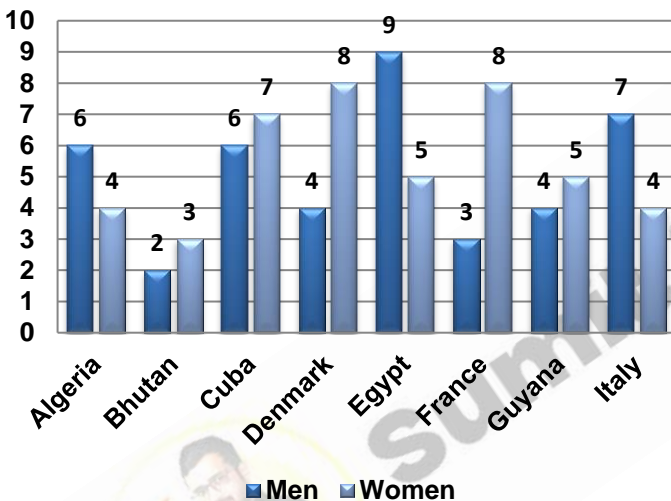
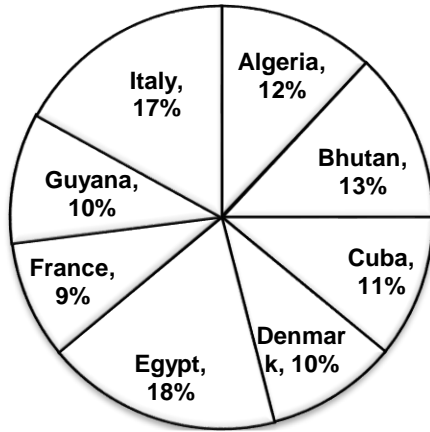


**Quantitative Aptitude**

**Directions (1-5):** Study the following bar charts carefully and answer the following questions.

The bar-chart shows the percentage distribution of total population among different countries in world and another bar graph shows the ratio of men to women among them

**Total Population = 45670000**



- What is the total number of men population in Denmark, Egypt and Guyana? (Approximately)  
 (1) 1882154 (2) 7865152 (3) 8826782  
 (4) 7965462 (5) None of these
- What is the total population from Algeria, Bhutan and Egypt?  
 (1) 19638100 (2) 14916990  
 (3) 89756335 (4) 18769851  
 (5) None of these
- What is the ratio of men population in Egypt to women population in Guyana? (Approximately)  
 (1) 129: 520 (2) 688: 450 (3) 350: 259  
 (4) 729: 350 (5) None of these
- The number of men population in Denmark, Egypt and France is what percent of total number of population in the all countries together?  
 (1) 45 (2) 17 (3) 34  
 (4) 76 (5) 98
- What is the total number of women population in France, Guyana and Italy?

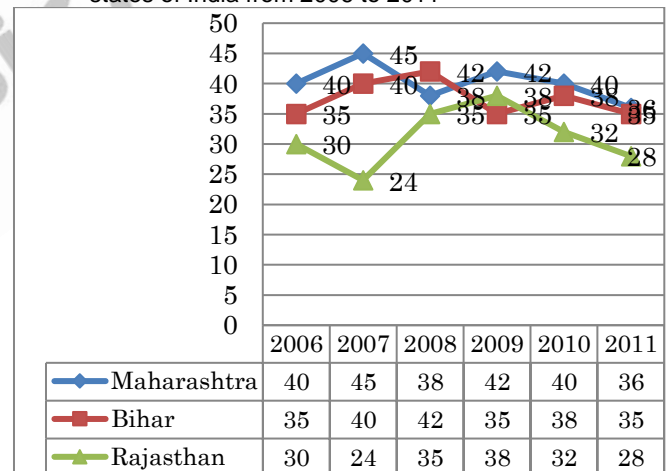
- (1) 1745465 (2) 2189664 (3) 8634852  
 (4) 2587776 (5) 8349767

**Directions (6-10):** In each of these questions, two equations (I) and (II) are given. Solve both the equations and give answer  
 (a) if  $a > b$  (b) if  $a < b$  (c) if  $a \geq b$   
 (d) if  $a \leq b$  (e) if  $a = b$  or no relation can be established between 'a' and 'b'.

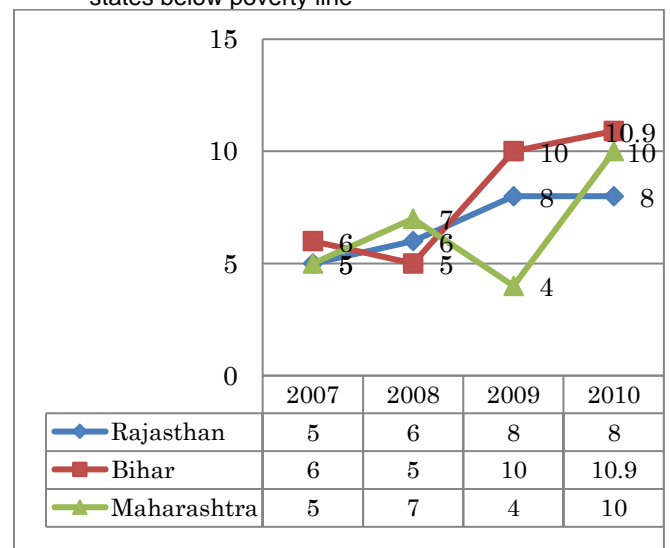
- I.  $a - 7\sqrt{3a} + 36 = 0$  II.  $b - 12\sqrt{2b} + 70 = 0$   
 (1) a (2) b (3) c  
 (4) d (5) e
- I.  $10a + 6b = 13$  II.  $45a + 24b = 56$   
 (1) a (2) b (3) c  
 (4) d (5) e
- I.  $1.63a - 194\sqrt{a} + 143 = 0$  II.  $99b - 255\sqrt{b} + 150 = 0$   
 (1) a (2) b (3) c  
 (4) d (5) e
- I.  $1.16a^2 - 40a - 39 = 0$  II.  $12b^2 - 113b + 255 = 0$   
 (1) a (2) b (3) c  
 (4) d (5) e
- I.  $a^2 - 7\sqrt{7a} + 84 = 0$  II.  $b^2 - 5\sqrt{5b} + 30 = 0$   
 (1) a (2) b (3) c  
 (4) d (5) e

**Directions (11-15):** Study the following graph and answer the questions given below:

Percentage of population below poverty line in different states of India from 2006 to 2011



The chart shows the sex ratio per 10 males in different states below poverty line



11. The population of Maharashtra in the year 2007 is 40 lakh. If there is an annual growth of 10% in the population of Maharashtra from year 2007 to 2009 then what is the percentage increase or decrease in the number of males below poverty line in the year 2009 with respect to that in the year 2007?  
 (1) 21% increase (2) 45% increase  
 (3) 65% increase (4) 76% decrease  
 (5) None of these
12. What is the percentage of the population below poverty line in the year 2008 in Bihar with respect to that in all the years from 2006-2011?  
 (1) 98.66% (2) 87.33% (3) 36.66%  
 (4) 28.66% (5) Can't be determined
13. If the population of Bihar and Maharashtra in the year 2010 was 55 lakh and 62 lakh respectively then what will be the ratio of the females below poverty line in Bihar to that of the females below poverty line in Maharashtra in the year 2010?  
 (1) 78:91 (2) 23:34 (3) 109:124  
 (4) 77:77 (5) None of these
14. If there is an increase of 10% in the population of Rajasthan in the year 2008, then how many females are there who are below poverty line in that state in the year 2007, if the population in 2008 was 55 lakh in that state?  
 (1) 4 lakh (2) 6 lakh (3) 5 lakh  
 (4) 3 lakh (5) None of these
15. If in the year 2010 the population of Rajasthan, Bihar and Maharashtra was 60 lakh, 55 lakh and 62 lakh respectively, then what is the total population below poverty line in the year 2010 in all three states?  
 (1) 99.60 lakh (2) 64.9 lakh (3) 35.9 lakh  
 (4) 23.50 lakh (5) None of these
- Directions (16-20):** In each of the following questions, a question is followed by two statements. Read all the statements and find that which statements are required to answer the question and answer accordingly.
16. There are two cylindrical rollers – bigger and smaller. How many rotations will the bigger roller take to flatten a stretch of land(X)?  
 I. The respective ratio of the radii of the bigger and the smaller roller is 7:3. Both the rollers are of the same length.  
 II. The smaller takes 63 rotations to flatten the stretch of land(X).  
 (1) Either I or II (2) Neither I nor II (3) Only II  
 (4) Only I (5) Both are required
17. What was the total compound interest on a sum after three years?  
 I. The interest after one year was Rs. 100 and the sum was Rs. 1000.  
 II. The difference between simple interest and compound interest on a sum of Rs. 1000 at the end of two years was Rs. 10.  
 (1) Only II (2) Only I  
 (3) Either I or II (4) Neither I nor II  
 (5) Both I and II
18. What is the marked price of the pen?  
 I. The marked price of the pen is 20% above the cost price of the pen.  
 II. When a discount of 25% is given on the marked price of the pen, the loss incurred is 10%. The cost price of the pen is Rs.300.
- (1) Both I and II (2) Only I  
 (3) Neither I nor II (4) Only II  
 (5) Either I or II
19. In how many days, men A, B and C together can finish the same piece of work  
 I. A and B can together finish the same piece of work in 6 days. B and C together can finish the same piece of work in 12 days. C and A can finish the same piece of work in 10 days.  
 II. The time taken by A alone to finish the same piece of work is 24 days less than time taken by C alone to finish the same piece of work.  
 (1) Only I (2) Either I or II  
 (3) Neither I nor II (4) Only II  
 (5) Both I and II
20. In a certain village is losing 12% of its water supply each day because of a burst water pipe, then what is the loss in rupees per day?  
 I. The cost to the village for every 24000 gallons of water lost is Rs. 25.  
 II. The daily water to the village is 700 m gallon.  
 (1) Neither I nor II (2) Either I or II (3) Only II  
 (4) Both I and II (5) None of these
21. Nagar started a certain business investing Rs.12500 in 2015. In 2016 he invested an additional amount of Rs.5000 and sekar joined him with an amount of Rs.17500. In 2017, Kagar invested another additional amount of Rs.5000 and Dhivagar joined them with an amount of Rs.17500. what will be the sekar share in the profit of Rs.75000 earned at the end of 3 years from the start of the business in 2015?  
 (1) Rs.22000 (2) Rs.21000 (3) Rs.24000  
 (4) Rs.25000 (5) None of these
22. A vendor mixes 3 varieties of Bengal gram costing Rs.150, Rs.60 and Rs.90 per kg in the ratio 4:6:5 in terms of weight and sells the mixture at Rs.100 per kg. What percentage of profit does he make?  
 (1) 3.7% (2) 4.8% (3) 5.6%  
 (4) 6.3% (5) None of these
23. The ratio between the current ages of Ranveer and Nikitha is 7:5 respectively. The ratio between Ranveer's age 6 years ago and Nikitha's age 6 years hence is 3:3. What is the ratio between Ranveer's age 6 years hence and Nikitha's age 6 years ago?  
 (1) 2:1 (2) 3:1 (3) 5:3  
 (4) 7:2 (5) None of these
- Directions (24-28):** In the given table data is given about the shop. Some Mobile are sold by a shop. Some data is missing. Study the table carefully and answer the questions based on data in table and particular questions.
- |          | Discount | C.P.  | S.P.  | Market Price | Profit | Loss | Profit% | Loss% | Discount % |
|----------|----------|-------|-------|--------------|--------|------|---------|-------|------------|
| Samsung  | -        | -     | -     | 50000        | -      | 20%  | -       | -     | 40%        |
| Apple    | 500      | 1800  | -     | -            | -      | -    | -       | -     | 20%        |
| Nokia    | -        | -     | -     | -            | 2000   | -    | 10%     | -     | 20%        |
| Sony     | -        | -     | 25000 | 40000        | -      | -    | 25%     | -     | -          |
| Motorola | -        | -     | 20000 | -            | -      | -    | 25%     | -     | 20%        |
| HTC      | -        | 10000 | -     | 20000        | -      | -    | 20%     | -     | -          |
24. What is the ratio of the cost price of Sony and cost price of Motorola?  
 (1) 1:2 (2) 6:3 (3) 4:4  
 (4) 5:4 (5) None of these

25. Market Price of Nokia is how much percent more than the cost price of Nokia?  
 (1) 37.5% (2) 98.5% (3) 22.0%  
 (4) 82.7% (5) 32.6%
26. What is the ratio between the percentage of profit and percentage of discount on Sony?  
 (1) 1:2 (2) 5:5 (3) 4:6  
 (4) 4:11 (5) 2:3
27. Selling Price of Apple is what percent of cost price of Samsung?  
 (1) 7.6% (2) 55.2% (3) 5.3%  
 (4) 13.4% (5) None of these
28. What is the amount (in Rupees) of profit of shop by selling all Mobiles?  
 (1) 6888 (2) 5700 (3) 7000  
 (4) 2340 (5) 8000
- Directions (29-33):** In the following number series only one number is wrong. Find out the wrong number.
29. 106, 86, 61, 31, 1, -44, -89  
 (1) 1 (2) 86 (3) -44  
 (4) 61 (5) -89
30. 5532, 5507, 5426, 5305, 5136, 4911, 4622  
 (1) 5532 (2) 5426 (3) 4622  
 (4) 5136 (5) 5507
31. 26, 24, 28, 20, 35, 4, 68  
 (1) 24 (2) 4 (3) 28  
 (4) 20 (5) 35
32. 3, 5, 10, 21, 44, 90, 186  
 (1) 44 (2) 10 (3) 21  
 (4) 90 (5) 5
33. -10, -9, -10, -3, 52, 385, 2536  
 (1) -9 (2) -3 (3) 52  
 (4) 385 (5) 2536
34. The barrel of a Ink pen is cylindrical in shape which radius of base as 0.12 cm and is 7 cm long. One such barrel in the pen can be used to write 450 words. A barrel full of ink which has a capacity of 17 cu. cm can be used to write how many words approximately?  
 (1) 15423 (2) 21342 (3) 17645  
 (4) 24147 (5) None of these
35. 12 liters are drawn from a cask full of wine and is then filled with water. This operation is performed three more times. The ratio of the quantity of wine now left in cask to that of the water is 81: 256. How much wine did the cask originally hold?  
 (1) 32 (2) 24 (3) 40  
 (4) 27 (5) 48
36. Faucet 'P' can fill the tank completely in 12 hrs while faucet 'Q' can empty it by 24 hrs. By mistake, Anitha forgot to close the faucet 'Q', As a result, both the faucet remained open. After 8 hrs, Anitha realized the mistake and immediately closed the faucet 'Q'. In how much time now onwards, would the tank be full?  
 (1) 4 (2) 8 (3) 12  
 (4) 16 (5) None of these
37. A train overtakes two girls walking along a railway track. The first girl walks at 9 km/hr. The other girl walks at 10.8 km/hr. The train needs 16.8 and 17 seconds respectively to overtake them. What is the speed of the train if both the girls are walking in the same direction as the train?  
 (1) 25 m/s (2) 45 m/s (3) 30m/s  
 (4) 40m/s (5) None of these
38. The average marks scored by two Classes A1 and A2 students are 120 and 130 respectively. If 8 students are moved from Class A2 to Class A1 and the average marks of the two Classes get interchanged. Find the total number of students in two Classes put together, if the average marks scored by the 8 students who moved is 150  
 (1) 25 (2) 30 (3) 35  
 (4) 40 (5) None of these
39. 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?  
 (1) 14.5% loss (2) 15% loss  
 (3) 14.5% Profit (4) 15% Profit  
 (5) None of these
40. Agalya and Bhairavi enter into a partnership and Agalya invests Rs 14000 in the partnership. At the end of 3 months she invests Rs 5000. At the end of another 4 months, she invests Rs 6000 additionally. If Bhairavi invests a certain sum in the partnership at the beginning of the year and leaves it and receives Rs 9720 as her share if the total of Rs 31320 a year, how much did Bhairavi invest in the company?  
 (1) 37850 (2) 42500 (3) 41400  
 (4) 35478 (5) None of these
41. 3 faucets A, B and C can fill a cistern from empty to full in 45mins, 35mins, and 25 mins respectively. When the cistern is empty all the 3 faucets are opened. A, B and C discharge chemical solutions A, B and C respectively. What is the proportion of solution C in the liquid in the tank after 5 mins?  
 (1) 63/143 (2) 72/151 (3) 67/173  
 (4) 81/167 (5) None of these
42. A person closes his account in an investment scheme by withdrawing Rs.10000. One year ago, he had withdrawn Rs. 6000. Two years ago, he had withdrawn Rs. 5000. Three years ago, he had not withdrawn any money. How much money had he deposited approximately at the time of opening the account 4 years ago, if the annual compound interest is 10%?  
 (1) 15500 (2) 16500 (3) 17280  
 (4) 16780 (5) None of these
43. A bus and a truck are available to cross a jungle. The speed of the truck is thrice that of the bus. The capacity of the truck is 60 persons and that of bus is 40 persons. The average occupancy of the bus is twice that of the truck. The tickets for the bus and the truck cost Re 1 and Re 1.50 respectively. What is the ratio of the average rupee collection of the truck to that of the bus in a day? Assume there is no wastage time between trips and the occupancy of the bus/truck is defined as the ratio of the actual number of persons boarding it and its capacity.  
 (1) 9:17 (2) 17:9 (3) 8:27  
 (4) 27:8 (5) None of these
44. A van travels from namakkal to Madurai at a constant speed. If its speed were increased by 40km/hr it would

have taken 1 hr lesser to cover the distance. It would have taken further 45 mins lesser if the speed was further increased by 40km/hr. what is distance between the 2 cities.

- (1) 1680                      (2) 1660                      (3) 1670  
(4) 1675                      (5) None of these

45. A officer undertakes to complete a job in 250 days. He employs 300 male for 50 days and they complete 1/2 of the work. He then reduces the number of male to 100, who work for 120 days, after which there are 20 days holidays. How many male must be employed for the remaining period to finish the work?  
(1) 25                      (2) 50                      (3) 45  
(4) 35                      (5) None of these

**Directions (46-50):** What approximation value will come in place of question mark (?) in the given questions? (You are not expected to calculate the exact value.)

46.  $105.27\%$  of  $1200.11 + 11.80\%$  of  $2360.85 = 21.99\%$  of ? +  $1420.99$

- (1) 500                      (2) 240                      (3) 310  
(4) 550                      (5) 960

47.  $0.98\%$  of  $7824 + 4842 / 119.46 - ? = 78$   
(1) 30                      (2) 60                      (3) 40  
(4) 50                      (5) 70

48.  $(41.99^2 - 18.04^2) / ? = (13.11)^2 - 138.99$   
(1) 48                      (2) 12                      (3) 72  
(4) 84                      (5) 128

49.  $(24.96)^2 / (34.11 / 20.05) + 67.96 - 89.11 = ?$   
(1) 884                      (2) 346                      (3) 252  
(4) 424                      (5) 366

50.  $\sqrt{(2025.11)} \times \sqrt{(256.04)} + \sqrt{(399.95)} \times \sqrt{?} = 33.98 \times 40.11$   
(1) 1682                      (2) 1024                      (3) 1582  
(4) 678                      (5) 1884

SPACE FOR ROUGH WORK



Sumit Sir Academy