shift

15. Four of the five are alike in a certain way, who among the following does not belongs to that group?

a. C

b. A

c. E

d. G

e. B

Directions (16-20): Study the following information to answer the given questions:

There are 15 persons-F, P, T, V, M, S, L, G, B, J, K, A, D, R and N are living in a building with five floors(Numbered 1 to 5). Lowermost floor is number 1 and the top most floor is number 5. There are three flats on each floor from left to right numbered 1 to 3. Each one of them likes different types of flower viz., Lily, Peony, Coxcomb, Daffodil, Aster, Orchid, Freesia, Rose, Heather, Gerbera, Tulip, Calla, Dahlia, Liatris and Bupleurum but not necessarily in the same order. G lives on floor number 3. N does not live on flat number 2. There are two floors between R and the one who likes Orchid. The one who likes Orchid lives on even number floor. The one who likes Rose sits immediate left flat of R. Number of person lives above V and below A are same. The onewho likes Calla sits immediate left flat of A. Two persons live between P and the one who likes Calla. A does not like Orchid. Only one flat is between M and S. Only one floor is between K and the one who likes Bupleurum. K lives either on first or third floor. J is second to the left of the one who lives immediately below B. Three persons live between the one who likes Lily and the one who likes Freesia. The one who likes Freesia does not live on topmost floor. R neither likes Freesia nor likes Lily. The one who likes Coxcomb is immediate right of T. R lives on odd number flat. V lives on even number floor. B does not like coxcomb. L lives immediately below the one who likes aster. L does not like rose. N likes Heather and lives just below the one who sits right of G. Two persons sit between D and the one who likes Daffodil. G does not like tulip. P does not live on lowermost floor. Only one person lives between the one who likes Dahlia and the one who likes Gerbera. P and S do not live on same flat. R does not like Dahlia. K lives on flat number 1. G does not like Bupleurum. T likes Peony. M does not like Daffodil.

16. Which of the following person lives on flat number 2 of floor number 3?

a. D

b. The one who likes rose

c. G

d. F

e. None of these

17. How many floors are there between J and the one who likes Aster?

a. One

b. Two

c. Three

d. Four

e. None of these

18. Which of the following flower is liked by V?

a.Liatris

b. Rose

c. Orchid

d. Daffodil

e.Bupleurum

19. Which of the following persons lives on flat number 1, flat number 2 and flat number 3 of floor number 5 respectively?

a. J, G, B

b. M, L, S

c. P, D, R

d. P, T, F

e. Cannot be determined

20. On which of the following flat and floor number does F lives respectively?

a. 3, 3

b. 2, 4

c. 3, 5

d. Cannot be determined

e. None of these

Direction (21-25) Study the following information carefully and answer the question given below

Eight members A, B, C, D, E, F, G and H live on eight different floors of a building but not necessarily in the same order. The lowermost floor of the building is numbered 1 and the topmost floor of the building is numbered 8. Birthday of each of the persons falls in different months of the same year viz. March, April, May, June, July, August, September and October, but not necessarily in the same order. All persons have different weights viz. 47 kg, 48 kg, 46 kg, 50 kg, 43 kg, 54 kg, 52 kg and 51 kg but not necessarily in the same order.

The one who is 51kg of weight has his birthday in April month and lives on an even number floor. Only three persons live between E and the one who is 50kg. E lives on an odd number floor. H lives on an even number floor but one of the floor below B and is 5kg more than the one who has birthday in August. B does not weigh 51 kg. B lives on the odd number floor and his birthday is in the month having 30 days but not in the month of June. B does not live on the 5th floor. Only one person lives between B and the one who born in the month of March.E does not have his birthday in March. A born in the month of October and is 48 kg in weight. H lives below A. H lives on an even number floor but one of the floor below B. Only Three person lives between A and H. The one who is born in September is more than 50 kg in weight. C is 52Kg in weight and lives immediately above F, who born in the month immediately after the

month having 30 days but not in July. D lives on an even floor but not born in month of April. D born one of the month before E but one of the month after C. The one who is 46kg in weight does not live immediately above the one who is 43 kg in weight. A does not live on top floor. G lives above D. D is heavier than F. D was not born in August. C does not born in July.

21. What is the total weight of D, H and A?

a. 146kg
b. 145kg
c. 142kg
d. 148kg
e. None of these

22. Weight of C is

a. Second largest
b. Fourth smallest
c. Third largest
d. Largest
e. Fifth smallest

23. What is the total weight of C, G and E?

a. 146kg
b. 145kg
c. 142kg
d. 148kg
e. None of these

24. Who among the following born in the month of August?

a. A
b. G
c. E
d. H
e. None of these

25. D lives on which of the following floor?

a. 4th Floor
b. 2nd Floor
c. 7th Floor
d. 6th Floor
e. None of these

Directions (26-30): Study the following information to answer the given questions:

A, B, C, D, E, G and I are seven friends who study at three different branches namely Mukharjee Nagar, Dwarka, and Laxmi Nagar such that not less than two friends study in the same branch. Each friend also has a different favourite subject viz. History, Civics, English, G.K., Reasoning, Maths and Economics but not necessarily in the same order. Each of the students attends the classes of his favourite subjects at different time

B attends his classes at 10 AM. G attends his classes at 7 AM. A likes Maths and studies in the Mukharjee Nagar branch with only one other friend who likes G.K. I studies with two other friends. There is only one hour gap between the time of class of the persons from Dwarka and the one whose favourite subject is G.K. Both the friends who study with I like the same subjects, which can be either Reasoning or English. D studies in

the Dwarka branch with only one person and does not like civics. The one whose favourite subject is Economics takes his class at 8 AM. I attends his class at 8 'O clock. The persons whose favourite subjects are Economics and History do not have their classes at the same time. E studies with only one friend. The one who likes history does not study in Mukharjee Nagar nor Dwarka branch. E does not like G.K. subject. C does not like English, Reasoning or Civics. A and the one whose favourite subject is Civics have their class at 11 AM. C attends his class after D.

26. Which combination represents E's favourite subject and the branch in which he studies?

a. Civics and Laxmi Nagar
b. Economics and Mukharjee Nagar
c. Civics and Dwarka
d. History and Laxmi Nagar
e. Economics and Laxmi Nagar

27. I attends his class at?

a. 11 AM
b. 8 AM
c. 10 AM
d. 9 AM
e. None of these

28. Who amongst the following studies in the Laxmi Nagar branch?

a. G
b. C
c. E
d. D
e. Either D or B

29. Which of the following combinations is definitely correct?

a. I and Reasoning
b. G and English
c. C and G.K.
d. B and Reasoning
e. E and Economics

30. Which of the following subjects does G like?

a. Either Maths or G.K.
b. Either Reasoning or English
c. Either Reasoning or Civics
d. Either Reasoning or G.K.
e. Either Civics or Economics

Direction (31-35) Study the following information carefully and answer the question given below

Seven persons G, R, F, P, Q, H and L attend the lecture in a week starts from Monday and ends on Sunday. Each one of them speaks different language English, Tamil, French, Telugu, Urdu, Malayalam and Hindi but not necessarily in the same order.

P attends the lecture on Wednesday. As many persons attend the lecture before R is same as many persons attend the lecture after the one who speaks Malayalam. H attends the lecture before the one who speaks Malayalam. F attends the lecture immediately before the one who speaks Tamil. Number of persons attend the

lecture before F is one less than number of persons attend the lecture after the one who speaks Telugu. P does not speak Telugu. Two persons attend the lecture between P and the one who speaks Urdu. The one who speaks Hindi attends the lecture before the one who speaks French. Only one person attends the lecture between H and the one who speaks Malayalam. Three persons attend the lecture between Q and the one who speaks English. L attends the lecture after G. R does not speak Malayalam.

31. If R is related to Hindi, P is related to Tamil, then G is related to which of the following?

a) Urdu
b) Malayalam
c) English
d) French
e) None of these

32. How many persons attend the lecture between L and the one who speaks French?

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

33. Four of the following five are like in a certain way based on the above arrangement. Find which one does not belongs to the group?

a) G-Tamil
b) Q-Telugu
c) L-Urdu
d) R-Tamil
e) P-English

34. Which of the following person speaks Telugu?

a) G
b) Q
c) H
d) F
e) None of these

35. L speaks which of the following language?

a) Tamil
b) Hindi
c) Malayalam
d) French
e) None of these

Directions (36-40): Study the following information to answer the given questions:

Eight children P, T, M, V, W, R, D and G live in eight different floors. The lowermost floor is numbered one, the above floor is numbered two and so on. And the topmost floor is numbered eight. Each one of them plays different games Exion Hill Racing, Tic Tac Toe, Clash Of Clans, Temple Run 2, Word Search, Lep's World 2, Traffic Rider and Angry Birds Rio. Each one of them has different lucky number from 1 to 8, but the person whose lucky number does not match with their floor number. Only one person lives between M and the one whose lucky number is 6. M lives above P. Only one person

lives between V and the one who play Lep's World 2. W plays Angry Birds Rio and does not live on odd number floor. Three persons live between the one who plays Temple Run 2 and W. Sum of P's lucky number and W's lucky number is equal to M's lucky number. P's lucky number is even number. M's lucky number is prime number. The one who plays Tic Tac Toe's lucky number is 7. M does not play Tic Tac Toe. The one whose lucky number is 6 lives below M. V lives on even number floor but not on sixth floor. D lives immediately above of the one who plays Tic Tac Toe. D does not live on third floor. R's lucky number is above 6. Two persons live between D and the one who plays Traffic Rider. G does not play Traffic Rider. Two persons live between the one who play Exion Hill Racing and the one who play Traffic Rider. Neither R nor G play Word Search. M lives on odd numbered floor. P's lucky number is below 5. D's lucky number is not above 6. G does not play Clash of Clans. Neither R nor T plays Tic Tac Toe. P lives either on fourth or sixth floor. P does not play Temple Run 2. V's lucky number is 1. The one who plays Angry Birds Rio does not live immediately above the one who plays Word Search.

36. Which of the following combination is not true?

a. The one who plays Word Search lives above the one whose lucky number is 3

b. The person who lives on seventh floor lucky number is 5

c. W's lucky number is half of T's lucky number

d. The one who plays Lep's World 2's lucky number is 2

e. All are true

37. Which of the following person lives on second floor?

a. The one who plays Traffic Rider

b. The one who plays Clash of Clans

c. The one who plays Exion Hill Racing

d. D

e. Both c and d

38. How many persons live between M and the one who plays Traffic Rider?

a. One

b. Two

c. Three

d. Four

e. None of these

39. Which of the following person lives immediately above the one whose lucky number is 8?

a. W

b. The one whose lucky number is 3

c. The one who plays Angry Birds Rio

d. The one who lives immediately below T

e. All the above

40. Four of the following five are alike in a certain way and hence they form a group. Which one of the following does not belong to that group?

a. M-Word Search-5

b. T-Traffic Rider-6

c. R-Clash of Clans-8

d. W-Angry Birds Rio-3

e. G-Tic Tac Toe-7

Directions (41-45):Study the following information carefully and answer the questions given below:

Eight persons P, L, S, F, D, R, M and N live in eight different floors. Lowermost floor is numbered 1, above floor is numbered 2, and so on. Top most floor is numbered 8. Each one of them works in different company TCS, CTS, HCL, Accenture, Tech Mahindra, Infosys, Wipro and IBM.

More than five persons live between D and the one who works in CTS. M lives immediately above the one who works in Infosys. More than three persons live between M and the one who works in TCS. S lives immediately below the one who works in TCS. Only one person lives between P and the one who works in IBM. F lives immediately above the one who works in Accenture. Three persons live between F and the one who works in HCL.Two persons live between L and the one who works in Infosys. P does not work in Infosys. L does not work in IBM. More than three persons live between N and the one who works in Tech Mahindra. D does not work in TCS. As many persons live above the one who works in IBM live below the one who works in Accenture. M does not live on lowermost floor. F lives on odd numbered floor. D does not live on topmost floor. R does not work in Accenture.

41. Which of the following is true?

a) Only one person lives between L and the one who works in CTS

b) Four persons live between R and the one who works in Tech Mahindra

c) As many persons live above R is same as below P

d) More than three persons live above the one who works in IBM

e) None is true

42. Which of the following person works in Wipro?

a) N

b) R

c) F

d) S

e) None of these

43. How many persons live between S and the one who works in Wipro?

a) Four

b) Six

c) Five

d) Three

e) None of these

44. If M is related to HCL, R is related to TCS, then which of the following is related to Wipro?

a) L

b) P

c) S

d) D

e) None of these

45. Which of the following is not true?

a) P lives immediately below the one who works in Accenture

b) R lives below the one who works in CTS

c) Two persons live between the one who works in TCS and R

d) S lives immediately above the one who works in HCL

e) All are true

Direction (46-50) Study the following information carefully and answer the question given below

Twelve persons M, R, G, Q, Y, P, L, N, K, V, X and Z attend the seminar in four different months January, March, April and September on three different dates 5, 12 and 20 in a month. Each one of them likes different fruit Kiwi, Banana, Apple, Orange, Avocado, Strawberry, Pear, Watermelon, Cherries, Peach, Mango and Jackfruit. All the above information is not necessarily in the same order.

L attends the seminar in April but not on even number date. Four persons attend the seminar between L and the one who likes Jackfruit. As many persons attend the seminar before the one who likes Jack fruit is same as many persons attend the seminar after the one who likes Kiwi. Y attends the seminar immediately after G. Three persons attend the seminar between Y and the one who likes cherries. Y does not like Jackfruit. As many persons attend the seminar after the one who likes cherries is two less than as many persons attend the seminar before P. Two persons attend the seminar between P and the one who likes Banana. The one who likes peach attends the seminar immediately after N.G attends the seminar on odd numbered date in a month which has maximum number of days. Only one person attends the seminar between K and the one who likes peach. As many persons attend the seminar after K is same as many persons attend the seminar before the one who likes orange. The one who likes orange attends the seminar neither in January nor in September. X likes Mango. Two persons attend the seminar between X and the one who likes watermelon. G does not like watermelon. Three persons attend the seminar between the one who likes Apple and the one who likes Strawberry.N and the one who likes peach does not attend the seminar in same month. As many persons attend the seminar before the one who likes Strawberry is three more than as many persons attend the seminar after V. Q attends the seminar immediately before the one who likes Avocado. M attends the seminar before R, who does not like Jackfruit.Q does not like Kiwi.

46. How many persons attend the seminar between the one who likes pear and Q?

a) Four

b) Seven

c) Six

d) Three

e) None of these

47. Which of the following is true?

a) The one who likes watermelon attends the seminar before Y

b) More than three persons attend the seminar between R and the one who likes cherries

c) The one who likes Jackfruit attends the seminar before G

d) Two persons attend the seminar between K and the one who likes Strawberry

e) None is true

48. If M is related to Jackfruit, V is related to Banana, in the same way Y is related to which of the following?

a) Pear

b) Peach

c) Watermelon

d) Mango

e) None of these

49. Which of the following is not true?

a) Y attends the seminar before the one who likes Pear

b) Three persons attend the seminar between V and the one who likes Strawberry

c) R attends the seminar before the one who likes peach

d) More than four persons attend the seminar between X and the one who likes Avocado

e) All are true

50. Z likes which of the following fruit?

a) Watermelon

b) Cherries

c) Avocado

d) Jackfruit

e) None of these

Answer Key with Explanation

Directions (1-5):

Person	Birth Year	Age
P	1998	20
Q	1986	32
R	1979	39
S	2004	14
T	1993	25
U	1982	36
V	1990	28

1. C 2. E 3. A 4. B 5. E

Solution (6-10)

Position	Person	Designation
General Manager(GM)	J	Trissur
Deputy General Manager(DGM)	N	Gwalior
Chief Manager(CM)	M	Cuttack
Manager(MG)	K	Kochi
Officer(OR)	P	Goa
Clerk(CK)	T	Shimla

6. C 7. D 8. B 9. E 10. C

Solution (11-15)

Person	Date	Shifts	Exam centre
A	16th	II	Faridabad
B	11th	IV	Delhi
C	11th	IV	Meerut
D	16th	III	Mathura
E	16th	IV	Etawah
F	12th	II	Agra
G	12th	IV	Ghaziabad
H	12th	III	Hapur

11. D 12. E 13. A 14. C 15. B

Solution (16-20)

Floor	Flat 1	Flat 2	Flat 3
5	P - Lily	T - Peony	F - Coxcomb
4	M - Aster	V - Daffodil	S - Orchid
3	L - Bupleurum	G - Liatris	B - Dahlia
2	J - Calla	A – Tulip	N - Heather
1	K - Freesia	D – Rose	R - Gerbera

16. C 17. A 18. D 19. D 20. C

Solution (21-25)

Floor	Person	Weight	Month
8	C	52kg	June
7	F	43kg	May
6	A	48kg	October
5	G	50kg	March
4	D	47kg	July
3	B	54kg	September
2	H	51kg	April
1	E	46kg	August

21. A 22. A 23. D 24. C 25. A

Solution (26-30)

Favourite Subject	**Branch**	**Person**	**Time**
Maths	Mukharjee Nagar	A	11 AM
Reasoning / English	Laxmi Nagar	B	10 AM
G K	Mukharjee Nagar	C	9 AM
Economics	Dwarka	D	8 AM
Civics	Dwarka	E	11 AM
Reasoning/ English	Laxmi Nagar	G	7 AM
History	Laxmi Nagar	I	8 PM

26. C 27. E 28. A 29. C 30. B

Solution (31-35)

Monday	R	Hindi
Tuesday	F	English
Wednesday	P	Tamil
Thursday	G	French
Friday	H	Telugu
Saturday	Q	Urdu
Sunday	L	Malayalam

31. D 32. B 33. D 34. C 35. C

Solution (36-40)

8	V	1	Temple Run2
7	M	5	Word Search
6	P	2	Lep's World 2
5	T	6	Traffic Rider
4	W	3	Angry Birds Rio
3	R	8	Clash Of Clans
2	D	4	Exion Hill Racing
1	G	7	Tic Tac Toe

36. E 37. E 38. A 39. E 40. D

Directions (41-45):

8	M	CTS
7	N	Infosys
6	R	Wipro
5	F	IBM
4	L	Accenture
3	P	TCS
2	S	Tech Mahindra
1	D	HCL

41. C 42. B 43. D 44. B 45. E

Solution (46-50)

January	5	M	Kiwi
January	12	R	Apple
January	20	Q	Banana
March	5	G	Avocado
March	12	Y	Orange
March	20	P	Strawberry
April	5	L	Pear
April	12	K	Watermelon
April	20	N	Cherries
September	5	V	Peach
September	12	X	Mango
September	20	Z	Jackfruit

46. D 47. B 48. C 49. E 50. D

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

Seven people P, Q, R, S, T, U and V live on separate floors of a 7-floor building. Ground floor is numbered 1, first floor is numbered. 2 and so on until the topmost floor are numbered 7. Each one of these is travelling to a different city, namely Delhi, Mumbai, Patna, Chennai, Kolkata, Bangalore and Lucknow but not necessarily in the same order. Only three people live above the floor on which P lives. Only one person lives between P and the one travelling to Bangalore. U lives immediately below the one travelling to Mumbai. The one travelling to Mumbai lives on an even-numbered floor. Only three people live between the ones travelling to Bangalore and Patna. T lives immediately above R. T is not travelling to Patna. Only two people live between Q and the one travelling to Kolkata. The one travelling to Kolkata lives below the floor on which Q lives. The one travelling to Delhi does not live immediately above or immediately below Q. S does not live immediately above or immediately below P. V does not travel to Chennai.

1. Which of the following is true with respect to V as per the given information'?

a.The one who lives immediately below V is travelling to Mumbai

b.V lives on floor no. 7

c.V lives immediately below T

d.V lives on the lowermost floor

e.V is travelling to Bangalore

2. Who among the following lives on floor no. 3?

a.The one travelling to Chennai

b.The one travelling to Kolkata

c.R

d.V

e.T

3. Who lives on the floor immediately above T?

a.P

b.Q

c.S

d.V

e.U

4. To which of the following cities is S travelling?

a.Mumbai

b.Bangalore

c.Patna

d.Kolkata

e.Chennai

5. How many people live between the floors on which S and the one travelling to Mumbai live?

a.None

b.Two

c.One

d.More than three

e.Three

Direction (6-10): Study the following information and answer the question below.

Eight people –A, B, C, D, E, F, G & H live on eight different floors of building. The lowermost floor of the building is numbered one, the one above that is numbered two, and so on till the topmost floor is numbered eight. Each one of them plays a different game namely-San Andreas, Roadrash, Contra, Castlevania, Resident Evil, Tekken3, Dragon Quest and Metal Gear.

G lives on the even numbered floor above the floor numbered two. Only three people live between G and the one who plays Roadrash. E lives immediately below the one who plays Roadrash. A does not play Castlevania.

Only two people live between E and the one who plays Tekken3.C lives immediately above the one who plays Tekken3.The one who plays San Andreas lives on an even numbered floor below C.

Only two people live between the one who plays San Andreas and the one who plays Dragon Quest. The one who plays Metal Gear lives immediately below B.B neither lives on the topmost floor nor plays Roadrash.

F lives on odd numbered floor but not on the lowermost floor. Only two people live between F and the one who plays Resident Evil. Only one person lives between D and the one who plays Castlevania. H lives immediately below the one who plays Contra.

6. Which of the following games does D play?

a. San Andreas

b. Roadrash

c. Tekken3

d. Castlevania

e. Metal Gear

7. How many people live between G and the one plays Contra?

a.None

b. One

c. Two

d. Four

e. Five

8. Which of the following statement is TRUE with respect to the given information?

a. G plays Resident Evil

b. C lives immediately below the one who plays Contra

c. All the given statements are true

d. B lives immediately above D

e. Only four people live between D and one who plays Roadrash

9. Who amongst the following live exactly between A and the one who plays Dragon Quest?

a. D, the one who plays Resident Evil

b. C,B

c. E,H

d. E, the one who plays Tekken3

e. F, the one who plays Roadrash

10. Four of the following five are alike in a certain way and so form a group. Which one of the following does not belong to that group?

a. A-contra

b. H-Castlevania

c. F-San Andreas

d. B-Metal Gear

e. C-Tekken3

Directions: (11-15): Read the following information and answer the questions.

Seven persons K, L, M, N, O, P, Q were born in seven different years viz. 1989, 1985, 1965, 1993, 1964, 1998, 2004. (All the ages of the given persons have been calculated on base year 2018). The sum of ages of N and L is equal to the age of O. The age of M and P is an even number but none of them is an oldest person. The difference between the ages of P and N is a perfect square. The difference between the ages of K and P is the age of Q.

11. Who among the following is the youngest person?

a. P

b. Q

c. M

d. K

e. N

12. What is the difference between the ages of K and O?

a. 20 years

b. 7 years

c. 1 years

d. 24 years

e. None of these

13. Who among the following born in year 1985?

a. P

b. Q

c. L

d. K

e. None of these

14. What is the sum of ages of L and P?

a. 47 years

b. 73 years

c. 45 years

d. 24 years

e. None of these

15. How many persons are older than N?

a. Four

b. Three

c. Two

d. One

e. None

Directions (16-20): Study the information and answer the given questions:

There are seven people A, B, C, D, E, F, and G. They all were born on different year's viz. 1947, 1960, 1972, 1987, 1993, 1998 and 2002 but not necessarily in same order. But the date and month of birth of all these persons are same. Calculation is done with respect to the present year 2017 and assuming months and date to be same.

The age of A is in multiple of 5(five). A is neither the oldest nor the youngest. The difference between the age of A and G is perfect cube. G was not born in 1947. The difference between the age of G and B is half the age of C. D was born in odd number of year. E is not youngest.

16. G was born in which of the following year?

a. 1947
b. 1987
c. 1993
d. 1960
e. None of these

17. How many person are younger than A?

a. Four
b. Three
c. Two
d. One
e None of these

18. Who among following is oldest?

a. A
b. C
c. D
d. E
e . None of these

19. What will be the age of B after three year from now?

a. 18 year
b. 33 year
c. 61 year
d. 48 year
e. None of these

20. What is the age of E?

a. 19 year
b. 57 year
c. 45 year
d. 24 year
e. None of these

Direction (21-25): Study following information carefully and answer the questions given below.

Seven persons-S, T, U, V, W, X and Y are born in seven different days in the same week starting from Monday and ending on Sunday. Each of them likes different colors, viz. Red, Blue, Yellow, Green, Pink, White and Black, but not necessarily in the same order.

W was born immediately after Y. Only two persons were born between the one who likes Yellow and S. The one who likes Red was born on Monday. Only three persons were born between X and U. V was born on one of the

days before Y. T was born one of the days before Wednesday. The one who likes Black and the one who likes White was born in consecutive days. Only two persons were born between U and the one who likes Green. X like neither White nor Pink. The number of persons born after T is same as the number of persons born before the one who likes Yellow. The one who likes Black was born in one of the days before the one who likes White. X was born immediately before S.

21. How many persons were born between U and the one who likes Blue?

a. Three
b. Two
c. Four
d. One
e. None of these

22. Who among the following likes Blue?

a. V
b. X
c. U
d. W
e. None of these

23. V is related to Wednesday in a certain way based on the given arrangement. In the same way W is related to Sunday. Which of the following days is X related to following the same pattern?

a. Thursday
b. Monday
c. Tuesday
d. Friday
e. None of these

24 Which of the following colour V likes?

a. Black
b. White
c. Blue
d. Yellow
e. None of these

25. How many persons were born after the one who likes White?

a. 1
b. 2
c. 4
d. 3
e. None of these

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

Seven persons A,B,C,D,E,F and G were appointed to company on seven different days of the same week starting from Monday to Sunday (but not necessarily in the same order).

Each) person also plays a different game namely-Cricket, Hockey, Football, Squash , Volleyball, Tennis and Kho-kho , but not necessarily in the same order.

Only two persons were appointed after the one who plays Hockey. E was appointed on one of the days after the one who plays Hockey. Only three persons were appointed between E and G. Only one person was

appointed between G and the one who plays Volleyball. A was appointed immediately after the one who plays Volleyball. Only three persons were appointed after the one who plays Kho-Kho. C was appointed immediately after F, but not on Friday. Only two persons were appointed between F and the one who plays cricket. B was appointed immediately before one who plays Cricket. Only two person were appointed between D and the one who plays Tennis. C does not play Football.

26. Who amongst the following was appointed on Wednesday?

a. The one who plays Kho-kho

b. A

c. B

d.The one who plays Football

e. F

27. Which of the following statement is true as per the given arrangement ?

a. Only one person was appointed between F and the one who plays Squash

b. Only three persons were appointed before C

c. A plays Tennis

d. B was appointed on Saturday

e. None of the given options is true.

28. The person who plays Tennis was appointed on which of the following day ?

a. Thursday

b. Tuesday

c. Sunday

d. Monday

e. Saturday

29. Which of the following combinations is not true as per the given arrangement?

a. C-Squash

b. Thursday -G

c.Saturday-Squash

d. Monday-Volleyball

e. F-Hockey

30. How many persons were appointed before G ?

a. two

b. one

c. three

d. four

e. None

Directions (31-35): Study the following information carefully to answer the given questions.

Eight persons-C, D, E, F, W, X, Y & Z - have to attend a wedding in January, April, September & December months of the same year. In each month the wedding is on either the 11th or the 24th of the month. Not more than two of the given people have to attend a wedding in the same month. W has to attend a wedding on the 11th of the month which has only 30 days. Only three people have to attend a wedding between W & Y. C & Y have to attend a wedding neither on the same date nor in the same month. C does not have to attend a wedding in April. Only two people have to attend a wedding

between C & F. X & F have to attend a wedding on the same date. D has to attend a wedding on one of the days before X. Only one person has to attend a wedding between D & E. Less than four people have o attend a wedding between E & Z.

31. How many people have to attend a wedding between F & Z?

a. 2
b. 3
c. None
d. More than 3
e. 1

32. When does X have to attend a wedding ?

a. 24 th April
b. cannot be determined
c. 11 th January
d. 24 th September
e. 11 th December

33. If all the people are made to attend the wedding in alphabetical order starting from 11 th January and ending on 24th December., the schedule of how many people will remain unchanged?

a. 3
b. 2
c. 5
d. None
e. one

34. Who among the following has to attend a wedding before Y?

a. Both C & X
b. Only W
c. None
d. Both F & W
e. Only F

35. As per the given arrangement, four of the following five are alike in a certain way & so they form a group. Which of the following does not belong to the group?

a. W
b. Z
c. F
d. Y
e. X

Directions (36-40): Answer the questions on the basis of the information given below.

Eight friends – A, B, C, D, E, F, G, and H were born on in March, June, September and December on either 3rd or 8th (all born on different dates). The ones who were born in a month having 30 days like different fruits – Banana, Apple, Mango and Litchi not necessarily in the same order. The ones who were born in a month having 31 days like different colours – Red, Yellow, Blue and Green not necessarily in the same order.

E was born in June. Only one person was born between E and D. D does not like any colour. B likes red colour. Same number of people were born before A as after D. No person was born between the ones who like

yellow colour and mango. The one who likes yellow colour was not born on 8th of any month. No person was born between E and one who likes litchi. One person was born between B and one who likes Banana. A does not like Banana. The ones who like apple and banana were born either on same date or in same month. One person was born between A and H. F does not like any fruit. No person was born between C and one who likes blue colour. H does not like fruit. Same number of persons were born between the ones who like green colour and apple and who like blue colour and mango.

36. Who likes Green colour?

a. C
b. F
c. G
d. H
e. E

37. How many people were born between B and one who likes Litchi?

a. Four
b. Two
c. Three
d. None
e. One

38. Four of the following forms a group based on certain pattern. Who does not belong to this group?

a. A
b. G
c. D
d. C
e. E

39. Who was born on 3rd September?

a. The one who likes mango
b. E
c. C
d. D
e. The one who likes litchi

40. C likes which of the following fruit/colour?

a. Yellow
b. Mango
c. Litchi
d. Blue
e. Banana

Directions (41-45): Read the following information and answer the questions.

Eight players Sachin, Virat, Rohit, Dhawan, Dhoni, Rahane, Gambhir, &Ashwin play for three different teams SRH, MI and KKR and like eight different colours viz. Violet, Indigo, Blue, Green, Yellow, Orange, Red and White not necessarily in the same order. At least two and not more than three players play for the same team. Virat plays for MI and likes Violet. Rohit likes Green but do not play for SRH. No one from KKR likes White. The only other person in same team with Virat likes Blue. Dhoni likes White and Rahane likes Indigo. Ashwin does not like Blue and plays for the same team with Dhoni. Sachin and Gambhir

both play for KKR. The one who plays for KKR does not like Orange. Gambhir does not like Red.

41. Who likes Blue colour?

a.Dhawan

b.Gambhir

c.Ashwin

d.Dhawan or Gambhir

e. None of these

42. Which team has only two of the eight players?

a. SRH

b. KKR

c. MI

d. KKR or SRH

e. Cannot be determined

43. Which of the following group of persons play for KKR?

a.Dhawan, Sachin, Gambhir

b.Sachin, Gambhir, Rahane

c.Sachin, Rohit, Dhoni

d.Sachin, Rohit, Gambhir

e. None of these

44. Which of the following combinations of team, person &colour is correct?

a. KKR – Sachin – Orange

b. MI – Virat – Blue

c. SRH – Ashwin – Violet

d. SRH – Gambhir – Yellow

e. None of these

45. Which colour does Gambhir like?

a. Blue

b. Orange

c. Yellow

d. Violet

e. None of these

Directions (46-50): Study the following information carefully and answer the given questions.

Seven persons A, D, F, Q, V, X, Z travelled from the flights of different airlines Air India, Go Air, Indigo, Emirates, Jet Airways, Vistara, Spicejet. Also each flight is scheduled on different time 1:00 pm, 2:30 pm, 3:45pm, 4:15 pm, 5:30 pm, 6:00pm, 8:00pm in a day. F travelled from Jet Airways. X's flight is scheduled immediately after V's flight. Only one flight is scheduled between Q and Z, who travelled from Go Air. A's flight is scheduled at 3:45pm. The flight of Spicejet is scheduled at 5:30pm. D travelled from Air India. Neither Q nor X travelled from Spicejet. Flight of Vistara is scheduled only before one flight. Only two flights are scheduled between Go Air's flight and Jet Airways' flight. A did not travelled from Emirates. F's flight is not scheduled at 1:00pm.

46. Z's flight is scheduled at what time?

a. 4:15 pm

b. 8:00 pm

c. 5:30 pm

d. 2:30 pm

e. None of these

47. X travelled from which airline?

a. Spicejet

b. Air India

c. Indigo

d. Vistara

e. None of these

48. How many flights are scheduled between D and V's flight?

a. Four

b. Three

c. Two

d. One

e. None

49. Who among the following travel through Emirates?

a. D

b. A

c. Q

d. X

e. None of these

50. Which Airline's flight is scheduled immediately before Spicejet?

a. Go Air

b. Air India

c. Indigo

d. Vistara

e. None of these

Answer Key with Explanation

Solution(1-5):

FLOOR	PERSON	CITY
7	**S**	**Chennai**
6	**Q**	**Patna**
5	**V**	**Lucknow**
4	**P**	**Mumbai**
3	**U**	**Kolkata**
2	**T**	**Bangalore**
1	**R**	**Delhi**

1. A 2. B 3. E 4. E 5. B

Solution(6-10):

Floor	People	Games
8	A	Roadrash
7	E	Contra
6	H	Resident Evil
5	C	Dragon Quest
4	G	Tekken3
3	F	Castlevania
2	B	San Andress
1	D	Metal Gear

6. E 7. C 8. D 9. C 10. B

Solution (11-15):

11. C 12. C 13. B 14. C 15. B

Solutions (16-20):

Year	Age	Persons
1947	70year	D
1960	57year	G
1972	45year	B
1987	30year	A
1993	24year	C
1998	19year	E
2002	15year	F

16. D 17. B 18. C 19. D 20. A

Solutions (21-25):

Days	Person	Color
Monday	T	Red
Tuesday	V	Pink
Wednesday	X	Blue
Thursday	S	Green
Friday	Y	Black
Saturday	W	White
Sunday	U	Yellow

21. A 22. B 23. A 24. E 25. A

Solutions (26-30):

Day	Person	Game
Monday	B	Volleyball
Tuesday	A	Cricket
Wednesday	G	Football
Thursday	D	Khokho
Friday	F	Hockey
Saturday	C	Squash
Sunday	E	Tennis

26. D 27. E 28. C 29. B 30. A

Solutions (31-35):

Month	Date	Person	Alphabetical Order
January	11 th	Y	C
	24 th	D	D
April	11 th	F	E

	24 th	E	F
September	11 th	W	W
	24 th	C	X
December	11 th	X	Y
	24 th	Z	Z

31. D 32. E 33. A 34. C 35. B

Solutions (36-40):

Months/Dates	3rd	8th
March	H – Green	B – Red
June	A – Apple	E – Banana
September	G – Litchi	D – Mango
December	C – Yellow	F – Blue

36. D 37. B 38. D 39. E 40. A

Solutions (41-45):

Person	Colour	Team
Ashwin	Orange	SRH
Virat	Violet	MI
Dhawan	Blue	MI
Dhoni	White	SRH
Sachin	Red	KKR
Rahane	Indigo	SRH
Gambhir	Yellow	KKR
Rohit	Green	KKR

41. A 42. C 43. D 44. E 45. C

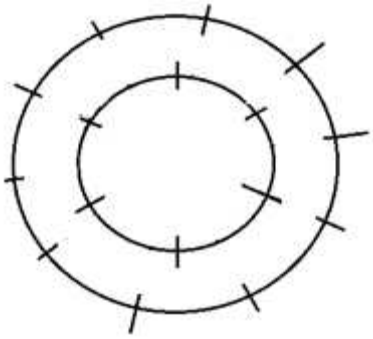
Solutions (46-50):

Timing	Person	Airlines
1:00 pm	D	Air India
2:30 pm	Q	Emirates
3:45 pm	A	Indigo
4:15 pm	Z	Go Air
5:30 pm	V	Spicejet
6:00 pm	X	Vistara
8:00 pm	F	Jet Airways

46. A 47. D 48. B 49. C 50. A

Direction (1-5): Study the given information carefully and answer the following question.

Ten ASEAN countries members (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam) and its six FTA partners (Australia, New Zealand(NZ), India, China, Japan and Korea) are living on different floors in a ten-storey hotel such that 6 of the floors are doubly occupied. None of the two FTA's or ASEAN members live on same floor. Also, they are sitting around a circular table facing the centre in the following manner as all the ASEAN members are sitting around the outer circular table.



The arrangement of the persons sitting in the inner circle is irrespective of the positions of the persons sitting on the outer circle.

The one from the Laos lives on an odd numbered floor and lives just above the one from India. None of the FTA lives on 10th and 9th floor. Two persons live between the one from Vietnam and Philippines. The one from Australia sits immediate left to the one from New Zealand, who lives above the one from china and there are three floors between the one from New Zealand and the one from China. More than three persons live between the ones from Laos and Korea, who sits immediate left to the one from Australia. Three persons sit between the ones from Philippines and Indonesia(when counted from the left of the one from Philippines). No one lives with the representatives of Philippines and Myanmar. The one from Indonesia lives just below the one from Cambodia. Two floors are between the ones from India and china. The one from the host country and the one from Thailand live on even numbered floor together. More than two persons between the one from Myanmar and Brunei (when counted from the left of Myanmar). All the members in both the circles live exactly in the same sequence as according to the floors they are living in. More than 1 person lives between the ones from Malaysia and Vietnam, who lives above no one. The one from India does not live on top three floor. Host country is Japan. The one from India sit next to the one from New Zealand. The one from India

does not sit next to Korea and the host country representative. The ones from Malaysia and India live together on same floor. The one from China does not sit next to one from Korea. The one from Myanmar does not live on the top Floor. The one from Philippines sits third to the left of the one who is from Vietnam. The one from Singapore lives on a doubly occupied floor.

1. On which of the following floors does the representative of Singapore lives?

a. 4th
b. 2nd
c. 3rd
d. 7th
e. None of these

2. Who among the following sits 3rd to the right of the one who is from Brunei?

a. Vietnam
b. Laos
c. Cambodia
d. Singapore
e. None of these

3. Who among the following is the host country?

a. Australia
b. Japan
c. Cambodia
d. Singapore
e. None of these

4. Four of the five are alike in a certain way, who among the following does not belongs to this group?

a. Australia
b. Japan
c. Myanmar
d. India
e. Brunei

5. Which of the following represents the incorrect combination of persons living on the same floor?

a. Australia -Indonesia
b. Japan-Thailand
c. Myanmar- New Zealand
d. India-Malaysia
e. Vietnam-Korea

Direction (6-10): Study the given information carefully and answer the following question.

Ten persons P, M, A, Q, K, R, V, L, S and D are standing in a queue facing north. They receive cash price of 2000, 3000, 5000, 7000 and 10000. Three persons stand between V and M. V stands behind M. M stands either at the beginning or the end. K stands adjacent to V. Three persons stand between K and S. As many persons stand before K stand after D. Five person stands between Q and L. L stands behind Q. R stands behind P. R does not stand at extreme end.

T*W means P receives more cash than W
T&W means T receives less cash than W
T%W means T receives same cash as W

Q%L, L*A, A*M, M%K%V, V&A%S, S&P&D%R, K*P

Note: Not more than 3 persons receives same amount of cash price.

6. What is the total cash received by K, P and R?

a. 20000

b. 10000

c. 12000

d. 14000

e. None of these

7. What is the difference cash price between A and D?

a. 4000

b. 8000

c. 6000

d. 5000

e. None of these

8. How many persons stand between P and R?

a. One

b. Two

c. Three

d. Four

e. None of these

9. What is the position of V in the queue?

a. Fourth from the end of the queue

b. Sixth from beginning of the queue

c. Third from end of the queue

d. Fifth from beginning of the queue

e. None of these

10. What is the total cash received by the person who stand third from beginning of the queue and sixth from the end of the queue?

a. 17000

b. 15000

c. 13000

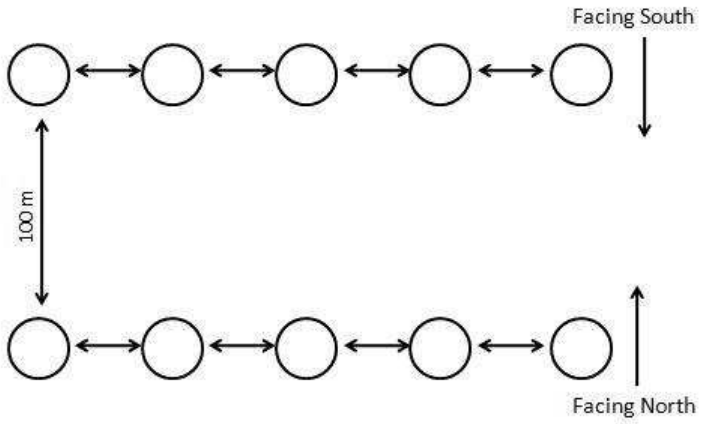
d. 14000

e. None of these

Direction (11-15): Study the given information carefully and answer the following question.

There are 10 houses – P, Q, R, S, T, U, V, W, X and Y in two sides of a street. The houses were built as shown in the fig. below and the distances between each house in both the sides are successive integral multiple of 7. Each houses were painted in different colors viz. Olive Green, Royal yellow, Orange, Aqua blue, Caramel Brown, Creamy Pink, Sage Green, Shadow Gray, Orchid violet and Lemon yellow but not necessarily in same order.

Note: The distance between two houses is same in both the sides such that each house exactly
faces other house in the other side.



The House W is painted in Olive Green color. The house which is painted in Orchid Violet color is opposite to the

one which is 133m to the right of X. Neither Q nor V is painted in Aqua Blue color. The House U is opposite to the one which is 147m to the left of the house that is painted in sage Green color.

There is only one house between X and W. The house which is painted in Shadow Gray and Caramel brown color were facing opposite to one other. House T is opposite to Y.

The House which is painted in Creamy pink color faces the house which is painted in Orange color. P is not facing north, but it is 210m to the left of S, which is Creamy pink color.

House U is at the end of the street, which is painted in Shadow Gray. The house which is painted in Orange is on the immediate right of House V, which is at one end of the street. The House which is painted in Sage Green and Orchid Violet are not facing north. House Y is painted in Lemon Yellow color.

The Person from House V walks 20m south; now he takes a left turn and walks for 100m to reaches Point A. The person from House Q walks towards south for 56m and he takes an immediate right turn, walks for 89m to reach point B.

11. What is the distance between Royal Yellow colored house and Lemon yellow colored house?

a. 189m

b. 133m

c. 119m

d. 147m

e. 210 m

12. What is the minimum distance between A and B. And what direction is B with respect to W?

a. 64m – North-east

b. 32m – South-west

c. 48m – North-west

d. 64m – North-west

e. 32m – South-east

13. How many houses are there between Q and R?

a. Two

b. Three

c. One

d. None

e. Four

14. What is the color of House Q?

a. Royal Yellow

b. Orchid Violet

c. Orange

d. Caramel Brown

e. Sage Green

15. What is the distance between House R and House Q?

a. 119 m

b. 133m

c. 210 m

d. 189 m

e. 266m

Directions (16-20): Study the following information carefully and answer the questions given below:

There are seven different trains K, L, M, N, O, P and Q which halts for either half an hour or one hour at seven different stations Surat, Goa, Delhi, Jaipur, Agra, Kerala and Mumbai. All the trains take halts consecutively as there is no gap between the halts. The total duration of all the halts at different station is 5 hours. Train P halts at Delhi station for half an hour. Only two trains take halt in between M and O. K takes halt immediately before Q which takes halt at Agra. The train which takes halt at last takes halt at Surat for one hour. Both O and P takes halt of same duration. The sum of total duration of halts of M and O is one and half an hour. M neither takes halt at Mumbai nor at Kerala. Only one train takes halt between Q and N. No train takes halt after N. One of the train takes halt from 11.00-11.30 at Jaipur. Neither L nor O takes halt at Jaipur. P takes halt after L. No train takes halt before 9.00. O takes halt after Q but not at Mumbai.

16. Which among the following train takes halt at 11.30-12.30?

a. O
b. P
c. N
d. Q
e. None of these

17. At which of the following place train L takes halt?

a. Kerala
b. Agra
c. Goa
d. Mumbai
e. None of these

18. What is the duration (in hours) of the halts of the train L, Q and K?

a. 1.5 hours
b. 2 hours
c. Either 1 or 2 hours
d. 2.5 hours
e. 3 hours

19. How many trains take halt before the one which takes halt at Agra?

a. None
b. Two
c. Three
d. One
e. Four

20. Which train and at which timing the train takes halt first?/

a. O,9.30-10.30
b. P, 9.00-10.00
c. L, 9.00-9.30
d. Q, 11.00-11.30
e. None of these

Directions (21-25): Study the following information carefully and answer the questions given below:

Certain number of stacks of boxes are there from west to east. Each stack have same number of boxes. Some of

the boxes in a stack are empty while other are filled with something. No two stacks have same number of empty boxes. All filled boxes in one stack contain one type of thing out of cup, Plates, Spoon & Glass. Two or more stack can have same thing. No 2 Stacks containing same thing are adjacent.(Take direction as per your left & right)

Stack that contains 12 empty boxes in 2nd to right of stack that contains 24 filled boxes. There are 3 stacks between stack that contains 12 empty boxes & the stack that contain 17 filled boxes. There are 2 stacks between Stack that contain boxes filled with glasses & stack that contain 5 empty boxes. The stack that contains 31 empty boxes is immediate to the left of the stack that contain 17 filled boxes. The stack that contain 5 empty boxes contain Cups & is immediate left of the stack that contain 12 filled boxes. Both the stack adjacent to the Stack that contain boxes filled with Glasses which is 4th to right of the stack that contain 12 filled boxes contain same thing. There is only 1 stack that contain boxes filled with glasses. The only stack that contain boxes filled with Spoons is immediate right of the box that contains 12 empty boxes. There is one stack between the stack that contain 31 empty boxes & stack that contain 5 empty boxes. The stack that contains 8 filled boxes is 5th from one of the end. Stack that contains 8 filled boxes is somewhere in-between the stack that contain boxes filled with Spoons & the stack that contain 5 empty boxes. The stack that contains 8 filled boxes which is 2nd to left of the stack that contains plates, contain Cups. There are 2 stacks between the Stack that contains 24 filled boxes and the stack that contains 24 empty boxes. Number of stacks towards right of the Stack that contain spoons is half of the number of stacks towards left of the Stack that contain spoons. There are atleast 2 but not more than 9 stacks between the stack with spoons & the stack that contain 31 empty boxes. The stack that contains glasses & the stack that contains spoons have even number of stacks between them. Stack that contains 34 filled boxes is second to the left of the stack contains 8 filled boxes. Stack that contains 34 filled boxes is kept immediate left of stack that contains 27 empty boxes. Stack that contains 24 Stack that empty boxes is immediate right of stack that contains 27 filled boxes. Stacks that contains 15 filled boxes have spoon. Stack that contain 22 empty boxes is kept immediate right of 8 filled boxes. Only 1 stack is kept between stack that contains 22 empty boxes and stack that contains 15 empty boxes.

21. How many stacks are there in total?

a. 16

b. 15

c. 17

d. 20

e. None of these

22. How many stacks are there between the stack that contains 15 filled boxes & the stack that contains 15 empty boxes?

a. 2

b. 3
c. 4
d. More than 4
e. Cannot determine

23. The stack which contain_____ is 3rd to the left of the stack that contain 27 filled boxes.

a. Cups
b. Glasses
c. Plates
d. Spoons
e. Cannot determine

24.Position of Spoons from the right end?

a. 4th right
b. 3rd left
c. 6th right
d. 6th left
e. none of these

25.The stack which contain_____ is 2nd to the left of the stack that contain 8 filled boxes.

a. Cups
b. Glasses
c. Plates
d. Spoons
e. Cannot determine

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

A, B, C are three adjacent buildings. A is to the west of B. B is to the west of C. Each building has different number of floors with the lowest floor numbered as 1, floor above it numbered as 2 and so on. The height of floors in each building is the same i.e. the same numbered floors are at equal height from the ground. Only few of the floors of these buildings are taken and rest are vacant.

W lived on the floor which was immediately above V's floor but in a different building.

V and W are in adjacent building.

V was to the west of T.

The number of floors in building A was 3 more than P's floor number.

P was to the west of Q who lived 2nd from the top of his building.

R was in building B and the number of floors in his building was twice as that of his floor number.

X lived on the floor which was immediately below U's floor but in a different building.

S lived on floor 4 but was not in X's building.

P's floor number was twice as that of R's floor number.

Q and U were not in the same building.

No building had more than 10 floors.

R's floor number was thrice as that of X's floor number.

Q and W lived in the adjacent buildings.

P lived on the floor which was immediately above W's floor but in a different building.

T and X lived in adjacent buildings.

U and V lived in different buildings.

X lived in building A.

Note:

1. Only one person lives on each floor.

2. Exactly to the east or west does not mean immediate east or west, but on the same floor.

26. How many floors were there in building A?

a. 9

b. 6

c. 7

d. 5

e.10

27.Who among the following lived above R (same building)?

I.T

II. Q

III. P

a. Only I

b. Only II

c. Both I and II

d. Both II and III

e. Only III

28. How many vacant floors (in total) were there in the 3 buildings?

a. 11

b. 12

c. 13

d. 14

e. 10

29.Who among the following are immediate neighbour (same building)?

a.WTU

b.PVX

c.WTR

d.VTS

e.UVP

30. How many floors are between P and X in building A?

a. 4

b.2

c. 3

d.5

e. 1

Directions (31-35): Study the following information carefully and answer the questions given below:

Seven cricket players viz. P, Q, R, S, T, V and W played in seven different matches in a week starting from Monday and ending on Sunday. Some of them are bowlers and some of them are batsman. Their Run/Wickets in the seven matches are – 50, 5, 4, 16, 8, 4 and 25.

V plays on Thursday. Two matches are played between the matches played by player V and player P. On the first day of the week, the batsman scored half century played in the match. The sum of Runs/Wickets of the player W and Q is equal to the Runs/Wickets of S. All the bowlers should be preceded and succeeded by batsman and T is the only bowler which cannot be succeeded by any one. P is the only batsman which is followed by another

batsman. Only one match is played between the matches played by the player T and S. The score of the batsman who played the match on Thursday is the perfect square of the score of the player who played on Saturday. The match played by T is not played on the day immediately before or immediately after the day when the match of player V is played. The match played by R is played on the day immediately before the day when the match of player W is played. Match played by S is not played after the match of player Q. R scored more runs than T.

31. As per the given arrangement which of the following combination represents only the people who are bowlers?

a. T, V
b. Q, P, T
c. V, W, R
d. P, T
e. W, T, S

32. As per the given arrangement which of the following person represent the one who was played in between the W and S?

a. U
b. P
c. R
d. V
e. W

33. Who among the following is a bowler?

a. P
b. R
c. S
d. All of the Above
e. Other than those given as options

34. Which of the following combinations is correct as per the given arrangement?

a. Monday – P
b. Tuesday – W
c. Wednesday – Q
d. Thursday – S
e. Friday – T

35. Who amongst the following scored half century?

a. P
b. V
c. U
d. W
e. T

Direction (36-40): Study the following information carefully and answer the question below-

Ten students namely viz. A, B, C, D, E, F, G, H, I and J of ten different colleges but not necessarily in the same order have exam on five different days starting from Monday to Friday of the same week. Each student have exam at two different time slots, i.e. 08.00 AM or 11.00 A.M

Only two people have exam between F and J. Neither E nor G does not have exam on Friday. I has exam on Tuesday at 08.00 A.M. H does not have exam at 11.00 AM. The number of people who have exam between G

and D is same as the number of people who have exam between C and H. D does not have exam on any one of the days after E. F does not have exam on any of the days after H. B has exam immediately before I. I does not have exam on any of the days before G. The one who has exam at 08.00 A.M. immediately before J. D has exam immediately after the day of one who has exam on Tuesday. F does not have exam at 11.00 A.M. Only three people have exam between G and E.

36. How many persons have exam at 11'O clock between E and H?

a. 5

b. 6

c. 2

d. 4

e. None of these.

37. Who among the following person has exam at 8 A.M?

a. J

b. H

c. A

d. C

e. D

38. Four among the following form a group in a certain way. Which of the following does not belong to Group?

a. B – Tuesday

b. D – Wednesday

c. G – Tuesday

d. A – Friday

e. H – Friday

39. Which of the following is correctly matched?

a. I – Monday

b. D – Tuesday

c. B – Friday

d. G – Tuesday

e. I – Wednesday

40. Who among the following have exam on Friday?

a. A, B

b. C, D

c. E, G

d. H, J

e. G, I

Directions (41 -45): Study the following information to answer the given questions:

Seven persons were born on seven different years. Their ages were calculated with respect to 2019. Their ages are between 21 – 90 years. They like seven different fruits Cherry, Orange, Apple, Mango, Banana , Papaya and Grapes but not necessarily in the same order. None of them was born on same year.

Note: If the person's age is considered as last two digits of the person Birth year, then it will be at any sequence. For example, the age of X is considered as last two digits of Y's birth year-1936, and then X age is either 36 or 63.

The one who likes Apple was born on 1966.The age difference between E and the one who likes Apple is 31 years. B's age is the last two digit of the Birth year of E. The age of the one who likes Banana is square of an even number. The average age of the one who likes Mango and the one who likes Banana is equal to half of the age of E who likes grapes. A likes orange. A was 13 years younger to the one who likes mango. The age of the one who likes cherry was cube of an even number. D was born after F. The age of the one who likes Papaya is twice the age of one of the person in the group who is not C. There is only one person born before 1948.F doesn't like Cherry and Banana. G was not the fifth youngest person and his age is even number. F is not the second Eldest Person. A was born in 1984. F's age is not odd number.

41. C was born on which of the following year?

a. 1945

b. 1955

c. 1964

d. 1966

e. None of those given as option

42. What is the sum of present ages of the one who like Cherry and the one who like Grapes?

a. 154 years

b. 144 Years

c. 148 Years

d. 137 Years

e. 123 Years

43. Which of the following statements are true?

a. The one who like Cherry was younger than the one who like Papaya

b. The one who like Apple was born just after C

c. A and B has odd numbered age

d. The one who like grapes was the eldest person in the group

e. All the above statements are true

44. Number of person born before C was same as that of number of person born after ____?

a. The one who like Mango

b. The one who like Grapes

c. The one who like Banana

d. The one who like Apple

e. The one who like Orange

45. Four of the five among the following are similar in such a way to form a group, which one of the following doesn't belongs to the group?

a. G, E

b. B, C

c. C, G

d. F, B

e. D, E

Direction (46-50): Study the information given below and answer the questions based on it.

Seven persons Ben, Guna, Kanal, Raj, Sino, Krishna and Siva are from seven different countries Austria, Nepal, Russia, Canada, Srilanka, China and Bhutan are

attending a conference on seven different weeks Week 1 to week 7.They all are wearing different color shirts Orange, Yellow, Pink, Black, White, Green and Blue. Each of them are of different ages. All the information is not necessarily in the same order.

The one who is from Nepal will attend the conference after the one who is from china and he wears yellow color shirt. The one who wears green color shirt will attend the conference just after the one who likes blue color shirt but not on week 5. The one who is the youngest person wears orange color shirt but doesn't attend the conference just after Kanal. Seventh eldest person is from Austria and he will attend the conference on first week. Only three people are younger than Krishna. The one who is 2nd youngest person is from Bhutan but doesn't attend the conference on week 4 and is just younger than Kanal. The one who wears pink color shirt attend the conference on last week. Ben is elder than only four people and is from srilanka . The one who is from Srilanka doesn't wear pink color shirt and he will not attend the conference on week 2. Siva is older than Sino and Guna but not the oldest person. Krishna is neither from Srilanka nor from Nepal and doesn't wear green color shirt. Neither Kanal nor Guna is the youngest person. The one who is from Canada is the 2nd eldest person. Only three persons will attend conference between the one who wears white shirt and the one who is from Srilanka. The one who is from China wears Blue color shirt. Siva doesn't wear Green color shirt and attend the conference in even numbered week. Raj and Ben are not attend the conference consecutively.

46. Which of the following is correct regarding Ben?

a. None of those given as option

b. Black – Srilanka – 2nd Eldest

c.Srilanka – 3rd Youngest - Green

d. Black – Russia- 3rd eldest

e.Srilanka – 5th youngest - Black

47. Who is the second Youngest and Second eldest person in the group respectively?

a.Guna and Siva

b.Kanal and Ben

c.Krishana and Raj

d. Raj and Siva

e.Guna and Kanal

48. How many person attend conference between the one who like Blue color and the one who is third youngest person?

a. 2

b. 1

c. 3

d. 4

e. None

49. Who attend the conference just after Krishna?

a. The one who wear green color shirt

b. The one who is from Nepal

c. The one who wear White color shirt

d. The one who is from Austria

e. None of those given as option

50. Which of the following is correctly arranged when their ages are arranged increasing order from right to left?

a. Ben, Siva, Guna

b. Ben, Guna, Raj

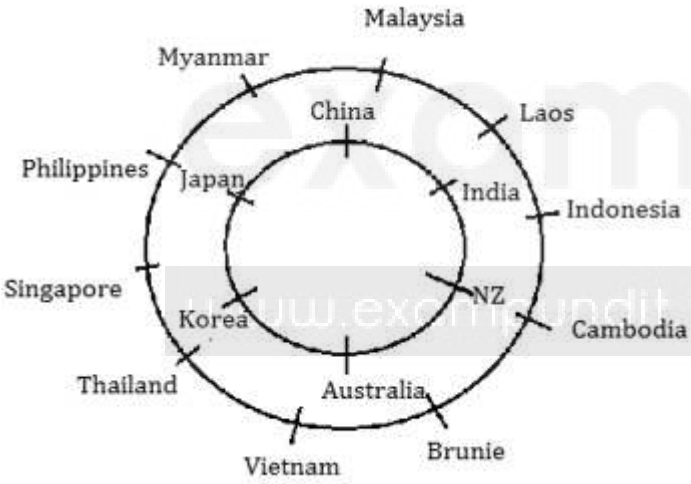
c. Siva, Kanal, Sino

d. Sino, Kanal, Krishna

e. None of those given as option

Answer Key with Explanation

Solution (1-5)



Floor	ASEAN members	FTA
10	Brunei	
9	Cambodia	
8	Indonesia	Australia
7	Laos	New Zealand
6	Malaysia	India
5	Myanmar	
4	Philippines	
3	Singapore	China
2	Thailand	Japan
1	Vietnam	Korea

1. C 2. B 3. B 4. C 5. C

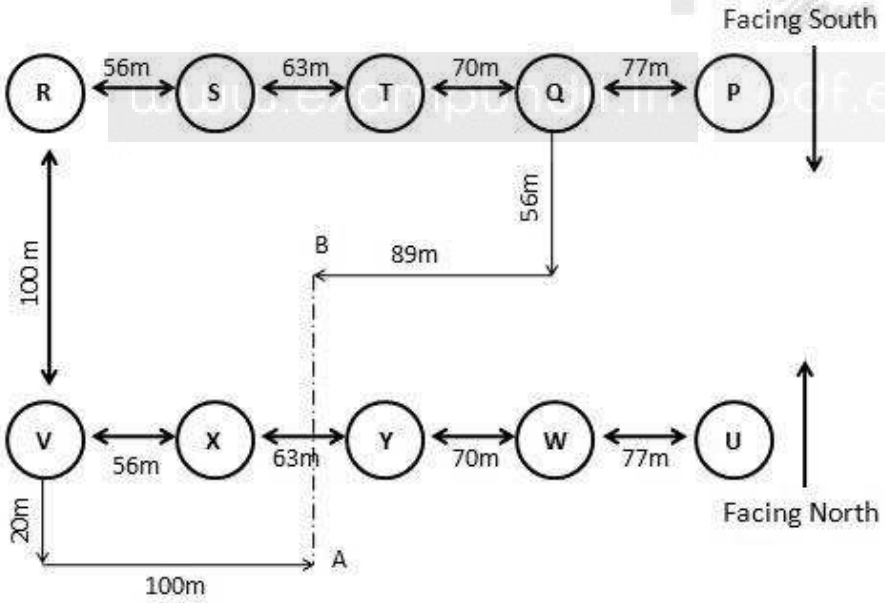
Solution (6-10)

Case 1
M
P
Q
K
V
R
D
S
L
A

Q=L(10000)>A(7000)>M=K=V(5000)<A=S(7000)<P(3000)<D=R(2000)

6. B 7. D 8. C 9. D 10. B

Solution (11-15)



HOUSE	PAINT COLOUR
P	Caramel Brown
Q	Orchid Violet
R	Aqua Blue
S	Creamy Pink
T	Sage Green
U	Shadow Gray
V	Royal Yellow
W	Olive Green
X	Orange
Y	Lemon Yellow

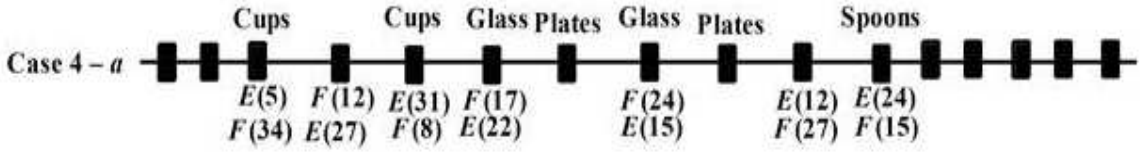
11. C 12. D 13. A 14. B 15. D

Solution (16-20)

9.00-9.30	L	Mumbai
9.30-10.00	P	Delhi
10.00-11.00	M	Goa
11.00-11.30	K	Jaipur
11.30-12.30	Q	Agra
12.30-1.00	O	Kerala
1.00-2.00	N	Surat

16. D 17. B 18. B 19. E 20. C

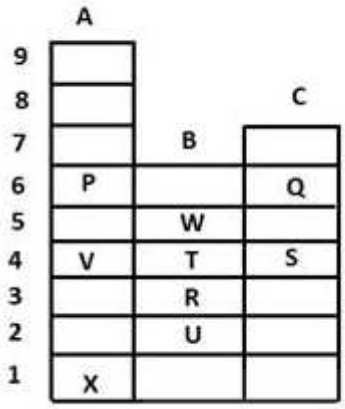
Solution(21-25)



21. A 22. A 23. C 24. C 25. A

Solution(26-30)

The final arrangement is as follows:



26. A 27. A 28. C 29. C 30. A

Solution (31-35)

Monday	P	Batsman	50
Tuesday	R	Batsman	25
Wednesday	W	Bowler	4
Thursday	V	Batsman	16
Friday	S	Bowler	8
Saturday	Q	Batsman	4
Sunday	T	Bowler	5

31. E 32. D 33. C 34. A 35. A

Solution (36-40)

Monday	8 AM	G
Monday	11 AM	B
Tuesday	8 AM	I
Tuesday	11 AM	D
Wednesday	8 AM	E
Wednesday	11 AM	C
Thursday	8 AM	F
Thursday	11 AM	A
Friday	8 AM	H
Friday	11 AM	J

36. C 37. B 38. E 39. B 40. D

Solution (41-45)

Person	Year	Age	Fruits
A	1984	35	Orange
D	1983	36	Banana
F	1971	48	Mango
B	1966	53	Apple
C	1955	64	Cherry
G	1949	70	Papaya
E	1935	84	Grapes

41. B 42. C 43. E 44. A 45. E

Solution (46-50)

Weeks	Color	Country	Person
Week 1	Orange	Austria	Sino
Week 2	white	Canada	Siva
Week 3	Blue	China	Krishna
Week 4	Green	Russia	Raj
Week 5	Yellow	Nepal	Kanal
Week 6	Black	Srilanka	Ben
Week 7	Pink	Bhutan	Guna

(Eldest person) Raj > Siva > Ben > Krishna > Kanal > Guna > Sino (Youngest person)

46. E 47. A 48. B 49. A 50. D

Direction (1-5): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

1. I. $x^2+5x-36=0$
   II. $y^2-13y+36=0$
2. I. $x^2-4=0$
   II. $y^2+6y+9=0$
3. I. $x^2-7x+12=0$
   II. $y^2+y-12=0$
4. I. $x^2-5x+4=0$
   . II. $y^2+11y-12=0$
5. I. $x^2-9x+20=0$
   II. $y^2-13y+42=0$

Direction (6-10): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

6. I. $8x+y=10$	II. $4x+2y=13$
7. I. $x^2 = 121$	II. $y^3 =1331$
8. I. $x^2 + x - 20 = 0$	II. $2y^2 - 19y + 45 = 0$
9. I. p2 - 12p + 35 = 0	II. q2 - 25 = 0
10. I. X2 + 5X + 6= 0	II. Y2 + 3Y + 2 = 0

Direction (11-15): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

11. I. $x^2 + 12x + 35 = 0$ II. $y^2 + 18y + 45 = 0$
12. I. $2x + 5y = 6$ II. $5x + 11y = 9$
13. I. $x^2 - 54 = 3x$ II. $y^2 = 36$
14. I. $x^2=49$ II. $y^2-4y-21=0$
15. I. $x^2 - 13x + 40 = 0$ II. $y^2 + 3y - 40 = 0$

Direction (16-20): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

16. I. $x - \sqrt{169} = 0$ II. $y^2 - 169 = 0$
17. I. $x^2 + 13x + 40 = 0$ II. $y^2 + 7y + 10 = 0$
18. I. $x^2+4x+4=0$ II. $y^2-8y+16=0$
19. I. $x^2 + 3x - 28 = 0$ II. y2 - 11y + 28 = 0
20. I. $p^2 = 49$ II. $q^2 +15q + 56 = 0$

Direction (21-25): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

21. I. $x^2 - 4x + 3 = 0$ II. $y^2 - 13y + 40 = 0$
22. I. $7x^2 - 9x + 2 = 0$ II. $y^2 - 4y + 3 = 0$
23. I. $x^2 - 14x + 45 = 0$ II. $y^2 - 9y + 20 = 0$
24. I. $x^2 + 12x + 36 = 0$ II. $y^2 + 15y + 56 = 0$
25. $p^2 - 12p + 35 = 0$ II. $q^2 - 25 = 0$

Direction (26-30): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

26. I. $x^2 - 11x + 28 = 0$ II. $y^2 - 14y + 48 = 0$
27. I. $x = \sqrt{2916}$ II. $y^2 = 2916$
28. I. $x=\sqrt{625}$ II. $y = \sqrt{676}$
29. I. $x^2 = 35$ II. $y^2 + 13y + 42 = 0$
30. I. $x^2 - 13x + 42 = 0$ II. $y^2 + y - 42 = 0$

Direction (31-35): Two equations (I) and (II) are given in each question. On the basis of these

equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

31. I. $x^2 + x - 2 = 0$ II. $y^2 - 3y + 2 = 0$

32. I. $y = 2x + 1$ II. $2y = 3x - 1$

33. I. $x^2 - 3x + 2 = 0$ II. $y^2 - 5y + 6 = 0$

34. I. $x^2 + x - 20 = 0$ II. $y^2 + 13y + 40 = 0$

35. I. $x^2 + x - 56 = 0$ II. $y^2 - 17y + 72 = 0$

Direction (36-40): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

36. I. $x^2 - 5x - 14 = 0$ II. $y^2 + 7y + 10 = 0$

37. I. $x^2 + 18x + 72 = 0$ II. $y^2 + 6y + 8 = 0$

38. I. $x^2 - 463 = 321$ II. $y^2 - 421 = 308$

39. I. $p = (1764)^{1/2}$ II. $q^2 = 1764$

40. I. $x^2 - 16x + 63 = 0$ II. $y^2 - 2y - 35 = 0$

Direction (41-45): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

41. I. $x^2 + 4x = 0$ II. $y^2 + 10y + 25 = 0$

42. I. $x^2 + x - 2 = 0$ II. $y^2 + 7y + 12 = 0$

43. I. $x^2 + 5x - 6 = 0$ II. $2y^2 - 11y + 15 = 0$

44. $x^2 - 5x + 6 = 0$ II. $y^2 - 4y + 4 = 0$

45. $x^2 - 13x + 40 = 0$ II. $y^2 + 3y - 40 = 0$

Direction (46-50): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x < y

b) If x ≥ y

c) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

46. $2x^2 + 5x + 3 = 0$ II. $y^2 + 9y + 14 = 0$

47. $x^2 - 32 = 112$ II. $y - \sqrt{169} = 0$

48. I. $x^2 - 5x - 24 = 0$ II. $y^2 - 7y - 18 = 0$

49. I. $x^2-6x+9=0$ II. $y^2-11y+24=0$

50. I. $x^2 - 16 = 0$ II. $y^2 - 9y + 20 = 0$

Answer Key with Detailed Solution

Solution (1-5)

1. E

I. $x^2 + 5x - 36 = 0$
or, $x^2 + 9x - 4x - 36 = 0$
or, $x(x + 9) - 4(x + 9) = 0$
or, $(x - 4)(x + 9) = 0$
$\therefore x = 4, -9$
II. $y^2 - 13y + 36 = 0$
or, $y^2 - 9y - 4y + 36 = 0$
or, $y(y - 9) - 4(y - 9) = 0$
$\therefore y = 4,9$
$\therefore$ Hence $x \leq y$

2. C

I. $x^2 - 4 = 0$
$\Rightarrow (x - 2)(x + 2) = 0$
$\Rightarrow x = 2, -2$
II. $y^2+3y+3y+9-0$
$\Rightarrow$ $y(y+3) + 3(y+3)=0$
$(y+3)(y+3)=0$
$\Rightarrow$
$\Rightarrow y = -3$
$\therefore x > y$

3. B

I. $x^2 - 7x + 12 = 0$
$\Rightarrow x^2 - 4x - 3x + 12 = 0$
$\Rightarrow x(x - 4) - 3(x - 4) = 0$
$\Rightarrow (x - 3)(x - 4) = 0$
$\Rightarrow x = 3, 4$
II. $y^2 + y - 12 = 0$
$\Rightarrow y^2 + 4y - 3y - 12 = 0$
$\Rightarrow y(y + 4) - 3(y + 4) = 0$
$\Rightarrow (y - 3)(y + 4) = 0$
$\Rightarrow y = 3, -4$
$\therefore x \geq y$

4. B

I. x^2 - 5x + 4 = 0

or, x^2 – 4x – x + 4 = 0

or, x(x - 4) – 1(x -4) = 0

or, (x -1) (x - 4) = 0

x = 1, 4

II.y^2 + 11y - 12= 0

or, y^2 + 12y – y -12 = 0

or, y(y + 12) – 1(y + 12) = 0 or, (y - 1) (y + 12) = 0

y = 1, -12

Therefore, x ≥ y

5. A

x^2 – 9x + 20 = 0

x^2 – 5x -4x +20 = 0

x(x - 5) – 4 (x - 5) = 0

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

x = 5 or 4

II. y^2 – 13y + 42 = 0

y^2 – 7y – 6y + 42 = 0

y(y - 7) – 6 (y - 7) = 0

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

Y = 6 (or) 7

Clearly, x < y

Solution (6-10)

6. A

from both equation

x=7/12, y=16/3

y>x

7. E

x= (+11, -11) y= 11

so clearly x≤y

8. A

I. $x^2 + x – 20 = 0$

or, $x^2 + 5x – 4x – 20 = 0$

or, $x(x + 5) –4(x + 5) = 0$

or, $(x – 4) (x + 5) = 0$

$x = 4, – 5$

II. $2y^2 – 10y – 9y + 45 = 0$

or, $2y(y – 5) –9(y – 5) = 0$

or, $(y – 5) (2y – 9) = 0$

$y = 5, 9/2$

x < y

9. B

I. $p^2 - 12p + 35 = 0$

or $p^2 - 5p - 7p + 35 = 0$

or $p(p - 5) - 7(p - 5) = 0$

or $(p - 7) (p - 5) = 0$

$p = 5, 7$

II. $q^2 - 25 = 0$

or, $q^2 = 25$

$q = +5$

p≥q

10. E

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

X=-2,-3

$(y+1)(y+2) = 0$

Y=-1,-2

so, x≤y

Solution (11-15)

11. D

I. $x^2 + (7+5)x + 35 = 0$

$x^2 + 7x + 5x + 35 =0$

$x (x+7) +5 (x+7)=0$

$(x+7) (x+5) = 0$

x= -7, x=-5

II. $y^2 + (15+3) +45=0$

$y^2 + 15y + 3y + 45=0$

$y (y+15)+3 (y+15)=0$

$(y+15) (y+3) = 0$

y= -15, y=-3

12. A

eqn(I) × 5 - eqn(II) × 2

(10x + 25y = 30) – (10x ± 22y = 18) =

3y = 12

y = 4 and x = -7

y > x

13. D

I. $x^2 – 54 = 3x$

Or, $x^2 – 9x + 6x – 54 = 0$

Or, $x (x - 9) +6 (x - 9) = 0$

x = 9, -6

II. $y^2 = 36$

y = ± 6

14. D

I. $x^2=49$ x=±7

II. $y^2-4y-21=0$

$y^2-7y+3y-21=0$

y(y−7)+3(y−7)=0

(y−7)(y+3)=0

y=7 or−3

No relation

15. B

I. $x^2 - 13x + 40 = 0$

or $x^2 - 5x - 8x + 40 = 0$

or x(x - 5) -8(x - 5) = 0

or (x - 5)(x - 8) = 0

x = 5, 8

II. $y^2 + 3y - 40 = 0$

or $y^2 - 5y + 8y - 40 = 0$

or y(y - 5) + 8(y - 5) = 0

or (y - 5) (y + 8) = 0

y = 5, -8

Hence, x≥ y

Solution (16-20)

16. B

x = 13

b) y = ±√169 = ±13.

Thus, x≥y.

17. E

I. $x^2 + 8x + 5x + 40 = 0$

or, x(x + 8) + 5(x + 8) = 0

or, (x + 5) (x + 8) = 0

x = –5, – 8

II. $y^2 + 2y + 5y + 10 = 0$

or, y(y + 2) +5(y + 2) = 0

or, (y + 2) (y + 5) = 0

y = –2, –5

x ≤ y

18. A

I. $x^2+4x+4=0$

(x+2)2=0⇒x=−2

II. $y^2-8y+16=0$

⇒(y−4)2=0⇒y=4

∴y>x

19. E

I. $x^2 + 7x - 4x - 28 = 0$

or, x(x + 7) - 4 (x + 7) = 0

or, (x - 4)(x + 7) = 0

x = 4, - 7

II. $y^2 - 11y + 28 = 0$

or, $y^2 - 7y - 4y + 28 = 0$

or, y (y - 7) -4(y - 7) = 0

or, (y - 4) (y - 7) = 0

y = 4, 7

x ≤y

20. B

I. $p^2 = 49$

P = ±7

II. $q^2 + 15q + 56 = 0$

or, $q^2 + 8q + 7q + 56 = 0$

or, $q(q + 8) + 7(q + 8) = 0$

or, $(q + 7)(q + 8) = 0$

$q = -7, -8$

$p \geq q$

Solution (21-25)

21. A

$x^2 - 4x + 3 = 0$

$(x - 1)(x - 3) = 0$

$x = 1$ or 3

$y^2 - 13y + 40 = 0$

$(y - 5)(y - 8) = 0$

$y = 5$ or 8

Largest value of $x = 3 < 5 =$ Least value of y

So, $x < y$

22. E

I. $7x^2 - 7x - 2x + 2 = 0$

or, $7x(x - 1) - 2(x - 1) = 0$

$(7x - 2)(x - 1) = 0$

or, $x = 2/7, 1$

II. $y^2 - y - 3y + 3 = 0$

or, $y(y - 1) - 3(y - 1) = 0$

or, $(y - 3)(y - 1) = 0$

$y = 1, 3$

$x \leq y$

23. B

I. $x^2 - 14x + 45 = 0$

or, $x^2 - 9x - 5x + 45 = 0$

or, $x(x - 9) - 5(x - 9) = 0$

or, $(x - 5)(x - 9) = 0$

$x = 5, 9$

II. $y^2 - 9y + 20 = 0$

or, $y(y - 5) - 4(y - 5) = 0$

$y = 5, 4$

Hence $x \geq y$

24. C

I. $x^2 + 12x + 36 = 0$

or, $(x + 6)2 = 0$

or, $x + 6 = 0$

or, $x = -6$

II. $y^2 + 15y + 56 = 0$

or, $y^2 + 7y + 8y + 56 = 0$

or, $y(y + 7) + 8(y + 7) = 0$

or, $(y + 7)(y + 8) = 0$

$y = -7, -8$

$x > y$

25. B

I. $p^2 - 12p + 35 = 0$

or $p^2 - 5p - 7p + 35 = 0$

or $p(p - 5) - 7(p - 5) = 0$

or $(p - 7)(p - 5) = 0$

$p = 5, 7$

II. $q^2 - 25 = 0$

or, $q^2 = 25$

$q = +5$

$p \geq q$

Solution (26-30)

26. D

$x^2 - 11x + 28 = 0$

$x = 7,4$

$y^2 - 14y + 48 = 0$

$y = 6, 8$

27. B

I. $x = \sqrt{2916} = 54$

II. $y^2 = 2916$

$y = \pm 54$

hence $x \geq y$

28. A

I. $x=\sqrt{625}=+25$

II. $y=\sqrt{676}=+26$

So, $y>x$

29. C

I. $x^2 = 35$

$x = +5.91,-5.91$

II. $y^2 + 13y + 42 = 0$

or, $y^2 + 6y + 7y + 42 = 0$

or, $y(y + 6) + 7(y + 6) = 0$

or, $(y + 6)(y + 7) = 0$

$y = -6, -7$

$x > y$

30. B

I. $p^2 - 13q + 42 = 0$

$p^2 - 6p - 7p + 42 = 0$

$p(p - 6) - 7(p - 6) = 0$

$(p - 6)(p - 7) = 0$

$p = 6, 7$

II. $q^2 + q - 42 = 0$

$q^2 + 7q - 6p - 42 = 0$

$q(q + 7) - 6(q + 7) = 0$

$(q - 6)(q + 7) = 0$

$q = 6, -7$

so, $p \geq q$

Solution (31-35)

31. E

I. $x^2 + 2x - x - 2 = 0$

or $x(x + 2) - 1(x + 2) = 0$

or $(x - 1)(x + 2) = 0$

$x = 1, -2$

II. $y^2 - y - 2y + 2 = 0$

or $y(y - 1) - 2(y - 1) = 0$

or $(y - 1)(y - 2)$

$y = 1, 2$

$x \leq y$

32. C

Sol. Solving the two using substitution method,

$x = -3$

$y = -5$

Thus, $x>y$.

33. E

$x^2 - 3x + 2 = 0$

$(x - 1)(x - 2) = 0$

$x = 1$ or 2

$y^2 - 5y + 6 = 0$

$(y - 2)(y - 3) = 0$

$y = 2$ or 3

Largest value of x = 2 = Least value of y

So $x \leq y$

34. B

I. $x^2 + 5x – 4x – 20 = 0$

$(x – 4) (x + 5) = 0$

$x = 4, –5$

II. $y^2 + 5y + 8y + 40 = 0$

$(y + 8) (y + 5) = 0$

$y = –8, – 5$

$x >= y$

35. A

$(x+8)(x-7) = 0$

X=7,-8

$(y-8)(y-9) = 0$

Y=8, 9

so, x<y

Solution (36-40)

36. B

I. $x^2– 7x + 2x – 14 = 0$

or $x(x – 7) + 2(x – 7) = 0$

$(x + 2) (x – 7) = 0$

$x = -2, 7$

II. $y^2+ 5y + 2y + 10 = 0$

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

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

$y = -2, -5$

so, $x \geq y$

37. A

I. $x^2 + 18x + 72 = 0$

or, $x^2 + 12x + 6x + 72 =0$

or, $x(x + 12) + 6(x + 12) = 0$

$x = -6, -12$

II. $y^2 + 6y + 8 =0$

or, $y^2 + 4y + 2y + 8 =0$

or, $y(y + 4) + 2(y + 4) = 0$

$y = -2, -4$

Hence $x < y$

38. D

I. $x^2 = 463 + 321 = 784$

$\therefore x = \pm 28$

II. $y^2=308+421=729$

$\therefore y= \pm 27$

Relation cannot be established between x and y.

39. B

I. $p = \sqrt{1764}$

$\therefore p = 42$

II. $q^2 = 1764$

$\therefore q = \pm 42$

ie $p \geq q$

40. B

I. $x^2 - 16x + 63 = 0$

or $x^2 - 9x - 7x + 63 = 0$

or $x(x - 9) - 7(x - 9) = 0$

or $(x - 7) (x - 9) = 0$

$x = 7, 9$

II. $y^2 - 2y - 35 = 0$

or $y^2 - 17y + 5y - 35 = 0$

or $y(y - 7) + 5(y - 7) = 0$

or (y + 5) (y - 7) = 0

y = -5, 7

Hence, x ≥ y

Solution (41-45)

41. C

I. $x^2 + 4x = 0$

or x(x + 4) = 0 , x = 0, - 4

II. $y^2 + 10y + 25 = 0$

or (y + 5)2 = 0

or y + 5 = 0 , y = - 5

x > y

42. C

I. $x^2 + x - 2 = 0$

or $x^2 + 2x - x - 2 = 0$

or x(x + 2) - 1(x + 2) = 0

or (x - 1) (x + 2) = 0

x = 1, - 2

II. $y^2 + 7y + 12 = 0$

or $y^2 + 3y + 4y + 12 = 0$

or y(y + 3) + 4(y + 3) = 0

or (y + 3) (y + 4) = 0

y = -3, -4

x > y

43. A

I. $x^2 - x + 6x - 6 = 0$

or x(x - 1) + 6(x - 1) = 0

or (x - 1) (x + 6) = 0

x = 1, -6

II. $2y^2 - 6y - 5y + 15 = 0$

or 2y(y - 3) - 5(y - 3) = 0

or (y - 3) (2y - 5) = 0

y = 3, 5/2

so, x < y

44. B

I. $x^2 - 5x + 6 = 0$

$(x - 3)(x - 2) = 0$

$\Rightarrow x = 3, 2$

II. $y^2 - 4y + 4 = 0$

$y = 2, 2$

$x \geq y$

45. B

$x^2 - 8x - 5x + 40 = 0$

$x(x - 8) - 5(x - 8) = 0$

$x = 5, 8$

$y^2 + 8y - 5y - 40 = 0$

$y(y + 8) - 5(y + 8) = 0$

$y = 5, -8$

$x \geq y$

Solution (46-50)

46. C

I. $2x^2 + 5x + 3 = 0$

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

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

II. $y^2 + 9y + 14 = 0$

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

$\Rightarrow y = -7, -2$

$\Rightarrow x > y$

47. A

I. $x^2 = 144$

$x = \pm 12$

II. $y = \sqrt{169}$

$y = 13$

$y > x$

48. D

I. $x^2-5x-24=0$

$\Rightarrow (x-8)(x+3)=0$

$\Rightarrow x=8,-3$

II. $y^2-7y-18=0$

$(y-9)(y+2)=0$

$y=9,-2$

No relation

49. E

I. $x^2-6x+9=0$

$\Rightarrow x=3,3$

II. $y^2-11y+24=0$

$\Rightarrow y=8,3$

$\Rightarrow y \geq x$

50. E

I. $x^2 - 16 = 0$

$x = \pm 4$

II. $y^2 - 9y + 20 = 0$

$y^2 - 5y - 4y + 20 = 0$

$y(y - 5) - 4(y - 5) = 0$

$(y - 5)(y - 4) = 0$

$y = 5$ or 4

$y \geq x$

Direction (1-5): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

1. I. $\sqrt{1225}x+\sqrt{4900} = 0$ II. $(81)^{1/4}y+ (343)^{1/3}=0$

2. I. $x= \sqrt[4]{2401}$ II. $2y^2 - 9y - 56 = 0$

3. $4x + 3y = (1600)^{½}$ II. $6x – 5y = (484)^{1/2}$

4. I. $x^2– (16)^2= (23)^2–56$ II. $y^{1/3}–55+376=(18)^2$

5. I. $x= \sqrt[3]{357911}$ II. $y= \sqrt{5041}$

Direction (6-10): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

6. **I.** $\frac{18}{x^2}+\frac{6}{x}-\frac{12}{x^2}=\frac{8}{x^2}$ **II.** $y^3+9.68+5.64=16.95$

7. **I.** $\frac{15}{\sqrt{x}}-\frac{9}{\sqrt{x}}=(x)^{\frac{1}{2}}$ **II.** $y^{30}-[36]^5=0$

8. **I.** $2x^2-(4-\sqrt{13})x+2\sqrt{13}=0$ **II.** $10y^2-(18+5\sqrt{13})y+9\sqrt{13}=0$

9. **I.** $x^2-3481=0$ **II.** $3y^2=\sqrt[3]{216000}$

10. **I.** $x^2-(1+\sqrt{2})x+\sqrt{2}=0$ **II.** $y^2-3y+2=0$

Direction (11-15): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

11. **I.** $(x^{7/5}+9)=169+y^{3/5}$ **II.** $y^{1/4}\times y^{1/4}\times 7=273\div y^{1/2}$

12. **I.** $(6x^2+17)-(3x^2+20)=0$ **II.** $(5y^2-12)-(9y^2-16)=0$

13. **I.** $17x=(13)^2+\sqrt{196}+(5)^2+4x$ **II.** $9y-345=4y-260$

14. **I.** $x^2-8\sqrt{3}x+45=0$ **II.** $y^2-\sqrt{2}y-24=0$

15. **I.** $(169)^{1/2}x+\sqrt{289}=134$ **II.** $(361)^{1/2}y^2-270=1269$

Direction (16-20): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

16. **I.** $676x^2 - 1 = 0$ **II.** $y = \frac{1}{\sqrt[3]{13824}}$

17. **I.** $x - 7\sqrt{2x} + 24 = 0$ **II.** $y - 5\sqrt{2y} + 12 = 0$

18. **I.** $63x - 94\sqrt{x} + 35$ **II.** $32y - 52\sqrt{y} + 21 = 0$

19. **I.** $821x^2 - 757x^2 = 256$ **II.** $\sqrt{196}\,y^3 - 12y^3 = 16$

20. **I.** $x^2 - 7\sqrt{3}x - 35\sqrt{15} = 5\sqrt{5}x$ **II.** $y^2 - 5\sqrt{5}y + 30 = 0$

Direction (21-25): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

21. **I.** $7x + 6y + 4z = 122$ **II.** $4x + 5y + 3z = 88$ **III.** $9x + 2y + z = 78$

22. **I.** $7x + 6y = 110$ **II.** $4x + 3y = 59$ **III.** $x + z = 15$

23. **I.** $x = \sqrt{[(36)^{1/2} \times (1296)^{1/4}]}$ **II.** $2y + 3z = 33$ **III.** $6y + 5z = 71$

24. **I.** $8x + 7y = 135$ **II.** $5x + 6y = 99$ **III.** $9y + 8z = 121$

25. **I.** $(x + y)^3 = 1331$ **II.** $x - y + z = 0$ **III.** $xy = 28$

Direction (26-30): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

26. **I.** $\sqrt{x} - \frac{(18)^{\frac{19}{2}}}{x^2} = 0$ **II.** $\sqrt{y} - \frac{(19)^{\frac{9}{2}}}{y} = 0$

27. **I.** $10x + 6y = 13$ **II.** $45x + 24y = 56$

28. **I.** $3x^2 - (6+\sqrt{17})x + 2\sqrt{17} = 0$ **II.** $10y^2 - (18+5\sqrt{17})y + 9\sqrt{17} = 0$

29. I. $3x^2 - (6+\sqrt{17})x + 2\sqrt{17} = 0$ II. $10y^2 - (15-\sqrt{17})y - 3\sqrt{17} = 0$

30. **I.** $63x - 194\sqrt{x} + 143 = 0$ **II.** $99y - 255\sqrt{y} + 150 = 0$

Direction (31-35): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

31. I. $x = (-7)^2$ II. $y^2 - 46y - 147 = 0$

32. **I.** $(289)^{\frac{1}{2}}x - \sqrt{324} = 203$ **II.** $(484)^{\frac{1}{2}}y - \sqrt{225} = 183$

33. I. $x - 7\sqrt{3x} + 36 = 0$ II. $y - 12\sqrt{2y} + 70 = 0$

34. I. $63x - 194\sqrt{x} + 143 = 0$ II. $99y - 255\sqrt{y} + 150 = 0$

35. **I.** $x - 7\sqrt{3x} + 36 = 0$ **II.** $y - 12\sqrt{2y} + 70 = 0$

Direction (36-40): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

36. I. $679x^2 - 168x^2 = 3066$ II. $\sqrt{144}y^3 - 9y^3 = 1536$

37. I. $\sqrt{900}x + \sqrt{1296} = 0$ II. $\sqrt[4]{256}y\ y + \sqrt[3]{216} = 0$

38. I. $(2\sqrt{x} / 5) + (3\sqrt{x} / 10) = (1 / \sqrt{x})$ II. $(10 / \sqrt{y}) - (2 / \sqrt{y}) = 4\sqrt{y}$

39. I. $14x - 25 = 59 - 7x$ II. $\sqrt{y} + 222 - \sqrt{36} = \sqrt{81}$

40. I. $x^2 - 7\sqrt{7x} + 84 = 0$ II. $y^2 - 5\sqrt{5y} + 30 = 0$

Direction (41-45): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

41. I. $(x+3)(y+2)=12$ II. $2xy+4x+5y=11$

42. I. $(x^{1/4} / 16)^2 = 144 / x^{3/2}$ II. $y^{1/3} \times y^{2/3} \times 3014 = 16 \times y^2$

43. I. $(3x-2)/y = (3x+6)/(y+16)$ II. $(x+2)/(y+4) = (x+5)/(Y+10)$

44. I. $(x^2-10x+16)/(x^2-12x+24) = 2/3$ II. $y^2-y-20=0$

45. I. $7x + 3y = 77$ II. $2x + 5y = (2601)^{1/2}$

Direction (46-50): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a) If x > y

b) If x ≥ y

c) If x < y

d) If x ≤ y

e) If x = y or no relation can be decided between 'x' and 'y'.

46. I. $(x^{7/5} \div 9) = 169 \div x^{3/5}$ II. $y^{1/4} \times y^{1/4} \times 7 = 273 \div y^{1/2}$

47. I. $2x^2 - (4 + \sqrt{13})x + 2\sqrt{13} = 0$ II. $10y^2 - (18 + 5\sqrt{13})y + 9\sqrt{13} = 0$

48. I. $9/\sqrt{x} + 19/\sqrt{x} = \sqrt{x}$ II. $y^5 - [(28)^{11/2}/\sqrt{y}] = 0$

49. I. $8x^2 - (4 + 4\sqrt{3})x + 2\sqrt{3} = 0$ II. $3y^2 - (4 + 3\sqrt{3})y + 4\sqrt{3} = 0$

50. I. $(x^3 - 13x + 12)/(x-1) = 0$ II. $(y^3 + 5y^2 - 2y - 24)/(y-2) = 0$

Answer with Detailed Solution

Solution (1-5)

1. A

I. $\sqrt{1225}x + \sqrt{4900} = 0$

or, $35x + 70 = 0$ or, $x = \frac{-70}{35} = -2$

II. $3y + 7 = 0$ or $y = \frac{-7}{3}$

$\therefore$ $x > y$

2. E

I. $x = \sqrt[4]{2401}$ $\therefore$ $x = 7$

II. $2y^2 - 16y + 7y - 56 = 0$

$2y(y - 8) + 7(y - 8) = 0$

$(2y + 7)(y - 8) = 0$

$\therefore$ $y = 8, \frac{-7}{2}$

Hence, no relation exists between x and y.

3. A

$4x + 3y = 40$ .....(i) $\times 6$

$6x - 5y = 22$ .....(ii) $\times 4$

$24x + 18y = 240$

$24x - 20y = 88$

$38y = 152$

$\therefore$ $y = \frac{152}{38} = 4$

Putting the value of y in equation (i), we have

$4x + 3 \times 4 = 40$

or, $4x = 40 \quad 12 = 28$

$\therefore$ $x = 7$

Hence, $x > y$.

4. D

I. $x^2 - (16)^2 = (23)^2 - 56$

or $x^2 - 256 = 529 - 56$

$\therefore x = \sqrt{729} = \pm 27$

II. $y^{1/3} - 55 + 376 = (18)^2$

or $y^{1/3} = 324 + 55 - 376$

$\therefore y = (3)^3 = 27$

$\therefore y \geq x$

5. E

I. $x = \sqrt[3]{357911}$ $\therefore$ $x = 71$

II. $y = \sqrt{5041}$ $\therefore$ $y = 71$

$\therefore$ $x = y$

Solution (6-10)

6. E

I. $\frac{18+6x-12}{x^2}=\frac{8}{x^2}$

or, $x = \frac{1}{3} = .333$

II. $y^2 = 16.95 - 9.68 - 5.64 = 1.63$
$\therefore y = \pm 1.277$

7. B

I. $\frac{15}{\sqrt{x}}-\frac{9}{\sqrt{x}}=(x)^{\frac{1}{2}}$

or, $\frac{15-9}{\sqrt{x}}=x^{\frac{1}{2}}=\sqrt{x}$

or, $x = 6$
II. $y^{10} - (36)^5 = 0$
or, $y^{10} = (36)^5$

or $y = (36)^{\frac{5}{10}} = 36^{\frac{1}{2}}$

$y = \sqrt{36} = \pm 6$
$\therefore x \geq y$

8. B

$2x^2-4x-\sqrt{13}x+2\sqrt{13}=0$ ...(i)

or, $2x(x-2)-\sqrt{13}(x-2)=0$

or, $(x-2)(2x-\sqrt{13})=0$

$\therefore x = 2, \frac{\sqrt{13}}{2}$

$10y^2-18y-5\sqrt{13}y+9\sqrt{13}=0$ ...(ii)

or, $2y(5y-9)-\sqrt{13}(5y-9)=0$

or, $(2y-\sqrt{13})(5y-9)=0$

$\therefore y = \frac{9}{5}, \frac{\sqrt{13}}{2}$

Hence, $x \geq y$.

9. E

I. $x^2 = 3481$
$\therefore x = \pm 59$

II. $3y^2 = \sqrt[3]{216000}$
$\therefore 3y^2 = 60$
$\therefore y = \pm\sqrt{20}$
No relation

10. E

I. $x^2 - x - \sqrt{2}x + \sqrt{2} = 0$
$\Rightarrow x(x-1) - \sqrt{2}(x-1) = 0$
$\Rightarrow (x-\sqrt{2})(x-1) = 0$
$\Rightarrow x = \sqrt{2}$ or 1
II. $y^2 - 3y + 2 = 0$
$\Rightarrow y^2 - 2y - y + 2 = 0$
$\Rightarrow y(y-2) - 1(y-2) = 0$
$\Rightarrow (y-1)(y-2) = 0$
$\Rightarrow y = 1$ or 2
Relationship cannot be established between x and y

Solution (11-15)

11. D

I. $x^{\frac{7}{5}} \div 9 = 169 \div x^{\frac{3}{5}}$

or, $x^{\frac{7}{5}} \times x^{\frac{3}{5}} = 169 \times 9$

or, $x^{\frac{7+3}{5}} = 1521$ or, $x^2 = 1521$

$x = \pm 39$

II. $y^{\frac{1}{4}} \times y^{\frac{1}{4}} \times y^{\frac{1}{2}} = \frac{273}{7}$

or, $y^{\frac{1}{4}+\frac{1}{4}+\frac{1}{2}} = 39$

or, $y = 39$

$x \leq y$

12. E

$6x^2 + 17 - 3x^2 - 20 = 0$ ... (i)

or, $3x^2 = 3$

$\therefore x \pm 1$

$5y^2 - 12 - 9y^2 + 16 = 0$ .... (ii)

or, $4y^2 = 4$

$\therefore y \pm 1$

Hence $x = y$.

13. C

I. $17x = 169 + 14 + 25 + 4x$

or, $13x = 208$

$\therefore x = \frac{208}{13} = 16$

II. $9y - 4y = 345 - 260 = 85$

or, $5y = 85$

$\therefore y = 17$

$\therefore x < y$

14. E

I. $x^2 - 8\sqrt{3}x + 45 = 0$

or, $x^2 - 5\sqrt{3}x + 3\sqrt{3}x + 45 = 0$

or, $x(x - 5\sqrt{3}) + 3\sqrt{3}(x - 5\sqrt{3}) = 0$

or, $(x + 3\sqrt{3})(x - 5\sqrt{3}) = 0$

$\therefore x = 3\sqrt{3}, 5\sqrt{3}$

II. $y^2 - \sqrt{2}y - 24 = 0$

or $y^2 - 4\sqrt{2}y + 3\sqrt{2}y - 24 = 0$

or $(y - 4\sqrt{2}y)(y + 3\sqrt{2}) = 0$

or $(y + 3\sqrt{2})(y - 4\sqrt{2})$

$\therefore y = -3\sqrt{2}, 4\sqrt{2}$

Hence relation cannot be established between x and y.

15. B

$13x + 17 = 134$ .... (i) .

$\therefore x = \frac{117}{13} = 9.$

$(361)^{1/2}y^2 - 270 = 1269$

or, $19y^2 = 1629 + 270 = 1539$

$y^2 = \frac{1539}{19} = 81$

$y + 9$

Hence, $x \geq y$.

Solution (16-20)

16. C

I. $676x^2 - 1 = 0$

or $x^2 = \frac{1}{676}$ $\therefore x = \pm\frac{1}{26}$

II. $y = \frac{1}{\sqrt[3]{13824}}$ $\therefore y = \frac{1}{24}$

ie, $x < y$

17. B

2; **I.** $x-7\sqrt{2x}+24=0$

or $x-4\sqrt{2x}-3\sqrt{2x}+24=0$

or $\sqrt{x}(\sqrt{x}-4\sqrt{2})-3\sqrt{2}(\sqrt{x}-4\sqrt{2})=0$

or $(\sqrt{x}-3\sqrt{2})(\sqrt{x}-4\sqrt{2})=0$

Now, if $\sqrt{x}-3\sqrt{2}=0$

then $\sqrt{x}=3\sqrt{2}$

$\therefore x = 9 \times 2 = 18$

If $\sqrt{x}-4\sqrt{2}=0$

then $\sqrt{x}=4\sqrt{2}$

$\therefore x = 16 \times 2 = 32$

II. $y-5\sqrt{2y}+12=0$

or $y-3\sqrt{2y}-2\sqrt{2y}+12=0$

or $\sqrt{y}(\sqrt{y}-3\sqrt{2})-2\sqrt{2}(\sqrt{y}-3\sqrt{2})=0$

or $(\sqrt{y}-2\sqrt{2})(\sqrt{y}-3\sqrt{2})=0$

If $(\sqrt{y}-2\sqrt{2})=0$

then $\sqrt{y}=2\sqrt{2}$

$\therefore y = 4 \times 2 = 8$

if $\sqrt{y}-3\sqrt{2}=0$

then $\sqrt{y}-3\sqrt{2}$

$\therefore y = 9 \times 2 = 18$

18. E

I. $63x-94\sqrt{x}+35=0$

or, or, $63x-49\sqrt{x}-45\sqrt{x}+35=0$

or, $(9\sqrt{x}-7)(7\sqrt{x}-5)=0$

$\therefore x=\frac{49}{81},\frac{25}{49}$

II. $32y-52\sqrt{y}+21=0$

or, $32y-28\sqrt{y}-24\sqrt{y}+21=0$

or, $(4\sqrt{y}-3).(8\sqrt{y}-7)=0$

$y=\frac{9}{16},\frac{49}{64}$

Therefore relation can't be established between x and y.

19. D

$64x^2 = 256$ .... (i)

or, $x^2 = 4$ $\therefore x = \pm 2$

$14y^3 - 12y^3 = 16$ .... (ii)

or, $2y^3 = 16$

$\therefore y^3 = 8$

$\therefore y = 2$

Hence $x \leq y$.

20. A

I. $x^2-7\sqrt{3}x-35\sqrt{15}=5\sqrt{5}x$

or, $x^2-5\sqrt{5}x-7\sqrt{3}x-35\sqrt{15}=0$

or, $(x-7\sqrt{3})(x-5\sqrt{5})=0$

$\therefore x=7\sqrt{3},\ 5\sqrt{5}$

II. $y^2-5\sqrt{5}y+30=0$

or, $y^2-3\sqrt{5}y-2\sqrt{5}y+30=0$

or, $(y-3\sqrt{5}),(y-2\sqrt{5})=0$

$y=3\sqrt{5},\ 2\sqrt{5}$

Solution (21-25)

21. D

$7x + 6y + 4z = 122$ ... (i)
$4x + 5y + 3z = 88$ ... (ii)
$9x + 2y + z = 78$ ... (iii)
From (i) and (ii)
$5x - 2y = 14$... (iv)
From (ii) and (iii)
$23x + y = 146$ ... (v)
From (iv) and (v),
$x = 6, y = 8$
Putting the value of x and y in eqn (i), we get
$z = 8$
$\therefore x < y = z$

22. E

$7x + 6y = 110$ ... (i)
$4x + 3y = 59$ ... (ii)
$x + z = 15$ ... (iii)
From eqn (i) and (ii), $x = 8, y = 9$
Put the value of x in eqn (iii).
Then, $z = 7$
$x < y > z$

23. D

$$x = \sqrt{(6^2)^{1/2} \times (6^4)^{1/4}}$$

$\sqrt{6 \times 6} = 6$ ... (i)
$2y + 3z = 33$ ... (ii)
$6y + 5z = 71$ ... (iii)
From eqn (ii) and (iii),
$y = 6$ and $z = 7$
$x = y, z$

24. D

$8x + 7y = 135$ ... (i)
$5x + 6y = 99$ ... (ii)
$9y + 8z = 121$ ... (iii)
From eqn (i) and (ii),
$x = 9$, and $y = 9$
Putting the value of y in eqn (iii),
$z = 5$
$\therefore x = y > z$

25. A

$(x + y)^3 = 1331$
or, $x + y = 11$ ... (i)
$(x + y)^2 = 121$
$(x - y)^2 + 4xy = 121$
$x - y = 3$... (ii)
[value of xy from eqn (iii)]
From eqn (i) and (ii), $x = 7, y = 4$
Put the value x and y in the eqn
$x - y + z = 0$
$7 - y + z = 0$
$3 + z = 0$
$z = -3$

Solution (26-30)

26. C

I. $\sqrt{x} - \frac{(18)^{\frac{15}{2}}}{x^2} = 0$

or $x^{\frac{5}{2}} = (18)^{\frac{15}{2}}$

$x = (18)^3$

II. $\sqrt{y} - \frac{(19)^{\frac{9}{2}}}{y} = 0$

or $y^{\frac{3}{2}} = (19)^{\frac{9}{2}}$

$\therefore y = (19)^3$

$\therefore x < y$

27. C

I. $10x + 6y = 13$
II. $45x + 24y = 56$

On solving both eqns, $x = \frac{4}{5}, y = \frac{5}{6}$

$\therefore x < y$

28. E

I. $3x^2 - 6x - \sqrt{17}x + 2\sqrt{17} = 0$

or, $3x(x - 2) - \sqrt{17}(x - 2) = 0$

or, $(3x - \sqrt{17})(x - 2) = 0$

$x = 2, \frac{\sqrt{17}}{3}$

II. $10y^2 - 18y - 5\sqrt{17}y + 9\sqrt{17}y = 0$

or, $2y(5y - 9) - \sqrt{17}(5y - 9) = 0$

or, $(2y - \sqrt{17})(5y - 9) = 0$

or, $y = \frac{\sqrt{17}}{2}, \frac{9}{5}$

29. E

I. $3x^2 - 6x - \sqrt{17x} + 2\sqrt{17} = 0$ ...(i)

or, $3x(x - 2) - \sqrt{17}(x - 2) = 0$

or, $(3x - \sqrt{17})(x - 2) = 0$

or, $x = 2, \frac{\sqrt{17}}{3}$

II. $10y^2 - 15y + \sqrt{17}y - 3\sqrt{17} = 0$

or, $5y(y - 3) + \sqrt{17}(y - 3) = 0$

or, $(5y + \sqrt{17})(y - 3) = 0$

$\therefore y = 3, -\frac{\sqrt{17}}{5}$

30. E

I. $63x - 194\sqrt{x} + 143 = 0$

or $63x - 117\sqrt{x} - 77\sqrt{x} + 143 = 0$

or $(7\sqrt{x} - 13)(9\sqrt{x} - 11) = 0$

$\therefore x = \frac{169}{49}, \frac{121}{81}$

II. $99y - 225\sqrt{y} + 150 = 0$

or $99y - 90\sqrt{y} - 165\sqrt{y} + 150 = 0$

or $(11\sqrt{y} - 10)(9\sqrt{y} - 15) = 0$

$\therefore y = \frac{100}{121}, \frac{225}{81}$

Therefore relation cannot be established between x and y.

Solution (31-35)

31. B

$x = (-7)2$

$x = 49$

y2 - 46y - 147 = 0

y2 - 49y + 3y - 147 = 0,

= y (y-49) + 3 (y - 49) = 0

(y - 49) (y + 3) = 0

y = 49, -3

x ≥ y

32. A

I. $(289)^{\frac{1}{2}}x - \sqrt{324} = 203$

or, 17x - 18 = 203

or, 17x = 221

$\therefore x = \frac{221}{17} = 13$

II. $(484)^{\frac{1}{2}}y - \sqrt{225} = 183$

or, 22y - 15 = 183

or, 22y = 198

$\therefore y = \frac{198}{22} = 9$

Hence, x > y

33. C

I. x - 7 √3x + 36 = 0

or x - 7 √3. √x + 36 = 0

X=4√3,3√3

II. y - 5 √2y - 7 √2y + 70 = 0

or y - 5 √2. √y - 7 √2. √y + 70 = 0

or (y - 5√ 2)(y - 7 √2) = 0

Y=5√2,7√2

x < y

34. E

I. 63x -194 √x +143 = 0

or63x -117 √x - 77√x +143 = 0

x = 117/63, 77/63

II. 99y - 225 √y +150 = 0

or 99y - 90 √y -165 √y +150 = 0

y = 90/99, 165/99

Therefore relation cannot be established between x and y.

35. C

I. $x - 7\sqrt{3x} + 36 = 0$

or $x - 7\sqrt{3}.\sqrt{x} + 36 = 0$

or $x - 3\sqrt{3}.\sqrt{x} - 4\sqrt{3}.\sqrt{x} + 36 = 0$

or $(\sqrt{x} - 3\sqrt{3})(\sqrt{x} - 4\sqrt{3}) = 0$

$\therefore x = 27, 48$

II. $y - 5\sqrt{2y} - 7\sqrt{2y} + 70 = 0$

or $y - 5\sqrt{2}.\sqrt{y} - 7\sqrt{2}.\sqrt{y} + 70 = 0$

or $(\sqrt{y} - 5\sqrt{2})(\sqrt{y} - 7\sqrt{2}) = 0$

$\therefore y = 50, 98$

$\therefore x < y$

Solution (36-40)

36. C

I. $511x^2 = 3066$

$$\text{or, } x^2 = \frac{3066}{511} = 6$$

$\therefore x = \pm\sqrt{6}$

II. $12y^3 - 9y^3 = 1536$

or, $3y^3 = 1536$

$$\text{or, } y^3 = \frac{1536}{3} = 512 = 8^3$$

$\therefore y = 8$ Hence, $x < y$

37. A

I. $\sqrt{(900)}x + \sqrt{(1296)} = 0$

$\sqrt{(900)}x = -\sqrt{(1296)}$

$30x = -36$

$x = -36 / 30 = -1.2$

II. $(256)^{1/4}\ y = (216)^{1/3}$

$(4^4)^{1/4}\ y = -(6^3)^{1/3}$

$4y = -6$

$Y = -(6/4) = -1.5$

Clearly, $x > y$

38. E

I. $(2\sqrt{x} + 3\sqrt{x}) / 10 = 1 / \sqrt{x}$

$2x + 3x = 10$

$5x = 10$

$x = 2$

II. $(10 - 2) / \sqrt{y} = 4\sqrt{y}$

$8 = 4y$

$y = 8 / 4 = 2$

Clearly, $x = y$

39. A

I. $14x + 7x = 59 + 25$

$21x = 84;\ x = 4$

II. $\sqrt{(y + 222)} = \sqrt{(36)} + \sqrt{(81)}$

$\sqrt{(y + 222)} = \pm 6 \pm 9$

$\sqrt{(y + 222)} = \pm 15$

Taking (+ve) sign,

$\sqrt{(y + 222)} = 15$

$y + 222 = 225$

$y = 225 – 222 = 3$

Taking (-ve) sign,

$\sqrt{(y + 222)} = -15$

$(y + 222) = 225$

$Y = 225 – 222 = 3$

Clearly, x > y

40. A

I. $x^2 - 7\sqrt{7}x + 84 = 0$

or $(x - 4\sqrt{7})(x - 3\sqrt{7}) = 0$

$\therefore x = 4\sqrt{7}, 3\sqrt{7}$

II. $y^2 - 5\sqrt{5}y + 30 = 0$

or $(y - 2\sqrt{5})(y - 3\sqrt{5}) = 0$

$\therefore y = 2\sqrt{5}, 3\sqrt{5}$

$\therefore x > y$

Solution (41-45)

41. E

xy+3y+2x +6 =12

2xy+6y+4x=12----(i)

2xy+5y+4x=11 ---- (ii)

From eq. (i) --- (ii)

Y = 1

From eq. (i)

x=1

x = y

42. A

I. $(x^{1/4} / 16)^2 = (144 / x^{3/2}) = (x^{1/2} / 256) = (144 / x^{3/2})$

$(x^{1/2}) \times (x^{3/2}) = 256 \times 144$

$x^2 = (256 \times 144)$

$x = \sqrt{(256 \times 144)}$

$x = \pm (16 \times 12) = \pm 192$

II. $y^{1/3} \times y^{2/3} \times 3104 = 16y^2$

$y \times 3104 = 16y^2$

$3104 = 16y$

$Y = 3104 / 16 = 194$

Clearly, x > y

43. C

(3x-2)/y = (3x+6)/(y+16)

48x-8y = 32 ---- (i)

(x+2)/(y+4) = (x+5)/(y+10)

y = 2x ---- (i)

From Equation (i) & (ii)

x=1, y=2

y>x

44. E

From 1st equationx^2-6x=0

x=0,6

From 2nd equation

(y+4) (y-5)

y=-4,5

Therefore relation cannot be established between x and y.

45. A

I. $7x + 3y = 77$ ... (i)

II. $2x + 5y = (2601)^{\frac{1}{2}} = 51$ ...(ii)

Now, $7x + 3y = 77$ ... (i) × 5

$2x + 5y = 51$ ... (ii) × 3

or, $35x + 15y = 385$

$6x + 15y = 153$

$29x = 232$

$$\therefore x = \frac{232}{29} = 8$$

Putting the value of x in equation (i), we have

$7 \times 8 + 3y = 77$

or, $3y = 77 - 56 = 21$

$$\text{or, } y = \frac{21}{3} = 7$$

Hence, x > y

Solution (46-50)

46. D

I.x^(7/5)÷9 = 169÷x^(3/5)

x^(7/5) ×x^(3/5) = 169×9

x^2 = 1521

x = ± 39

II.y^(1/4)×y^(1/4)×y^(1/2) = 273/7

or, y^[(1/4)+^(1/4)+1/2)] = 39

or, y = 39

x ≤ y

47. B

I. $2x^2 - 4x - \sqrt{13}\,x + 2\sqrt{13} = 0$

or, $2x (x - 2) - \sqrt{13} (x - 2) = 0$

or, $(x - 2) (2x - \sqrt{13}) = 0$

Therefore, x = 2 or x = √13 /2 = 3.6 /2 = 1.8

II. $10y^2 - 18y - 5\sqrt{13}y + 9\sqrt{13} = 0$

or, $2y (5y - 9) - \sqrt{13} (5y - 9) = 0$

or, $(5y - 9) (2y - \sqrt{13}) = 0$

Therefore, y = 9/5 = 1.8 or y = √13 / 2 = 1.8

Hence x ≥ y

48. E

$9/\sqrt{x} + 19/\sqrt{x} = \sqrt{x}$

x = 28

$y^5 - [(28)11/2 /\sqrt{y}] = 0$

$y^{11/2} = (28)^{11/2}$

y = 28

X = Y or relation cannot be established

49. C

$8x^2 - (4 + 4\sqrt{3})x + 2\sqrt{3} = 0$

$(8x^2 – 4x) – (4\sqrt{3}x – 2\sqrt{3}) = 0$

$4x (2x- 1) – 2\sqrt{3} (2x – 1) = 0,$

So $x = 1/2 (0.5), 2\sqrt{3}/4 (0.87)$

$3y^2 – (4 + 3\sqrt{3})y + 4\sqrt{3} = 0$

$(3y^2 – 4y) – (3\sqrt{3}y – 4\sqrt{3}) = 0$

$y (3y – 4) – \sqrt{3} (3y – 4) = 0$

So, $y = \sqrt{3} (1.732), 4/3$

Put on number line
0.5……..0.87……..4/3……1.732

50. B

a) $(x^3 - x - 12x + 12)/(x-1) = 0$

$[x(x^2-1) -12(x-1)]/(x-1) = 0$

$[(x-1)(x+1)(x-12)]/(x-1) = 0$

$x^2 + x - 12 = 0$

Solving, x = 3, -4

b) $y^3 + 5y^2 - 2y - 24/(y-2) = 0$

$y^3 + 7y^2 - 2y^2 -14y + 12y - 24/(y-2) = 0$

$(y-2)(y^2 + 7y + 12)/(y-2) = 0$

Solving, y = -4, -3.

Thus, $x \geq y$.

Direction (1-5): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. x ≤ y

d. x ≥ y

e. x = y or no relation can be decided between 'x' and 'y'.

1. I. $x^2-6x+135=0$ II. $y^2-30y+225=0$
2. I. $6x^2+77x+121=0$ II. $y^2+9y-22=0$
3. I. $(x-8)(2y+9)=25$ II. $(2x-16)(y-4)=8$
4. I. $x^2-15x-364=0$ II. $y^2+31y+240=0$
5. I. $x^2-43x+462=0$ II. $y^2-37y+342=0$

Direction (6-10): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. x ≤ y

d. x ≥ y

e. x = y or no relation can be decided between 'x' and 'y'.

6. I. $x^2-19x+84=0$
   II. $y^2-25y+156=0$
7. I. $9x-15.45=54.55+4x$
   II. $\sqrt{(y+155)}-\sqrt{36}=\sqrt{49}$
8. I. $(x-8)(2y+9)=25$
   II. $(2x-16)(y-4)=8$
9. I. $6x^2+19x+15=0$
   II. $24y^2+11y+1=0$
10. I. $8x^2+26x+15=0$
    II. $4y^2+24y+35=0$

Direction (11-15): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. x ≤ y

d. x ≥ y

e. x = y or no relation can be decided between 'x' and 'y'.

11. I. $2x^2 - x - 231 = 0$
    II. $2y^2 + 43y + 231 = 0$

12. I. $6x^2 - 19x - 36 = 0$
    II. $4y^2 - 47y + 120 = 0$

13. I. $9x^2 - 94.5x + 243 = 0$
    II. $4.5y^2 - 13.5y - 486 = 0$

14. I. $5x^2 + 29x + 20 = 0$
    II. $25y^2 + 25y + 6 = 0$

15. I. $16x^2 + 20x + 6 = 0$
    II. $10y^2 + 38y + 24 = 0$

Direction (16-20): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. x ≤ y

d. x ≥ y

e. x = y or no relation can be decided between 'x' and 'y'.

16. I. $21x^2 - 122x + 165 = 0$
    II. $3y^2 - 2y - 33 = 0$

17. I. $17x^2 + 48x = 9$
    II. $13y^2 = 32y - 12$

18. I. $x^2 - 3481 = 0$
    II. $y^2 - 118y + 3481 = 0$

19. I. $14x^2 - 37x + 24 = 0$
    II. $28y^2 - 53y + 24 = 0$

20. I. $9x^2 - 45x + 56 = 0$
    II. $4y^2 - 17y + 18 = 0$

Direction (21-25): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. x ≤ y

d. x ≥ y

e. x = y or no relation can be decided between 'x' and 'y'.

21. I. $3x + 2y = 301$
    II. $7x - 5y = 74$

22. I. $12x^2 - 41x + 35 = 0$
    II. $3y^2 - 17y - 28 = 0$

23. I. $5x^2 - 87x + 378 = 0$
    II. $3y^2 - 49y + 200 = 0$

24. I. $88x^2 - 19x + 1 = 0$
    II. $132y^2 - 23y + 1 = 0$

25. I. $11x + 5y = 117$
    II. $7x + 13y = 153$

Direction (26-30): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. $x \leq y$

d. $x \geq y$

e. x = y or no relation can be decided between 'x' and 'y'.

26. I. $x^2-15x-364 = 0$
    II. $y^2+31y+240 = 0$

27. I. $13x - 8y + 81 = 0$
    II. $15x + 5y + 65 = 0$

28. I. $x^2 - 208 = 233$
    II. $y^2 + 47 - 371 = 0$

29. I. $8x^2 + 78x + 169 = 0$
    II. $20y^2 - 117y + 169 = 0$

30. I. $8x + 13y = 62$
    II. $13x - 17y + 128 = 0$

Direction (31-35): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. $x \leq y$

d. $x \geq y$

e. x = y or no relation can be decided between 'x' and 'y'.

31. I. $35x^2 - 53x + 20 = 0$
    II. $56y^2 - 97y + 42 = 0$

32. I. $42x - 17y = -67$
    II. $7x + 12y = -26$

33. I. $x^2-50x+621 = 0$
    II. $y^2-42y+437 = 0$

34. I. $p^2 - 26p + 168 = 0$
    II. $q^2 - 25q + 156 = 0$

35. I. $x^2 - 82x + 781 = 0$
    II. $y^2 = 5041$

Direction (36-40): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. $x \leq y$

d. $x \geq y$

e. x = y or no relation can be decided between 'x' and 'y'.

36. I. $9x^2 - 114x + 361 = 0$
    II. $y^2 = 36$

37. I. $x^2 - 19x + 84 = 0$
    II. $y^2-25y+156 = 0$

38. I. $x^2 = 484$
    II. $y^2 - 45y + 506 = 0$

39. I. $5x + 2y = 96$
    II. $3(7x + 5y) = 489$

40. I. $3x^2 - 29x + 56 = 0$
    II. $3y^2 - 5y - 8 = 0$

Direction (41-45): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. x ≤ y

d. x ≥ y

e. x = y or no relation can be decided between 'x' and 'y'.

41. I. $7x + 3y = 77$
    II. $2x + 5y = (2601)^{1/2}$

42. I. $x^2 - 33x - 270 = 0$
    II. $y^2 - 37y + 342 = 0$

43. I. $x^2 - 87x - 270 = 0$
    II. $7y^2 - 11y - 18 = 0$

44. I. $679x^2 - 168x^2 = 3066$
    II. $\sqrt{144y^3} - 9y^3 = 1536$

45. I. $x^2 - 51x - 630 = 0$
    II. $y^2 + 52y + 640 = 0$

Direction (46-50): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x' and 'y' and give answer.

a. x > y

b. x < y

c. x ≤ y

d. x ≥ y

e. x = y or no relation can be decided between 'x' and 'y'.

46. I. $x^2 - 259 = 1037$
    II. $y^2 - 359 = 1241$

47. I. $8x + 6y = 52$
    II. $7x + 5y = 45$

48. I. $x^3 - 1650 = 7611$
    II. $y^3 - 2013 = 2900$

49. I. $x^2 + 33x - 540 = 0$
    II. $y^2 + 36y + 320 = 0$

50. I. $x^2 - 32x + 256 = 0$
    II. $y^2 - 33y + 272 = 0$

Answers with Solution

Solution (1-5)

1. C

$x^2-6x+135 = 0$

$x^2-15x+9x+135 = 0$

$x = +15, -9$

$y^2-30y+225 = 0$

$y^2-15y-15y+225 = 0$

$y = +15, +15$

Hence, $x \leq y$

2. E

I. $6x^2+77x+121=0$

or,$6x^2+66x+11x+121=0$

or,$6x(x+11)+11(x+11)=0$

or,$(6x+11)(x+11)=0$ or,$x=-11/6,-11$

II. $y^2+9y-22=0$

or,$y^2+11y-2y-22=0$

or,$y(y+11)-2(y+11)$

or,$(y-2)(y+11)=0$

or,$y=2,-11$

Hence, no relationship can be established between x and y.

3. A

$(x-8)(2y+9) = 25$

$2xy+9x-16y-72 = 25$

$2xy+9x-16y = 97$(equation 1)

$(2x-16)(y-4) = 8$

$2xy-8x-16y+64 = -56$ (equation 2)

By solving both equations, we get

X= 9

Y = 8

Hence, X>Y

4. A

I. $x^2-15x-364 = 0$

$x^2-28x+13x-364 = 0$

$x = +28, -13$

II. $y^2+31y+240 = 0$

$y^2+15y+16y+240 = 0$

$y = -15, -16$

Hence, x>y

5. A

$x^2 - 43x+ 462 = 0$

$x^2 - 22x-21x+ 462 = 0$

$x = +22 , +21$

$y^2-37y+342 = 0$

$y^2-19y-18y+342 = 0$

$y = +19, +18$

Hence, x>y

Solution (6-10)

6. C

I. $x^2-19x+84=0$

$x^2-7x-12x+84=0$

$(x-7)(x-12)=0$

$\therefore x=7,12$

II. $y^2-25y+156=0$

$y^2-13y-12y+156=0$

$(y-13)(y-12)=0$

$\Rightarrow y=13,12$

$\therefore x \leq y$

7. E

x = 14

y = 14

x = y

8. A

I. (x–8) (2y+9) = 25

II. (2x–16) (y–4) = 8

I. 2xy+9x–16y–72 = 25

II. 2xy–8x–16y+64 = 8

X= 9

Y = 8

Hence, X>Y

9. B

I. $6x^2+19x+15=0$

$\Rightarrow (2x+3)(3x+5)$

$\Rightarrow x=-3/2,-5/3$

II. $24y^2+11y+1=0$

$(3y+1)(8y+1)=0$

$y=-1/8,-1/3$

$\Rightarrow x<y$

10. D

I. $8x^2+26x+15=0$

$\Rightarrow 8x^2+20x+6x+15=0$

$\Rightarrow (2x+5)(4x+3)=0$

$\Rightarrow x=-5/2,-3/4$

II. $4y^2+24y+35=0$

$4y^2+10y+14y+35=0$

$(2y+5)(2y+7)=0$

$y=-5/2,-7/2$

$\Rightarrow x \geq y$

Solution (11-15)

11. D

$2x^2 - x - 231 = 0$

$\Rightarrow 2x^2 - 22x + 21x - 231 = 0$

$\Rightarrow 2x(x - 11) + 21(x - 11) = 0$

$\Rightarrow (x - 11)(2x + 21) = 0$

$\Rightarrow x = 11, \frac{-21}{2}$

$2y^2 + 43y + 231 = 0$

$\Rightarrow 2y^2 + 22y + 21y + 231 = 0$

$\Rightarrow 2y(y + 11) + 21(y + 11) = 0$

$\Rightarrow (y + 11)(2y + 21) = 0$

$\Rightarrow y = -11, \frac{-21}{2}$

$x \geq y$

12. E

I. $6x^2-19x-36 = 0$

$6x^2-27x+8x-36 = 0$

x = +27/6 = + 4.5

x = – 8/6 = –1.33

II. $4y^2-47y+120 = 0$

$4y^2-32y-15y+120 = 0$

y = +32/4 = +8

y = +15/4 = +3.75

No relation

13. E

I. $9x^2 - (54 + 40.5)x + 243 = 0$

$x = 6, 4.5$

II. $4.5y^2 - 54y + 40.5y - 486 = 0$

$y = 12, -9$

No relation

14. B

I. $5x^2 + 29 + 20 = 0$
$\Rightarrow 5x^2 + 25x + 4x + 20 = 0$
$\Rightarrow (x + 5)(5x + 4) = 0$
$\Rightarrow x = -5, -4/5$
II. $25y^2 + 25y + 6 = 0$
$\Rightarrow 25y^2 + 15y + 10y + 6 = 0$
$\Rightarrow (5y + 3)(5y + 2) = 0$
$\Rightarrow y = -3/5, -2/5$
$y > x$

15. A

I. $8x^2 + 10x + 3 = 0$
$\Rightarrow 8x^2 + 4x + 6x + 3 = 0$
$\Rightarrow (2x + 1)(4x + 3) = 0$
$\Rightarrow x = -\frac{1}{2}, -\frac{3}{4}$
II. $5y^2 + 19y + 12 = 0$
$\Rightarrow 5y^2 + 15y + 4y + 12 = 0$
$\Rightarrow (y + 3)(5y + 4) = 0$
$\Rightarrow (y + 3)(5y + 4) = 0$
$\Rightarrow y = -3, -\frac{4}{5}$
$x > y$

Solution (16-20)

16. E

by solving I

x=45/21,77/21=15/7,11/3

by solving 2

y=11/3,-9/3=11/3,-3

so no relation

17. B

I. $17x^2 + 48x = 9$
$\Rightarrow 17x^2 + 48x - 9 = 0$
$\Rightarrow 17x^2 + 51x - 3x - 9 = 0$
$\Rightarrow (x + 3)(17x - 3) = 0$
$\Rightarrow x = -3, \frac{3}{17}$
II. $13y^2 - 32y + 12 = 0$
$\Rightarrow 13y^2 - 26y - 6y + 12 = 0$
$\Rightarrow (y - 2)(13y - 6) = 0$
$\Rightarrow y = 2, \frac{6}{13}$
$y > x$

18. C

I. $x^2 - 3481 = 0$

$x^2 = 3481$

$x = \pm 59$

II. $y^2 - 118y + 3481 = 0$

$y^2 - 59y - 59y + 3481 = 0$

$y = +59, +59$

Hence, $x \leq y$

19. D

$14x^2 - 37x + 24 = 0$

$14x^2 - 21x - 16x + 24 = 0$

$7x(2x - 3) - 8(2x - 3)$

$x = 3/2, 8/7$

$28y^2 - 53y + 24 = 0$

$28y^2 - 32y - 21y + 24 = 0$

$4(7y - 8) - 3(7y - 8) = 0$

$y = 8/7, 3/2$ so $x >= y$

20. B

I. $9x^2 - 45x + 56 = 0$
$\Rightarrow 9x^2 - 24x - 21x + 56 = 0$
$\Rightarrow 3x(3x - 8) - 7(3x - 8) = 0$
$\Rightarrow (3x - 8)(3x - 7) = 0$
$\Rightarrow x = 8/3, 7/3$
II. $4y^2 - 17y + 18 = 0$
$\Rightarrow 4y^2 - 8y - 9y + 18 = 0$
$\Rightarrow (y - 2)(4y - 9) = 0$
$\Rightarrow y = 2, 9/4$

Solution (21-25)

21. B

$5(3x + 2y = 301)$

$2(7x - 5y = 74)$

$15x + 10y = 1505$

$14x - 10y = 148$

$29x = 1653$

$x = 57, y = 65$

22. E

$12x^2 - 41x + 35 = 0$

$= 12x^2 - 20x - 21x + 35 = 0,$

$= 4x(3x - 5) - 7(3x - 5) = 0,$

$= (4x - 7)(3x - 5) = 0,$

$x = 7/4, 5/3$

$3y^2 - 17y - 28 = 0$

$3y^2 - 21y + 4y - 28 = 0$

$3y(y - 7) + 4(y - 7) = 0$

$(y - 7)(3y + 4) = 0$

$y = 7, -4/3$

ie. no relation between 'x'and 'y'.

23. A

$5x^2 - 87x + 378 = 0$

$5x^2 - 42x - 45x + 378 = 0$

$x = 42/5, 45/5$

$= 8.4, 9$

$3y^2 - 49y + 200 = 0$

$3y^2 - 24y - 25y + 200 = 0$

$x = 24/3, 25/3 = (8, 8.33)$

24. D

I. $88x^2 - 19x + 1 = 0$
$\Rightarrow (8x - 1)(11x - 1) = 0$
$\Rightarrow x = \frac{1}{8}, \frac{1}{11}$
II. $132y^2 - 23y + 1 = 0$
$\Rightarrow (11y - 1)(12y - 1) = 0$
$\Rightarrow y = \frac{1}{11}, \frac{1}{12}$
$\Rightarrow x \geq y$

25. B

eqn (I) × 7
eqn (II) × 11

$$77x + 35y = 819$$
$$-77x \pm 143y = 1683$$
$$-108y = -864$$

$\therefore y = 8, x = 7$ ie $x < y$

Solution (26-30)

26. A

I. $x^2 - 15x - 364 = 0$

$x^2 - 28x + 13x - 364 = 0$

$x = +28, -13$

II. $y^2 + 31y + 240 = 0$

$y^2 + 15y + 16y + 240 = 0$

$y = -15, -16$

Hence, x>y

27. B

eqn (I) × 5 + eqn (II) × 8

65x - 40y + 405 = 0

120x + 40y + 520 = 0

185x + 0 + 925 = 0

$$\therefore x = \frac{-925}{185} = -5$$

$$y = \frac{13x + 81}{8}$$

$$= \frac{-65 + 81}{8} = \frac{16}{8} = 2$$

$\therefore x < y$

28. E

I. $x^2 - 208 = 233$

$\Rightarrow x^2 = 441$

$\Rightarrow x = 21, -21$

II. $y^2 + 47 - 371 = 0$

$\Rightarrow y^2 = 324$

$\Rightarrow y = 18, -18$

No relation between x and y

29. B

x = –13/4, –13/2

y =13/5, 13/4

30. B

On solving these two equations, we get

x = -2, y = 6

ie, x < y

Solution (31-35)

31. B

I. $35x^2 - 28x - 25x + 20 = 0$

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

or $(7x - 5)(5x - 4) = 0$ x =5/7 , 4/5

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

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

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

y = 7/8 , 6/7

32. B

42x - 17y = -67

42x + 72y = -156 eqn (II) × 6

- - + .

-89y = 89

$$\therefore y = \frac{-89}{89} = -1 \text{ and } x = -2$$

$\therefore x < y$

33. D

I. $x^2 - 50x + 621 = 0$

$x^2 - 23x - 27x + 621 = 0$

x = +23, +27

II. $y^2 - 42y + 437 = 0$

$y^2 - 19y - 23y + 437 = 0$

y = +19, +23

Hence, x≥y

34. E

I. $p^2 - 26p + 168 = 0$

$\Rightarrow p^2 - 12p - 14p + 168 = 0$

$\Rightarrow p(p - 12) - 14(p - 12) = 0$

$\Rightarrow (p - 12)(p - 14) = 0$

$\therefore p = 12, 14$

II. $q^2 - 25q + 156 = 0$

$\Rightarrow q^2 - 13q - 12q + 156 = 0$

$\Rightarrow q(q - 13) - 12(q - 13) = 0$

$\Rightarrow (q - 12)(q - 13) = 0$

$\therefore q = 12, 13$

Hence, no relation can be established between p and q

35. E

I. $x^2 - 11x - 71x + 781 = 0$
or $x(x - 11) - 71(x - 11) = 0$
or $(x - 11)(x - 71) = 0$
$\therefore x = 11, 71$
II. $y^2 = 5041$
$\therefore y = \pm 71$

Solution (36-40)

36. A

I. $9x^2 - 114x + 361 = 0$
or $(3x - 19)^2 = 0$
$\therefore 3x - 19 = 0$

$\therefore x = \frac{19}{3} = 6.33$

II. $y^2 = 36$
$\therefore y = \pm 6$
$\therefore x > y$

37. C

$x^2 - 19x + 84 = 0$
$\Rightarrow x^2 - 12x - 7x + 84 = 0$
$\Rightarrow (x - 12)(x - 7) = 0$
$\Rightarrow x = 12, 7$
$y^2 - 25y + 156 = 0$
$\Rightarrow y^2 - 13y - 12y + 156 = 0$
$\Rightarrow (y - 13)(y - 12) = 0$
$\Rightarrow y = 13, 12$
$y \geq x$

38. C

I. $x^2 = 484$
$\therefore x = \pm 22$
II. $y^2 - 45y + 506 = 0$
or $y^2 - 22y - 23y + 506 = 0$
or $y(y - 22) - 23(y - 22) = 0$
or $(y - 22)(y - 23) = 0$
$\therefore y = 22, 23$
$\therefore x \leq y$

39. A

$5x + 2y = 96$ ... (i)
$21x + 15y = 489$ ... (ii)
Now, eqn (i) × 15 and eqn (ii) × 2
$75x + 30y = 1440$
$42x + 30y = 978$
$33x = 462$
$\therefore x = 14$
Putting the value of x in eqn (i), we get
$5 \times 14 + 2y = 96$ or, $2y = 96 - 70 = 26$

or, $y = \frac{26}{2} = 13$

$\therefore x > y$

40. D

I. $3x^2 - 29x + 56 = 0$
or $3x^2 - 21x - 8x + 56 = 0$
or $3x(x - 7) - 8(x - 7) = 0$
or $(3x - 8)(x - 7) = 0$

$\therefore x = \frac{8}{3}, 7$

II. $3y^2 - 5y - 8 = 0$
or $3y^2 + 3y - 8y - 8 = 0$
or $3y(y + 1) - 8(y + 1) = 0$
or $(3y - 8)(y + 1) = 0$
or $(3y - 8)(y + 1) = 0$

$\therefore y = -1, \frac{8}{3}$

$\therefore x \geq y$

Solution (41-45)

41. A

I. $7x + 3y = 77$ ... (i)

II. $2x + 5y = (2601)^{\frac{1}{2}} = 51$ ...(ii)

Now, $7x + 3y = 77$ ... (i) × 5

$2x + 5y = 51$ ... (ii) × 3

or, $35x + 15y = 385$

$6x + 15y = 153$

$29x = 232$

$$\therefore x = \frac{232}{29} = 8$$

Putting the value of x in equation (i), we have

$7 \times 8 + 3y = 77$

or, $3y = 77 - 56 = 21$

$$\text{or, } y = \frac{21}{3} = 7$$

Hence, x > y

42. C

$x^2 – 33x + 270 = 0$

$x^2 – 18x – 15x + 270 = 0$

$x = +18, +15$

$y^2 – 37y + 342 = 0$

$y^2 – 18y – 19y + 342 = 0$

$y = +18, +19$

Hence, $x \leq y$

43. E

$x^2 – 87x – 270 = 0$

$\Rightarrow x^2 – 90x + 3x – 270 = 0$

$\Rightarrow x(x – 90) + 3(x – 90) = 0$

$\Rightarrow (x – 90)(x + 3) = 0$

$\Rightarrow x = 90, –3$

$7y^2 – 11y – 18 = 0$

$\Rightarrow 7y^2 – 18y + 7y – 18 = 0$

$\Rightarrow y(7y – 18) + 1(7y – 18) = 0$

$\Rightarrow (7y – 18)(y + 1) = 0$

$\Rightarrow y = –1, \frac{18}{7}$

No relation

44. B

I. $511x^2 = 3066$

$$\text{or, } x^2 = \frac{3066}{511} = 6$$

$$\therefore x = \pm\sqrt{6}$$

II. $12y^3 - 9y^3 = 1536$

or, $3y^3 = 1536$

$$\text{or, } y^3 = \frac{1536}{3} = 512 = 8^3$$

$\therefore y = 8$ Hence, $x < y$

45. A

$X^2 – 51x - 630 = 0$

$(X-30)(X-21) = 0$

$X = 30, 21$

$Y^2 + 52y - 640 = 0$

$(Y+32)(Y+20) = 0$

$Y = -32, -20$

Solution (46-50)

46. E

$x^2 - 259 = 1037$

$x^2 = 1296$

$x = \pm 36$

$y^2 - 359 = 1241$

$y^2 = 1600$

$y = \pm 40$

47. A

I. $8x + 6y = 52$

II. $7x + 5y = 45$

By solving both the equations, we get

$x = 5$

y = 2

Hence, x>y

48. A

$x^3-1650=7611$

$x^3=9261$

x=21

$y^3-2013=2900$

$y^3=4913$

y=17

49. E

$x^2+33x-540=0$

(x-12)(x+45)=0

x=12,-45

$y^2+36y+320=0$

(y+16)(y+20)=0

y=-16,-20

50. C

I. $x^2-32x+256=0$

$\Rightarrow (x-16)^2=0$

$\Rightarrow x = 16,16$

II. $y^2-33y+272=0$

$\Rightarrow (y-16)(y-17)=0$

$\Rightarrow y = 16,17$

So, $x \leq y$

Direction (1-10): In the given questions, two quantities are given, one as 'Quantity 1' and another as 'Quantity 2'. You have to determine relationship between two quantities and choose the appropriate option:

a. Quantity I> Quantity II

b. Quantity I < Quantity II

c. Quantity II ≥ Quantity I

d. Quantity II ≤ Quantity I

e. Quantity I = Quantity II or Relation cannot be established

1. Quantity I: If 25 % of (P – Q) = 15% of (P + Q), then what percent of P is Q?

Quantity II: If (a+b / a-b = 8/7) and a is not equal to zero what percentage (to the nearest integer) of a +7b is a -7b?

2. A can do a work in 16 days. B is 60% more efficient than A.

Quantity I: Time taken by A and B together to do the work.

Quantity II: Time taken by A and B to do the work together when A works at double his original efficiency and B works at half his original efficiency.

3. If x and y are natural numbers and $5 > x > y > 0$.

Quantity I: $3x^2y$

Quantity II: $4xy^2$

4. **Quantity I:** Cost price of an article having marked price Rs. 400, which when sold at 20% discount still make a gain of 20/3%

Quantity II: Cost price of an article which is sold at 14% profit and if cost price and selling price both are Rs. 117 less, the profit would be 9% more.

5. Quantity I: Find the probability of taking a red card or black queen from the deck of 52 cards?

Quantity II: What is the probability of forming a committee consists of 3 people out of 5 men and 4 women with minimum one woman?

6. Quantity I: The area of the rectangle field is 2704 sq.m and its length to breath is in the ratio of 4:1.what is the perimeter of the field

Quantity II: The radius and the height of the right circular cylinder are increased by 25% and 35% respectively. What will be the percentage increase in the curved area?

7. Quantity I: The ratio of amrit's to amrita's age is 7:5 and the sum of their ages is 72.what will be the total ages after 12 years?

Quantity II: The average age of the whole class is 12.05years.the average age of the girls is 12.5 years and the average age of 45 boys is 11.75 years. What are the total number girls in the class?

8. Quantity I: The difference between SI and CI for 2 years is Rs.226.08 and rate of interest is 12%.Find the principal invested on CI and SI

Quantity II: Rs.5000 is invested by Sindhu on CI for 3 years at the rate of 12%. Find the interest earned by her if amount is compounded half yearly

9. Quantity I: $7X^2 - 34X - 5 = 0$

Quantity II: $2Y^2 - 3Y - 14 = 0$

10. **Quantity I:** Loss percentage if the CP of 18 article is same as that of SP of 20 article.

Quantity II: 10

Direction (11-20): In the given questions, two quantities are given, one as 'Quantity 1' and another as 'Quantity 2'. You have to determine relationship between two quantities and choose the appropriate option:

a. Quantity I> Quantity II

b. Quantity I < Quantity II

c. Quantity II ≥ Quantity I

d. Quantity II ≤ Quantity I

e. Quantity I = Quantity II or Relation cannot be established

11. Quantity I: The volume of a cube whose surface area is 216 cm^2

Quantity II: The volume of a cuboid whose sides are 8 cm, 9 cm and 13 cm.

12. Quantity I: x2 -17x + 72 = 0. Find the value of x?

Quantity II: y2 -13y + 40 =0. Find the value of y?

13. The ratio of present age of Mayank to that of Susheel is 9 : 10. 8 years ago the ratio of 1/7 of the Mayank's age that time to ¼ of Susheel's age that time was 1 : 2.

Quantity I: Present age of Mayank

Quantity II: The age of Susheel 4 years ago

14. Quantity I: The diagonal of the square is $24\sqrt{2}$ cm. The area of the square is?

Quantity II: The perimeter of the square is 96 cm. Then the area of the square is?

15. The average weight of 39 Students in a class is 23. Among them Suresh is the heaviest while Sanjana is the lightest. If both of them are excluded from the class, the average remains same. The ratio of weight of Suresh to Sanjana is 15:8.

Quantity I: Twice the weight of Sanjana

Quantity II: 3/2 weight of Suresh

16. A bag contains, 5 white, 6 yellow and 3 black balls.

Quantity I: If 3 balls are drawn randomly, then find the probability of getting at least one yellow ball?

Quantity II: If 2 balls are drawn randomly, then find the probability of getting both the balls are either white or black?

17. Out of 14 applicants for a job, there are 6 women and 8 men. It is desired to select 2 persons for the job

Quantity I: Probability of selection if there is no woman

Quantity II: Probability of selection of at least one woman

18. Quantity I: 200 m long train can crosses a pole in 8 sec. The speed of the train is,

Quantity II: 175 m long train can crosses a platform of length 250 m in 25 sec. The speed of the train is,

19. Smallest side of a right-angled triangle is 13 cm less than the side of a square of perimeter 72 cm. The second largest side of the right angled triangle is 2 cm less than the length of the rectangle of area 112 cm^2 and breadth 8 cm.

Quantity I: 1.5 times of the second largest side of the right-angled triangle.

Quantity II: The Sum of Hypotenuse of the right-angled triangle and the smallest side.

20. Quantity I: Find the simple interest on Rs. 26000 for 2 years at 13 % per annum?

Quantity II: Find the compound interest on Rs. 26000 for 2 years at 12 % per annum?

Direction (21-30): In the given questions, two quantities are given, one as 'Quantity 1' and another as 'Quantity 2'. You have to determine relationship between two quantities and choose the appropriate option:

a. Quantity I> Quantity II

b. Quantity I < Quantity II

c. Quantity II ≥ Quantity I

d. Quantity II ≤ Quantity I

e. Quantity I = Quantity II or Relation cannot be established

21. Quantity I: Three coins are tossed, what is the probability of getting at least two head?

Quantity II: Two dice are thrown, what is the probability of getting sum of the two dice is multiple of 3?

22. Quantity I: The area of rectangular garden is 1715 Sq m. The length of the rectangular garden is 40 % more than the breadth. Find the perimeter of the garden?

Quantity II: The area of a square park is 1936 Sq m. Find the perimeter of the park?

23. Quantity I: The age of Mala 12 years ago if the ratio between Siva's present age and Mala's present age is 2:3. After four years their ratio will become 7:10.

Quantity II: The age of mother if the average age of the mother and her 3 children is 12 years which is reduced by 4 years if the age of the mother is excluded.

24. Quantity I: The average of 7 person's age is 42. The average of 3 of them is 38, while the average of the other 3 is 42. What is the age of the remaining member?

Quantity II: The average age of 6 consecutive even numbers is 57. Find the smallest number?

25. Quantity I: The age of the teacher, if the average age of 28 students is 15 years. When the age of the teacher be included, the average increases by 1.

Quantity II: 5 years ago, the ratio of age of A and B is 4: 1. If the difference between their ages is 30 years, then find the present age of A?

26. Quantity I: The difference between the simple interest and compound interest on a certain sum of money for 2 years at 9 % per annum is Rs. 121.50. Find the sum?

Quantity II: A certain sum of money invested for a period of 5 years at 6 % per annum, simple interest earned is Rs. 5400. Find the principle?

27. A bag contains 6 black toys, 8 violet toys and 4 yellow toys.

Quantity I: If 3 toys are drawn randomly, then the probability of getting 2 yellow toys and 1 black toys?

Quantity II: If 2 toys are drawn randomly, then the probability of getting both the toys is violet?

28. Quantity I: The ratio of speed of two trains is 3: 5. If the second train runs 350 km in 7 hours, then the speed of the first train is?

Quantity II: 150 m long train crosses a telegram post in 3 sec. Find the speed of the train?

29. Quantity I: A man covers a certain distance in 11 hours. He covers first half of a distance at 15 km/hr and second half of a distance at 18 km/hr, find the distance covered by him?

Quantity II: Two trains of equal length moves towards each other at a Speed of 40 km/hr and 35 km/hr respectively. If they crossing each other after 14.4 secs, then find the length of each train

30. If x and y are natural numbers and $5 > x > y > 0$.

Quantity I: $3x^2y$

Quantity II: $4xy^2$

Direction (31-40): In the given questions, two quantities are given, one as 'Quantity 1' and another as 'Quantity 2'. You have to determine relationship between two quantities and choose the appropriate option:

a. Quantity I> Quantity II

b. Quantity I < Quantity II

c. Quantity II ≥ Quantity I

d. Quantity II ≤ Quantity I

e. Quantity I = Quantity II or Relation cannot be established

31. The length of a rectangle wall is 3/2 times of its height. The area of the wall is 600m².

Quantity I: Height of the wall

Quantity II: Length of the wall

32. Quantity I: $x^2 - 26x + 168 = 0$

Quantity II: $y^2 - 29y + 210 = 0$

33. A basket contains 6 White 4 Black 2 Pink and 3 Green balls. If four balls are picked at random,

Quantity I: Probability that at least one is Black.

Quantity II: Probability that all is Black.

34. The value of a machine depreciates at 10% per annum

Quantity I: Value of machine after 2 years, if the present value of machine is Rs 96000

Quantity II: Distance travelled by a taxi in 1 year, if it travels at a constant speed of 40kmph and covers 213 kilometers everyday

35. Quantity I: Find the curved surface area of the cone of radius 7 cm and height 24 cm.

Quantity II: Find the curved surface area of the cylinder of radius 7 cm and height 12 cm.

36. Quantity I: Find the simple interest earned on Rs.2400 at the rate of 8% p.a. in 3 years.

Quantity II: Find the compound interest earned on Rs. 2800 at the rate of 10% p.a. compounded annually after 2 years.

37. Quantity I: Cost price, if a man reduces the selling price by Rs 12 and by this the profit of 5% converts to a loss of 2.5%

Quantity II: Cost Price, if a man increases the selling price by Rs 42 and by this the loss of 20% converts to a profit of 10%

38. There are 5 Brown balls, 4 Blue balls & 3 black balls in a bag .Four balls are chosen at random

Quantity I: The probability of their being 2 Brown and 2 Blue ball Quantity

Quantity II: The probability of their being 2 Brown, 1 Blue & 1 blacks

39. Suresh took a loan from bank at 12% p.a simple interest. After 3 years he had to pay back Rs. 16,200 as interest.

Quantity I: Loan taken by Suresh from the bank.

Quantity II: Amount after 2 years for a principal of Rs 35,000 at interest rate of 10% compounded annually.

40. A and B started a business with Rs 10,000 and Rs 15,000 respectively. After 6 months C joined them with Rs 20,000.

Quantity I: B′s share in total profit of Rs 4,00,000 at the end of 2 years.

Quantity II: Annual Salary of Rohit after tax deduction if he earns Rs 20,000 per month and pays a tax of 20% each month.

Direction (41-50): In the given questions, two quantities are given, one as 'Quantity 1' and another as 'Quantity 2'. You have to determine relationship between two quantities and choose the appropriate option:

a. Quantity I> Quantity II

b. Quantity I < Quantity II

c. Quantity II ≥ Quantity I

d. Quantity II ≤ Quantity I

e. Quantity I = Quantity II or Relation cannot be established

41. A can do a work in 16 days. B is 60% more efficient than A.

Quantity I: Time taken by A and B together to do the work.

Quantity II: Time taken by A and B to do the work together when A works at double his original efficiency and B works at half his original efficiency.

42. Quantity I: Find amount after 4 years, if rate of interest is 20% and the principal amount is Rs 8000

Quantity II: Find the amount after 4 years, if Rs 10,000 becomes Rs 12,000 in 2 years at compound interest.

43. Quantity I: Days in which B can complete work alone, if A and B can complete work in 40 days, B and C in 20 days and C and A in 30 days.

Quantity II: Days in which B can complete work alone, if A and B can complete work in 24 days and A is 50% more efficient than B.

44. Quantity I: Find the difference between the sum of roots and product of roots of the given equation.

$2x^2 - 14x + 50 = 0$

Quantity II: 24

45. Quantity I: Find the curved surface area of the cone of radius 7 cm and height 24 cm.

Quantity II: Find the curved surface area of the cylinder of radius 7 cm and height 12 cm.

46. Quantity I: Total surface area of cylinder who radius is 7 cm and height is 10 cm

Quantity II: Total surface area of cuboid whose dimensions are 10×12×15 cm

47. Quantity I: A and B can do a piece of work in 12 hours and 18 hours resp. resp. If both started to work on alternate days with B starting the work, find the total time taken to complete the whole work.

Quantity II: 15 hours

48. Quantity I: x, if $6x2 - 29x - 20 = 0$

Quantity II: y, if $6y2 + 13y - 15 = 0$

49. Quantity I: The time taken by the boatman to cover 48 km upstream and 60 km downtream is same. If the speed of the stream is 1.5 km/hr. find the distance covered by the boatman in still water in 8 hours.

Quantity II: 110 km

50. It takes (X-2) men to do a work in 2Y days and it takes (X+6) men to do the same work in Y days.

Quantity I: X

Quantity II: Y

Answer with Detailed Solution

Solution (1-10)

1. B

25% of (P – Q) = 15% of (P +Q)

25 /100 (P – Q) = 15/100 (P +Q)

25(p-Q) = 15(P+Q)

5(P-Q) = 3(P+Q)

5P – 5Q = 3P +3Q

2P = 8Q

P / Q = 4

p =4Q

Required percentage = (Q/P* 100)

= (Q /4Q *100)

=25%

Quantity II:

Dividing both the numerator and the denominator of the given equation

a+b/a – b = 8/7

(a/b + 1) / (a/b – 1) = 8/7

Cross multiplying this equation yields

7a/b + 7 = 8a/b -8

8a/b – 7a/b = 8+7

a/b = 15

now the percentage of a +7b the expression a -7b is

a-7b/a+7b * 100

dividing both the numerator and the denominator of the expression be b

= a/b – 7 / a/b +7 *100

= 15-7/15+7 *100

=8/22 *100

=36%

Quantity II > Quantity I

2. A

I: A=16 days ; B = 16 * 100/160=10 days

A+B together = 16*10/(26)=80/13 days

II: A = 16 days ; B = 10 days

A(double efficiency) = 8 days ; B(half efficiency) = 20 days

A+B together = 80/14

hence I > II

3. C

Divide both equations. So

I/II = 3x/4y

Or I = 3x/4y * II

Now y has to be > 0 and x has to be > y

If x = 2, y = 1, I > II

If x = 3, y = 1, I > II

Similarly we will get I > II in all cases

Now x has to be < 5,

So check If x = 4, y = 3, then I = II

So final we get I ≥ II

4. A

Quantity I — $SP = 400 \times \frac{80}{100} = 320$

$CP = \frac{300}{320} \times 320 = \text{Rs. } 300$

Quantity II — Let $CP = 100x$

$SP = 114x$

New $CP = 100x - 117$

New $SP = 114x - 117$

$\text{Profit percentage} = \frac{14x}{(100x-117)} \times 100 = 23$

$x = 2.99$, $CP = 299$ Rs.

Quantity I > Quantity II

5. B

Quantity I:

= 13/52 + 4/52 = 17/52

Quantity II:

9C3 = 84

= 4C1*5C2 + 4C2*5C1 +4C3*5C0

= 74

= 74/84

Quantity I<Quantity II

6. A

Quantity I :

4x^2 = 2704

X= 26

Perimeter = 2(26+104) =260m

Quantity II :

Required change = $2\pi(1.25r*1.35h) - 2\pi rh / (2\pi rh) *100$

=68.75%

Quantity I>Quantity II

7. A

Quantity I :

54+42 = 96 years

Quantity II:

12.05 *(x+45)= 12.5 *x +11.75*45

=>x=30

Quantity I> Quantity II

8. A

Quantity I:

226.08 = PR^2/100^2

=>P= 15700

Quantity II:

Amount = $5000 (1+(12/2)/100)^6$

=> 7093

Int=7093-5000=2093

Quantity I > Quantity II

9. E

X = 5, -1/7

Y = 7/2 , -4/2

Quantity I = Quantity II or cannot be established

10. E

Quantity 1: Since no. of article for SP is more than article o

∴ there will be loss.

$$\therefore \text{ Loss percentage} = \left[\frac{20-18}{20}\right] \times 100$$

$$= 10\%$$

Quantity 2: 10

Quantity 1 = Quantity 2

Solution (11-20)

11. B

Quantity I.

Volume of the cube = $(\sqrt{((\text{Surface area})/6)})^3 = (\sqrt{(216/6)})^3$

$= (6)^3 = 216$ cm³

Quantity II. Volume of cuboid = 8 × 9 × 13 = 936 cm²

Hence Quantity I < Quantity II

12. C

Quantity I:

x2 -17x + 72 = 0

x2 -9x-8x + 72 = 0

x(x-9)-8 (x-9)=0

(x-8) (x-9) =0

X=8, 9

Quantity II:

Y2 -13y + 40 =0

Y2 -8y-5y + 40 =0

Y(y-8) -5 (y-8) =0

(y-5) (y-8)=0

Y= 5, 8

x ≥ y

13. E

Present age of Mayank is 9x, Susheel is 10x.

Let 8 years ago, Mayank's age was (9x-8) & Susheel's age was (10x-8).

[1/7 (9x-8)]/[1/4(10x-8)]=1/2

=> x= 4

Hence Mayank's age = 9 x 4 = 36

Susheel's age = 10 x 4 = 40

Quantity I: Present age of Mayank = 36

Quantity II: The age of Susheel 4 years ago = 40 – 4 = 36

14. E

Quantity I:

The diagonal of the square = 24√2 cm

The area of the square = (1/2)*(diagonal)2

= > (1/2)*(24√2)2

= > (1/2)*24*24*2

= > 576 Sq cm.

Quantity II:

The perimeter of the square = 96 cm

4a = 96

Side (a) = 96/4 = 24 cm

The area of the square = a2 = 242 = 576 Sq cm.

Quantity I = Quantity II

15. B

S + T = 23*(39-37) = 46

S/T = 15/8

T = 16

S = 30

Quantity I: 16*2 = 32 kg

Quantity II: 30*3/2 = 45 kg

Quantity I < Quantity II

16. A

Total no of balls = 5 + 6 + 3 = 14 balls

Quantity I:

n(S) = 14C3 = (14*13*12)/(1*2*3)

The probability of getting at least one yellow ball = 1- P (None is yellow ball)

P (None is yellow ball)

n(E) = 8C3 = (8*7*6)/(1*2*3)

P(E) = n(E)/n(S) = 8C3 /14C3

= > [(8*7*6)/(1*2*3)] / [(14*13*12)/(1*2*3)]

= > 2/13

Required probability = 1- (2/13) = 11/13

Quantity II:

n(S) = 14C2 = (14*13)/(1*2)

n(E) = Probability that both the balls are either white or black

n(E) = 5C2 or 3C2

P(E) = n(E)/n(S)

= > [5C2 or 3C2] / 14C2

= > [10 + 3] / [(14*13)/(1*2)]

= > (13*2)/(14*13) = 1/7

Quantity I > Quantity II

17. B

n(s) = 14C2 = 91

Quantity I: No women means selection of man only = 8C2 = 14

Probability of selection if there is no woman = 14/91

Quantity II: Probability of selection of at least one woman = 1 – 14/91 = 77/91

Quantity I < Quantity II

18. A

Quantity I:

Speed = Distance/Time

= > 200/8

= > 25 m/sec

The speed of the train = 25 m/sec

Quantity II:

Distance = Length of train + Platform length = 175 + 250 = 425 m

Speed = 425/25 = 17 m/sec

Quantity I > Quantity II

19. E

Side of square = 72/4 = 18 cm

Smallest side of the right angled triangle = 18 – 13 = 5 cm

Length of rectangle = 112/8 = 14 cm

Second side of the right angled triangle = 14 – 2 = 12 cm

Hypotenuse of the right angled triangle = √(25 + 144) = 13cm

Quantity I: 12*1.5 = 18 cm

Quantity II: 5 + 13 = 18 cm

20. A

Quantity I:

S.I = P*n*r/100

S.I = (26000*2*13)/100 = Rs. 6760

Quantity II:

C.I:

26000*(12/100) = 3120

29120*(12/100) = 3494.4

C.I = 3120 + 3494.4 = Rs. 6614.4

Quantity I > Quantity II

Solution (21-30)

21. A

Quantity 1: Total possible outcomes =2^3=8 i.5 HHH, HHT, HTH, HTT, THH, THT, TTH and TTT.

Number of desired outcome=4

Required probability = 4/8 = 1/2

Quantity 2: Total possible outcomes =6^2=36

Number of desired outcomes = [(1, 2), (1, 5), (2, 1), (2, 4), (3, 3), (3, 6), (4, 2), (4, 5), (5, 1), (5, 4), (6, 3) (6, 6)] = 12

Required probability =12/36= 1/3

Quantity 1 > Quantity 2

22. B

Quantity I:

The area of rectangular garden= 1715 Sq m

Length = (140/100)*breadth

l/b = 7/5 = > l : b = 7 : 5

7x*5x = 1715

35x2 = 1715

X2 = (1715/35) = 49

X = 7

Length = 49 m, Breadth = 35 m

Perimeter of the garden = 2*(l + b) = 2*(49 + 35) =2*84 = 168 m

Quantity II:

The area of a square park = 1936 Sq m

Area (a2) = 1936

Side (a) = 44

Perimeter of the park = 4a = 4*44 = 176 m

Quantity II > Quantity I

23. E

Quantity 1:

(2x+4)/(3x+4)=7/10

=> 20x+40=21x+28

=>x=12 years

Mala's present age =3×12=36 years

Mala's age 10 years ago = 36 - 12 = 24 years

Quantity 2: The age of mother = (4*12 - 3*8) = 24 years

Quantity 1 = Quantity 2

24. A

Quantity I:Total age of 7 persons = 42*7 = 294Total age of 3 persons = 38*3 = 114Total age of other 3 persons = 42*3 = 126The age of the remaining member = 294 – (114 + 126) = 54

Quantity II:

Let the consecutive even numbers be, x, x + 2, x + 4, x + 6, x + 8, x + 10.

x + x + 2 + x + 4 + x + 6 + x + 8 + x + 10 = 57*6

6x + 30 = 342

6x = 312

X = 312/6 = 52

Quantity I > Quantity II

25. B

Quantity I:Total age of 28 students = 28*15 = 420Total age of 28 students + 1 teacher = 29*16 = 464The age of the teacher = 464 – 420 = 44 years(Or)Shortcut:

N	Average
28	15
29	16

The age of the teacher = (28 + 16) or (29 + 15) = 44 years

Quantity II:

5 years ago, the ratio of age of A and B = 4: 1(4x, x)

According to the question,

4x – x = 30

3x = 30

X = 10

The present age of A = 4x + 5 = 45 years

Quantity II > Quantity I

26. B

Quantity I:The difference between the simple interest and compound interest for 2 years,Diff = Sum*(r/100)2121.50 = Sum*(9/100)2(121.50*100*100)/81 = Sum= Rs. 15000

Quantity II:

1. I = Pnr/100

5400 = (P*5*6)/100

(5400*100)/30 = P

Principle = Rs. 18000

Quantity II > Quantity I

27. B

Quantity I:

Total probability n(S) = 18C3

Required probability n(E) = 4C2 and 6C1P(E) = n(E)/n(S) = 4C2 and 6C1 / 18C3= > 3/68

Quantity II:

Total probability n(S) = 18C2

Required probability n(E) = 8C2

P(E) = n(E)/n(S) = 8C2 / 18C2

= > 28/153

Quantity II > Quantity I

28. B

Quantity I:The ratio of speed of two trains = 3: 5 (3x, 5x)The speed of second train = 350/7 = 50 km/hr5x = 50X = 10The speed of first train = 3x = 30 km/hr

Quantity II:

The speed of the train = 150/3 = 50 m/s = 50*(18/5) = 180 km/hr

Quantity II > Quantity I

29. A

Quantity I:Let the distance be x, According to the question, T = D/S(x/2)/15 + (x/2)/18 = 11x/30 + x/36 = 11

66x/(30*36) = 11

X = 180 km

The distance covered by him is 180 km

Quantity II:

Let the train length be x,

14.4 = (x + x)/[(40 + 35)*(5/18)]

14.4 = (2x*18)/(75*5)

(14.4*75*5)/36 = x

X = 150 m

Quantity I > Quantity II

30. C

Divide both equations. So

I/II = 3x/4y

Or I = 3x/4y * II

Now y has to be > 0 and x has to be > y

If x = 2, y = 1, I > II

If x = 3, y = 1, I > II

Similarly we will get I > II in all cases

Now x has to be < 5,

So check If x = 4, y = 3, then I = II

So final we get I ≥ II

Solution (31-40)

31. A

Length = 3x height = 2x

Area of the wall = 3x * 2x = $6x^2$ = 600

Length = 30 & Height = 20

32. D

$x^2 – 26x + 168 = 0$

x = 12, 14

$y^2 – 29y + 210 = 0$

y = 14, 15

33. A

Total Balls = 15

Probability = 11c4/15c4 = 22/91

One is black = 1 – 22/91 = 69/91

34. E

Value of machine after 2 years = 96000*90/100*90/100= Rs 77,760

II: Here we do not need speed, as we can find the total distance travelled by the everyday distance.

If the year is leap year then total distance travelled = 213*366= 77,958 km

if non leap year then =213*365 = 77,745 km

hence relation cannot be established.

35. A

From I: CSA = (22/7)*7*[7^2 + 24^2]^1/2 = 550 cm^2

From II: CSA = 2*(22/7)*7*12 = 528 cm^2

I > II

36. B

From I: S.I. = (2400*8*3)/100 = Rs.576

From II: C.I. = 2800*[(1.1)^2 – 1] = Rs. 588

I < II

37. A

I:	CP	SP
Gain= 5% = 1/20	20	(20+1) = 21 ……..(1)
Loss = 2.5% = 1/40	40	(40-1)=39 …..……..(2)

Multiply (1) by 2 to make CP same in both

So from (1) CP = 40, SP = 42

Now difference in SP = 42-39 = 3

So 3== 12

1 == 4

So 40 == 160

II: Similarly do II part

.	CP	SP
Loss= 20% = 1/5	5	4 ……..(1)
Gain = 10% = 1/10	10	11 …..……..(2)

Multiply (1) by 2 to make CP same in both

So from (1) CP = 10, SP = 8

Now difference in SP = 11-8 = 3

So 3== 42

1 == 14

So 10 == 140

So I > II

38. B

I. (5c2 * 4c2)/12c4 = 60/495=4/33

II. (5c2 * 4c1 *3c1)/12c4 =120/95=8/33

39. A

I: P=16200*100/(3*12)=Rs 45,000

II: A= 35000*121/100=Rs 42,350

Hence I > II

40. B

I: A:B:C = 10000*24 : 15000*24 : 20000*18=2:3:3

B=3/8 *4,00,000= Rs 1,50,000

II: Salary after deducation = 20,000*12*80/100 = Rs 1,92,000

Hence I < II

Solution (41-50)

41. A

I: A=16 days ; B = 16 * 100/160=10 days

A+B together = 16*10/(26)=80/13 days

II: A = 16 days ; B = 10 days

A(double efficiency) = 8 days ; B(half efficiency) = 20 days

A+B together = 80/14

hence I > II

42. B

I: SI = 20*4 = 80%

100% = 8000

180% = Rs 14400

II.

10000 : 12000 :: 12000 : x

x = 12000*12000/10000 = Rs 14400

II>I

43. B

I:

A + B = 40……..3

B + C = 20……6 ……..(LCM = 120)

C+ A = 30…….4

Total = 2 (A+B+C) = 3+6+4 = 13

So A+B+C = 13/2

(A+B+C) – (B+C) = 13/2 – 4 = 5/2

So B can complete work in 120/(5/2) = 48 days

II: Efficiency A …….. B = 3 : 2

So days = 2 …. 3

LCM of 2 and 3 is 6

A = 2……6/2 = 3

B = 3……6/3 = 2

Total A+B = 3+2 = 5

So 6/5 == 24

So 1 == 20

So 3 == 60

So II > I

44. B

From I: y = 2x^2 – 14x + 50

sum of roots = -b/a = 14/2 = 7

Product of roots = c/a = 50/2 = 25

Required Difference = 25 – 7 = 18

I < II

45. A

From I: CSA = (22/7)*7*[7^2 + 24^2]^1/2 = 550 cm^2

From II: CSA = 2*(22/7)**12 = 528 cm^2

I > II

46. B

I: 2πr(r+h) = 748 cm2

II: 2 (lb+bh+lh) = 900 cm2

47. B

From I: Total work = 36 units

Units of work done by A and B in one hour resp. = 3 units and 2 units

Work done by both of them in two hours = 5 units

Work done by both of them in 14 hours = 7*5 = 35 units

Remaining work = 36 – 35 = 1 unit

Time taken by B to complete the remaining work = ½ hours

Time taken to complete the work = 14.5 hours

I < II

48. C

x = 5/6, 4

y = -3, 5/6

49. B

From I: Let the speed of the boat in still water be x km/hr.

48/(x – 1.5) = 60/(x+1.5)

=> x = 13.5 km/hr.

Required distance = 13.5*8 = 108 km

I < II

50. E

As the time is becoming half so means number of people have doubled; So (X+6)=2*(X-2)=>X=10

Using M1D1=M2D2 the value of Y cannot be found. Y can take any value. So we cannot determine a unique value of Y