

# IBPS Clerks

## Practice Test 7

### QUANTITATIVE APTITUDE

**Directions (Q. 91-95):** What will come in place of question mark (?) in the following questions.

1.  $455\frac{34}{29} + 189\frac{31}{58} + 329\frac{47}{58} - 468\frac{59}{116} + 529\frac{22}{29} - 220 = ?$   
 1)  $738\frac{231}{209}$                       2)  $816\frac{89}{116}$   
 3)  $647\frac{321}{172}$                       4)  $814\frac{111}{116}$   
 5)  $660\frac{321}{151}$
2.  $\sqrt{9604} + (474552)^{\frac{1}{3}} - (6084)^{\frac{1}{2}} + (405224)^{\frac{1}{3}} - \sqrt{5476} + \sqrt[3]{12167} = ?$   
 1) 119                              2) 201  
 3) 121                              4) 117  
 5) 205
3.  $(2.5)^{5.4} \times (625)^{2.7} \times (18)^{2.4} \times (324)^{4.2} = ?$   
 1)  $(450)^{10.8}$                       2)  $(430)^{10.8}$   
 3)  $(250)^{3.8}$                       4)  $(350)^{9.5}$   
 5)  $(380)^{9.5}$
4.  $(64)^{0.15} \times (32)^{0.02} \times (144)^{0.38} \times (1728)^{0.08} = ?$   
 1) 27                              2) 25  
 3) 23                              4) 24  
 5) 22
5.  $\frac{3}{5}$  of 1275 + 65% of 750 = ? - 1162.5  
 1) 7                              2) 18  
 3) 90                              4) 23  
 5) 25

**Directions (Q. 96-100):** What approximate value should come in place of question mark (?) in the following questions? (Note: You are not expected to calculate the exact value.)

6.  $23.079 \times 5.2 + 24.785 \times 1.2 - 32.912 \times 4.7 - 35 \times 1.02 + 97.09 \times 4.2 = ?$   
 1) 315                              2) 326  
 3) 337                              4) 348  
 5) 368
7.  $68\% \text{ of } 4096 + 72\% \text{ of } 5120 - 23\% \text{ of } 6931 - 17\% \text{ of } 1341 = ?$   
 1) 4650                              2) 5650  
 3) 7837                              4) 4390  
 5) 7412
8.  $35\sqrt{50} + 37\sqrt{128} + 39\sqrt{18} + 41\sqrt{98} - 51\sqrt{32} + 3\sqrt{3} = ?$   
 1) 917                              2) 945  
 3) 924                              4) 997  
 5) 988
9.  $9696 \div 101 + 324.01 \times 9.28 - 35.06 = ?$   
 1) 3121                              2) 3074  
 3) 3568                              4) 3708  
 5) 3379
10.  $(12121 \div 101) \times (42424 \div 51) + (35353 \div 21) - (74747 \div 31) = ?$   
 1) 82176                              2) 85341  
 3) 92378                              4) 99112  
 5) 94591

**Directions (Q. 101-105):** In each of these questions a number series is given. In each series only one number is wrong. Find the wrong number.

11. 3 16 19 46 55 92 105  
 1) 3                              2) 19  
 3) 46                              4) 92  
 5) 105
12. 3 12 30 60 108 168 252  
 1) 12                              2) 30  
 4) 108                              4) 168  
 5) 252
13.  $\frac{1}{3} \quad \frac{1}{2} \quad \frac{3}{5} \quad \frac{2}{3} \quad \frac{6}{7} \quad \frac{6}{8} \quad \frac{8}{9}$

- 1)  $\frac{1}{3}$                       2)  $\frac{1}{2}$   
 3)  $\frac{3}{5}$                       4)  $\frac{2}{3}$   
 5)  $\frac{6}{7}$

14. 10 21 36 56 78 105 136

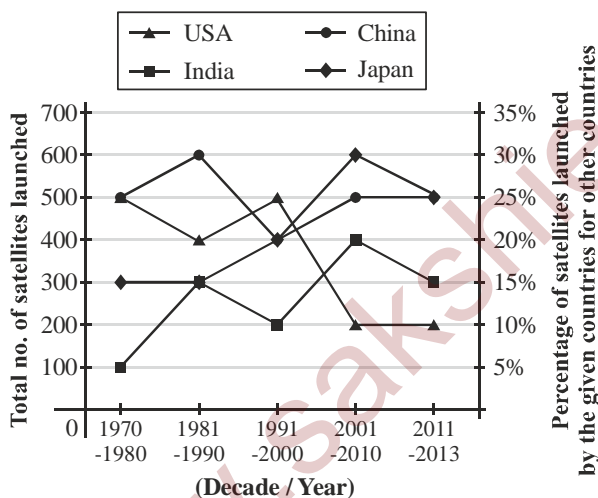
- 1) 10                      2) 56  
 3) 78                      4) 105  
 5) 136

15. 100 80 64 51.2 40.5 32.768 26.2144 20.97152

- 1) 40.5                      2) 64  
 3) 32.768                      4) 26.2144  
 5) 20.97152

**Directions (Q. 106-110): Study the following graph carefully and answer the questions given below:**

The graph shows the number of satellites launched by four different countries and the percentage of satellites launched by the given countries for the use of other countries.



16. For 1991-2000 what was the ratio of satellites launched by Japan for other countries to the no. of satellites launched by the USA for other countries?

- 1) 6:11                      2) 16:25  
 3) 7:15                      4) 5:9  
 5) 8:7

17. In which of the following periods the difference between the total satellites launched by India and the satellites launched for other countries by India was the maximum?

- 1) 2001-10                      2) 1981-90  
 3) 1970-80                      4) 2011-13  
 5) 1991-2000

18. What is the total number of satellites launched

for other countries during 2011-13?

- 1) 295                      2) 300  
 3) 315                      4) 320  
 5) 325

19. What is the ratio of the total no. of satellites launched for other countries during 1970-80 to that during 1991-2000?

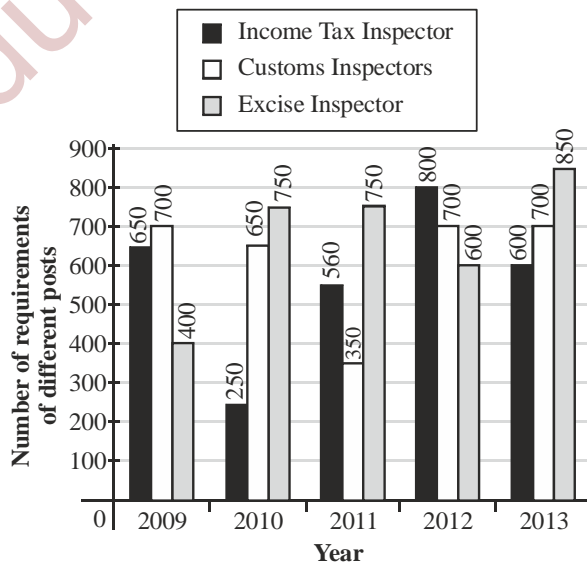
- 1) 65:66                      2) 62:63  
 3) 60:61                      4) 37:47  
 5) 2:3

20. Which country(s) launched most satellites during the entire given period?

- 1) USA  
 2) India  
 3) Both India and Japan  
 4) Japan  
 5) China

**Directions (Q. 111-115): Study the following bar-graph and table carefully and answer the questions given below:**

**The number of recruitments for various posts (Income Tax Inspector, Customs Inspector and Excise Inspector) in different years.**



The table shows the percentage of different posts in various categories in different years.

	Income Tax Inspector				Customs Inspector				Excise Inspector			
	Gen	OBC	SC	ST	Gen	OBC	SC	ST	Gen	OBC	SC	ST
2009	54	28	12	6	52	25	16	7	50	36	10	4
2010	42	36	14	8	48	30	15	7	46	36	14	4
2011	51	30	15	4	46	38	10	6	52	26	16	6
2012	60	22	12	6	58	23	14	5	54	28	12	6
2013	55	24	16	5	55	27	12	6	60	18	14	8

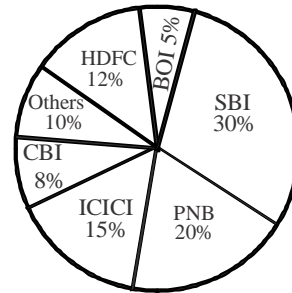
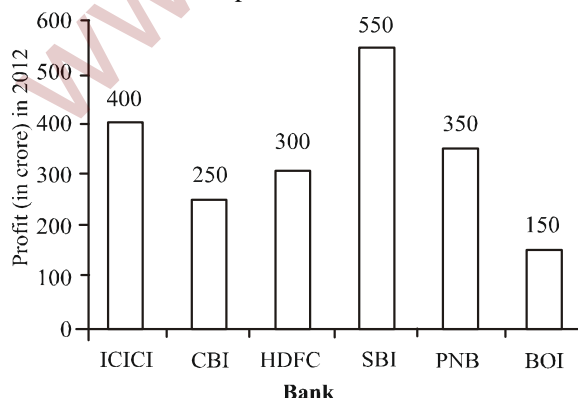
21. In which year the number of SC candidates

selected for the post of Income Tax Inspector is the maximum?

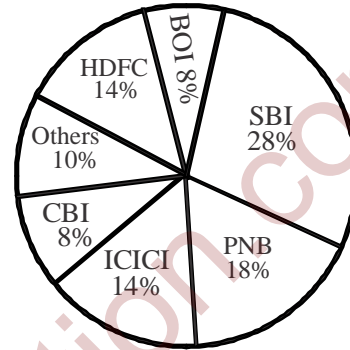
- 1) 2011                                      2) 2009
  - 3) 2010                                      4) Both 2012 and 2013
  - 5) 2009 and 2010
22. In which year the number of OBC candidates selected for the post of Excise Inspector is the maximum?
- 1) 2013                                      2) 2011
  - 3) 2009                                      4) 2012
  - 5) 2010
23. What is the ratio of General candidates to ST candidates selected for the post of Customs Inspector in 2009?
- 1) 36:7                                      2) 9:52
  - 3) 14:23                                      4) 7:36
  - 5) 52:7
24. The no. of OBC candidates selected from 2009 to 2013 for the post of Income Tax Inspector is what per cent of the General candidates selected from 2009 to 2013 for the post of Customs Inspector?
- 1) 46.68%                                      2) 43.41%
  - 3) 39.51%                                      4) 37.61%
  - 5) 35.71%
25. What is the ratio of the number of Income Tax Inspectors of SC category in 2010 to that of Customs Inspectors of OBC category in 2011 to that of Excise Inspectors of ST category in 2012?
- 1) 34:113:39                                      2) 35:133:36
  - 3) 32:131:37                                      4) 31:117:47
  - 5) 29:119:43

**Directions (Q. 116-120): Study the following bar graph and pie-charts carefully to answer the questions given below:**

The total no. of bank customers = 15 crore. Total amount deposited in various banks = ₹35000 crore. PSL (Primary sector lending) is 40% of loanable amount and the loanable amount is 65% of the total deposited amount of banks.



**Percentage of customers in various banks**

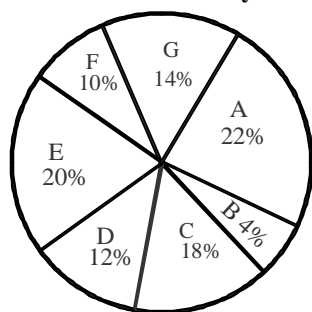


**Amount deposited in various banks**

26. What is the ratio of the total amount deposited with Bank of India to that deposited with PNB?
- 1) 9:4                                      2) 4:9
  - 3) 3:10                                      4) 5:9
  - 5) 9:10
27. In which bank the amount deposited per customer is the maximum?
- 1) BOI                                      2) PNB
  - 3) ICICI                                      4) HDFC
  - 5) SBI
28. What is the ratio of loanable amount of SBI to that of ICICI?
- 1) 5:6                                      2) 3:4
  - 3) 2:1                                      4) 7:8
  - 5) 8:9
29. The total profit of all banks is what percentage of the total PSL of all banks?
- 1) 20.52%                                      2) 18.19%
  - 3) 36.217%                                      4) 32.37%
  - 5) 24.17%
30. What is the ratio of the PSL amount of CBI to loanable amount of CBI?
- 1) 2:5                                      2) 4:3
  - 3) 4:5                                      4) 8:5
  - 5) 9:5

**Directions (Q.121-125): Study the following pie-chart and table carefully and answer the questions given below:**

The pie-chart shows the percentage of students in various schools in a city.



Total number of students in the city = 50000

The table shows the percentage of students in various classes in different schools.

Std→ School↓	I	II	III	IV	V	VI	VII	VIII
A	10	8	16	12	8	14	12	20
B	10	14	20	8	12	10	8	18
C	16	6	10	16	18	12	8	14
D	9	16	12	19	14	8	12	10
E	14	12	8	10	16	8	14	18
F	12	10	18	14	9	16	13	8
G	14	8	12	16	10	6	16	18

31. In which school the number of students in Std V is the maximum?
  - 1) A
  - 2) C
  - 3) D
  - 4) G
  - 5) None of these
32. What is the ratio of the no. of students of Std IV of school A to that of Std VIII of School B?
  - 1) 15:17
  - 2) 11:3
  - 3) 22:3
  - 4) 3:11
  - 5) 3:22
33. What is the difference between the number of students of Std III of School F and the number of students of Std I of School E?
  - 1) 400
  - 2) 650
  - 3) 550
  - 4) 600
  - 5) 500
34. The number of students of Std VII of School C is what per cent more than the number of students of Std VI of School D?
  - 1) 63%
  - 2) 35%
  - 3) 50%
  - 4) 107.6%
  - 5) 119.4%
35. In which class the number of students studying in all the cities together is the maximum?
  - 1) II
  - 2) V
  - 3) VI
  - 4) VIII

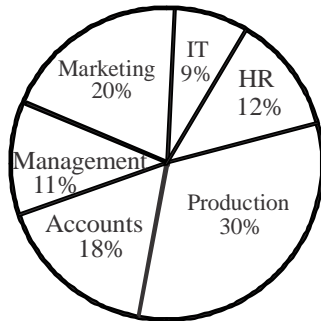
5) VII

36. A certain amount of money is divided among Kanishk, Sonal and Harsh in such a way that twice the share of Kanishk, thrice the share of Sonal and five times the share of Harsh are equal. What is the ratio of the shares of Kanishk, Sonal and Harsh?
  - 1) 10:6:15
  - 2) 15:10:6
  - 3) 6:10:15
  - 4) 15:6:10
  - 5) 10:15:6
37. If the length of a rectangle is increased by 10% and the area remains unchanged then by what per cent does the breadth decrease?
  - 1)  $9\frac{1}{11}\%$
  - 2)  $11\frac{1}{9}\%$
  - 3) 9%
  - 4) 10%
  - 5) 12.5%
38. The average weight of 7 members of a family is 18kg. If the weight of the head of the family is not considered, the average weight of the other members becomes 5 kg less. The weight of the head of the family is
  - 1) 42kg
  - 2) 48kg
  - 3) 52kg
  - 4) 36kg
  - 5) 56kg
39. Two buses start plying from opposite ends of a main road 150 km apart. The first bus runs for 25 km at the speed 25 kmph and the remaining distance at 30 kmph. If they meet after 1.20h, then what is the speed of the second bus?
  - 1)  $74\frac{1}{4}$  kmph
  - 2)  $86\frac{1}{4}$  kmph
  - 3)  $88\frac{3}{4}$  kmph
  - 4)  $78\frac{1}{4}$  kmph
  - 5)  $82\frac{3}{4}$  kmph
40. Rituraj sold a cow at a loss of 15%. Had he sold it for ₹2400 more he would have earned a profit of 10% instead of loss. Then the cost price of the cow is
  - 1) ₹10000
  - 2) ₹9000
  - 3) ₹9600
  - 4) ₹48000
  - 5) ₹10400

**Directions (Q. 131-135): Study the pie-chart and the table carefully to answer the questions that follow.**

The pie-chart shows the number of employees working in various departments of an

organisation and the table shows the ratio of men to women.



Total number of employees = 6400

Department	Men	Women
Marketing	13	19
Accounts	11	7
Production	8	7
IT	5	4
HR	11	5
Management	3	5

41. What is the number of women employees in the IT department?
  - 1) 238
  - 2) 325
  - 3) 256
  - 4) 197
  - 5) None of these
42. What is the total number of employees working in the Marketing department and the Production department together?
  - 1) 3200
  - 2) 2200
  - 3) 1800
  - 4) 3600
  - 5) 4200
43. The ratio of the total number of men to the total number of women working in all the departments together is
  - 1) 19:23
  - 2) 25:38
  - 3) 11:17
  - 4) 21:19
  - 5) 20:49
44. The number of women in the Management department is what per cent of the total number of employees in the organisation?
  - 1) 6.88%
  - 2) 8.02%
  - 3) 5.69%
  - 4) 7.64%
  - 5) 7.32%
45. What is the ratio of the number of men in the Production department to the number of men in the Marketing department?
  - 1) 97:41
  - 2) 81:125
  - 3) 105:39
  - 4) 59:132

5) 128:65

46. A box contains 6 black and 5 white balls. A man pulls out 2 balls at random. The probability that both of them are of the same colour is
  - 1)  $\frac{9}{17}$
  - 2)  $\frac{4}{7}$
  - 3)  $\frac{5}{11}$
  - 4)  $\frac{5}{13}$
  - 5)  $\frac{4}{13}$
47. The monthly incomes of Komal and Rajat are in the ratio of 4:5 and their monthly expenditures are in the ratio of 7:9. If both of them save ₹ 1000 per month, then the monthly expenditure of Rajat is
  - 1) ₹ 2000
  - 2) ₹ 7000
  - 3) ₹ 8000
  - 4) ₹ 9000
  - 5) ₹ 10000
48. The ratios of milk to water are 5:1 and 8:6 respectively in two pots. In which ratio should they be mixed so that the new ratio of milk to water becomes 9:5?
  - 1) 6:5
  - 2) 4:3
  - 3) 9:1
  - 4) 3:8
  - 5) 5:2
49. A shopkeeper sold a television set for ₹ 10000 after giving 20% discount on its labelled price. Had he not given the discount, he would have earned a profit of 25% on the cost price. What was the cost price of the television set?
  - 1) ₹ 10000
  - 2) ₹ 11000
  - 3) ₹ 10500
  - 4) ₹ 9500
  - 5) ₹ 9000
50. Ajit invested a certain amount at simple rate of interest 5% per annum and earned ₹ 1000 as an interest at the end of 5 years. How much compound interest would he have earned on the same amount at the same rate of interest after 3 years?
  - 1) ₹ 410.75
  - 2) ₹ 625.5
  - 3) ₹ 1120.5
  - 4) ₹ 630.5
  - 5) ₹ 730.5

# SOLUTIONS

## Practice Test 7

$$\begin{aligned}
 1. \quad 2 \quad ? &= (455 + 189 + 329 - 468 + 529 - 220) + \\
 &\left( \frac{34}{29} + \frac{31}{58} + \frac{47}{58} + \frac{22}{29} - \frac{59}{116} \right) \\
 &= 814 + \frac{(34 \times 4) + (31 \times 2) + (47 \times 2) + (22 \times 4) - 59}{116} \\
 &= 814 + \frac{(136 + 62 + 94 + 88 - 59)}{116} \\
 &= 814 + \frac{321}{116} = 814 \frac{321}{116} \\
 &= (814 + 2) + \frac{89}{116} = 816 \frac{89}{116} \\
 2. \quad 3 \quad ? &= \sqrt{9604} + (474552)^{\frac{1}{3}} - (6084)^{\frac{1}{2}} + \\
 &(405224)^{\frac{1}{3}} - \sqrt{5476} + \sqrt[3]{12167} \\
 &= 98 + 78 - 78 + 74 - 74 + 23 \\
 &= (98 + 23) = 121 \\
 3. \quad 1 \quad ? &= (25)^{5.4} \times (625)^{2.7} \times (18)^{2.4} \times (324)^{4.2} \\
 &= (25)^{5.4} \times (25)^{2 \times 2.7} \times (18)^{2.4} \times (18)^{2 \times 4.2} \\
 &= (25)^{5.4+5.4} \times (18)^{2.4+8.4} \\
 &= (25 \times 18)^{10.8} = (450)^{10.8} \\
 4. \quad 4 \quad ? &= (64)^{0.15} \times (32)^{0.02} \times (144)^{0.38} \times (1728)^{0.08} \\
 &= 2^{6 \times 0.15} \times 2^{5 \times 0.02} \times 12^{2 \times 0.38} \times 12^{3 \times 0.08} \\
 &= 2^{0.9} \times 2^{0.1} \times 12^{0.76} \times 12^{0.24} \\
 &= 2^{0.9+0.1} \times 12^{0.76+0.24} = 2^1 \times 12^1 = 24 \\
 5. \quad 3 \quad ? - 1162.5 &= \frac{3}{5} \times 1275 + \frac{65 \times 750}{100} \\
 &= 765 + 487.5 = 1252.5 \\
 \therefore ? &= 1252.5 - 1162.5 = 90 \\
 6. \quad 5 \quad ? &= 23.079 \times 5.2 + 24.785 \times 1.2 - 32.912 \times \\
 &4.7 - 35 \times 1.02 + 97.09 \times 4.2 \\
 &\approx 120 + 30 - 155 - 35 + 408 = 368
 \end{aligned}$$

$$\begin{aligned}
 7. \quad 1 \quad ? &= 4096 \times \frac{68}{100} + 5120 \times \frac{72}{100} - 6931 \times \frac{23}{100} \\
 &- 1341 \times \frac{17}{100} \\
 &\approx 2785 + 3686 - 1594 - 228 = 4649 \approx 4650 \\
 8. \quad 2 \quad 35\sqrt{50} + 37\sqrt{128} + 39\sqrt{18} + 41\sqrt{98} - \\
 &51\sqrt{32} + 3\sqrt{3} \\
 &= 35 \times 5\sqrt{2} + 37 \times 8\sqrt{2} + 39 \times 3\sqrt{2} + 41 \times \\
 &7\sqrt{2} - 51 \times 4\sqrt{2} + 3\sqrt{3} \\
 &= 175\sqrt{2} + 296\sqrt{2} + 117\sqrt{2} + 287\sqrt{2} - \\
 &204\sqrt{2} + 3\sqrt{3} \\
 &= \sqrt{2}(175 + 296 + 117 + 287 - 204) + 3\sqrt{3} \\
 &= 671\sqrt{2} + 3\sqrt{3} \approx 671 \times 1.4 + 3 \times 1.7 \\
 &= 939.4 + 5.1 = 944.5 \approx 945 \\
 9. \quad 2 \quad ? &= 9696 \div 101 + 324.01 \times 9.28 - 35.06 \\
 &\approx 96 + 324 \times 9.3 - 3.5 \\
 &= 96 + 3013 - 35 = 3074 \\
 10. \quad 4 \quad ? &= (12121 \div 101) \times (42424 \div 51) + \\
 &(35353 \div 21) - (74747 \div 31) \\
 &\approx 120 \times 832 + 1683 - 2411 = 99840 + 1683 \\
 &- 2411 = 101523 - 2411 = 99840 + 1683 - \\
 &2411 = 101523 - 2411 = 99112 \\
 11. \quad 2 \quad \text{The series is } 1^2 + 2^2 - 2, 2^2 + 3^2 + 3, \\
 &3^2 + 4^2 - 4, 4^2 + 5^2 + 5, 5^2 + 6^2 - 6, 6^2 + 7^2 \\
 &+ 7, 7^2 + 8^2 - 8, \dots \\
 &\text{Hence there should be 21 in place of 19.} \\
 12. \quad 3 \quad \text{The series is } \frac{1 \times 2 \times 3}{2}, \frac{2 \times 3 \times 4}{2}, \frac{3 \times 4 \times 5}{2}, \\
 &\frac{4 \times 5 \times 6}{2}, \frac{5 \times 6 \times 7}{2}, \frac{6 \times 7 \times 8}{2}, \frac{7 \times 8 \times 9}{2} \\
 &= 3, 12, 30, 60, 105, 168, 252 \\
 &\text{Hence there should be 105 in place of 108.}
 \end{aligned}$$

13. 5 The series is  $\frac{1^2+1}{2^2+2}, \frac{2^2+2}{3^2+3}, \frac{3^2+3}{4^2+4},$   
 $\frac{4^2+4}{5^2+5}, \frac{5^2+5}{6^2+6}, \frac{6^2+6}{7^2+7}, \frac{7^2+7}{8^2+8}$   
 $= \frac{2}{6}, \frac{6}{12}, \frac{12}{20}, \frac{20}{30}, \frac{30}{42}, \frac{42}{56}, \frac{56}{72}$   
 $= \frac{1}{3}, \frac{1}{2}, \frac{3}{5}, \frac{2}{3}, \frac{5}{7}, \frac{6}{8}, \frac{8}{9}$   
Hence there should be  $\frac{5}{7}$  in place of  $\frac{6}{7}$ .
14. 2 The series is  $2 \times 3 + 2^2, 3 \times 4 + 3^2, 4 \times 5 + 4^2,$   
 $5 \times 6 + 5^2, 6 \times 7 + 6^2, 7 \times 8 + 7^2, 8 \times 9 + 8^2, \dots$   
 $= 10, 21, 36, 55, 78, 105, 136$   
Hence there should be 55 in place of 56.
15. 1 The series is  $100 \times \frac{80}{100} = 80, 80 \times \frac{80}{100} = 64,$   
 $64 \times \frac{80}{100} = 51.2, 51.2 \times \frac{80}{100} = 40.96,$   
 $40.96 \times \frac{80}{100} = 32.768, 32.768 \times \frac{80}{100}$   
 $= 26.2144, 26.2144 \times \frac{80}{100} = 20.97152$   
Hence there should be 40.96 in place of 40.5
16. 2 During 1991-2000, Satellites of Japan launched  
for other countries  $= 400 \times \frac{20}{100} = 80$   
Satellites of the USA launched for other  
countries  $= 500 \times \frac{25}{100} = 125$   
 $\therefore$  Req'd ratio  $= 80 : 125 = 16 : 25$
17. 1 During 1970-80, Satellites of India launched  
for other countries  $= 100 \times \frac{5}{100} = 5$   
 $\therefore$  Difference  $= (100 - 5) = 95$   
Similarly, during 1981-90, Satellites of  
India launched for other countries  
 $= 300 \times \frac{15}{100} = 45$   
 $\therefore$  Difference  $= (300 - 45) = 255$   
During 1991-2000, Satellites of India launched

$$\text{for other countries} = 200 \times \frac{10}{100} = 20$$

$$\therefore \text{Difference} = (200 - 20) = 180$$

During 2001-10, Satellites of India launched

$$\text{for other countries} = 400 \times \frac{20}{100} = 80$$

$$\therefore \text{Difference} = (400 - 80) = 320$$

During 2011-13, Satellites of India launched

$$\text{for other countries} = 300 \times \frac{15}{100} = 45$$

$$\therefore \text{Difference} = (300 - 45) = 255$$

Hence, during 2001-10 the req'd difference is the maximum.



21. 4 Candidates of SC category selected for Income Tax Inspector:

$$\text{In 2009} = 650 \times \frac{12}{100} = 78$$

$$\text{In 2010} = 250 \times \frac{14}{100} = 35$$

$$\text{In 2011} = 560 \times \frac{15}{100} = 84$$

$$\text{In 2012} = 800 \times \frac{12}{100} = 96$$

$$\text{In 2013} = \frac{600 \times 16}{100} = 96$$

Hence in 2012 and 2013 the no. of SC selected candidates is the maximum.

22. 3 In 2009, the number of OBC candidates selected for Excise Inspector

$$= 400 \times \frac{36}{100} = 144$$

$$\text{Similarly, In 2010} \rightarrow 750 \times \frac{36}{100} = 270$$

$$\text{In 2011} \rightarrow 750 \times \frac{26}{100} = 195$$

$$\text{In 2012} \rightarrow 600 \times \frac{28}{100} = 168$$

$$\text{In 2013} \rightarrow 850 \times \frac{18}{100} = 153$$

In the year 2009 the number of OBC candidates selected for Excise Inspector is the minimum.

23. 5 The number of General candidates selected from Customs Inspector in 2009

$$= 700 \times \frac{52}{100} = (52 \times 7) = 364$$

The number of ST candidates selected for Customs Inspector in 2009

$$= 700 \times \frac{7}{100} = (7 \times 7)$$

$$\therefore \text{Reqd ratio} = (52 \times 7) : (7 \times 7) = 52 : 7$$

24. 1 The number of OBC candidates selected from 2009 to 2013 for the post of Income Tax

$$\text{Inspector} = 650 \times \frac{28}{100} + 250 \times \frac{36}{100} +$$

$$560 \times \frac{30}{100} + 800 \times \frac{22}{100} + 600 \times \frac{24}{100}$$

$$= 182 + 90 + 168 + 176 + 144 = 760$$

The number of General candidates selected from 2009 to 2013 for the post of Customs

$$\text{Inspector} = 700 \times \frac{52}{100} + 650 \times \frac{48}{100} + 350$$

$$\times \frac{46}{100} + 700 \times \frac{58}{100} + 700 \times \frac{55}{100}$$

$$= 364 + 312 + 161 + 406 + 385 = 1628$$

$$\therefore \text{Reqd \%} = \frac{760 \times 100}{1628} = 46.68\%$$

25. 2 Number of Income Tax Inspectors of SC

$$\text{category in 2010} = 250 \times \frac{14}{100} = 35$$

Number of Customs Inspectors of OBC

$$\text{category in 2011} = 350 \times \frac{38}{100} = 133$$

Number of Excise Inspectors of ST category

$$\text{in 2012} = 600 \times \frac{6}{100} = 36$$

$$\therefore \text{Reqd ratio} = 35 : 133 : 36$$

26. 2 Total amount deposited with Bank of India

$$= 35 \times \frac{8}{100} \times 1000 = 2800 \text{ crore}$$

Total amount deposited with PNB

$$= 35000 \times \frac{18}{100} = 6300 \text{ crore}$$

$$\text{Reqd ratio} = 2800 : 6300 = 28 : 63 = 4 : 9$$

27. 1 Amount deposited per customer with ICICI Bank

$$= \frac{\frac{35000 \times 14}{100}}{\frac{15 \times 15}{100}} = \frac{4900}{2.25} = ₹2177.77$$

Similarly, amount deposited with PNB per customer



$$= \frac{\frac{35000 \times 18}{100}}{\frac{15 \times 20}{100}} = \frac{6300}{3} = ₹2100$$

Amount deposited with CBI per customer

$$= \frac{\frac{35000 \times 8}{100}}{\frac{15 \times 8}{100}} = \frac{2800}{1.2} = ₹2333.33$$

Amount deposited per customer with HDFC

$$= \frac{\frac{35000 \times 14}{100}}{\frac{15 \times 12}{100}} = \frac{4900}{1.8} = ₹2722.22$$

Amount deposited per customer with BOI

$$= \frac{\frac{35000 \times 8}{100}}{\frac{15 \times 5}{100}} = \frac{2800}{0.75} = ₹3733.33$$

Amount deposited per customer with SBI

$$= \frac{\frac{35000 \times 28}{100}}{\frac{15 \times 30}{100}} = \frac{9800}{4.5} = ₹2177.77$$

Amount deposited per customer with Other

$$\text{banks} = \frac{\frac{35000 \times 10}{100}}{\frac{15 \times 10}{100}} = \frac{3500}{1.5} = ₹2333.33$$

Amount deposited per customer is maximum in BOI Bank.

28. 3 Total amount of SBI

$$= ₹ 35000 \times \frac{28}{100} = ₹9800 \text{ crore}$$

Loanable amount of SBI

$$= 9800 \times \frac{65}{100} = ₹6370 \text{ crore}$$

Total amount of ICICI = ₹4900 crore

Loanable amount of ICICI

$$= 4900 \times \frac{65}{100} = ₹3185 \text{ crore}$$

$$\therefore \text{Reqd ratio} = 6370 : 3185 = 2 : 1$$

29. 5 Total profit of all banks = (400 + 250 + 300 + 550 + 350 + 150 + 200) = 2200 crore

Total PSL of all banks

$$= 35000 \times \frac{65}{100} \times \frac{40}{100} = ₹9100 \text{ crore}$$

$$\therefore \text{Reqd \%} = \frac{2200 \times 100}{9100} \% = 24.17\%$$

30. 1 PSL : Loanable amount = 40 : 100 = 2 : 5

31. 2 In School A, No. of students in Std V

$$= 50000 \times \frac{22}{100} \times \frac{8}{100} = 880$$

Similarly, in School B

$$\rightarrow 50000 \times \frac{4}{100} \times \frac{12}{100} = 240$$

$$\text{In School C} \rightarrow 50000 \times \frac{18}{100} \times \frac{18}{100} = 1620$$

$$\text{In School D} \rightarrow 50000 \times \frac{12}{100} \times \frac{14}{100} = 840$$

$$\text{In School F} \rightarrow 50000 \times \frac{10}{100} \times \frac{9}{100} = 450$$

$$\text{In School G} \rightarrow 50000 \times \frac{14}{100} \times \frac{10}{100} = 700$$

The number of students is maximum in School C.

32. 2 Number of students in Std IV in School A

$$= 11000 \times \frac{12}{100} = 1320$$

Number of students of Std VIII in School B

$$= 2000 \times \frac{18}{100} = 360$$

$$\therefore \text{Reqd ratio} = 1320 : 360 = 11 : 3$$

33. 5 Number of students in Std III of School F

$$= 5000 \times \frac{18}{100} = 900$$

Number of students in Std I of School E

$$= 10000 \times \frac{14}{100} = 1400$$

$$\therefore \text{Difference} = (1400 - 900) = 500$$

34. 3 Number of students in Std VII in School C

$$= 9000 \times \frac{8}{100} = 720$$

Number of students in Std IV in School D

$$= 6000 \times \frac{8}{100} = 480$$

$$\text{Reqd \%} = \frac{720 - 480}{480} \times 100 = \frac{240}{480} \times 100$$

$$= 50\%$$

35. 4 Number of students in Std I

$$\begin{aligned} &= (11000 \times \frac{10}{100} + 2000 \times \frac{10}{100} + 9000 \times \frac{16}{100} \\ &+ 6000 \times \frac{9}{100} + 10000 \times \frac{14}{100} + 5000 \times \frac{12}{100} \\ &+ 7000 \times \frac{14}{100}) = 6260 \end{aligned}$$

Number of students in Std II

$$\begin{aligned} &= 11000 \times \frac{8}{100} + 2000 \times \frac{14}{100} + 9000 \times \frac{6}{100} \\ &+ 6000 \times \frac{16}{100} + 10000 \times \frac{12}{100} + 5000 \times \frac{10}{100} \\ &+ 7000 \times \frac{8}{100} = 880 + 280 + 540 + 960 + \\ &1200 + 500 + 560 = 4920 \end{aligned}$$

Number of students in Std III

$$= 11000 \times \frac{16}{100} + 2000 \times \frac{20}{100} + 9000 \times \frac{10}{100}$$

$$+ 6000 \times \frac{12}{100} + 10000 \times \frac{8}{100} + 5000 \times \frac{18}{100}$$

$$+ 7000 \times \frac{12}{100} = 6320$$

Number of students in Std IV

$$\begin{aligned} &= 11000 \times \frac{12}{100} + 2000 \times \frac{8}{100} + 9000 \times \frac{16}{100} \\ &+ 6000 \times \frac{19}{100} + 10000 \times \frac{10}{100} + 5000 \times \frac{14}{100} \\ &+ 7000 \times \frac{16}{100} = 6880 \end{aligned}$$

Number of students in Std V

$$\begin{aligned} &= 11000 \times \frac{8}{100} + 2000 \times \frac{12}{100} + 9000 \times \frac{18}{100} \\ &+ 6000 \times \frac{14}{100} + 10000 \times \frac{16}{100} + 5000 \times \frac{9}{100} \\ &+ 7000 \times \frac{10}{100} = 6330 \end{aligned}$$

Number of students in Std VI

$$\begin{aligned} &= 11000 \times \frac{14}{100} + 2000 \times \frac{10}{100} + 9000 \times \frac{12}{100} \\ &+ 6000 \times \frac{8}{100} + 10000 \times \frac{8}{100} + 5000 \times \frac{16}{100} \\ &+ 7000 \times \frac{6}{100} = 5320 \end{aligned}$$

Number of students in Std VII

$$\begin{aligned} &= 11000 \times \frac{12}{100} + 2000 \times \frac{8}{100} + 9000 \times \frac{8}{100} \\ &+ 6000 \times \frac{12}{100} + 10000 \times \frac{14}{100} + 5000 \times \frac{13}{100} \\ &+ 7000 \times \frac{16}{100} = 6090 \end{aligned}$$

Number of students in Std VIII

$$\begin{aligned} &= 11000 \times \frac{20}{100} + 2000 \times \frac{18}{100} + 9000 \times \frac{14}{100} \\ &+ 6000 \times \frac{10}{100} + 10000 \times \frac{18}{100} + 5000 \times \frac{8}{100} \\ &+ 7000 \times \frac{18}{100} = \mathbf{7880} \end{aligned}$$

The no. of students studying in Std VIII is the maximum.

36. 2 Given that, 2 (Kanishk) (K) = 3 Sonal (S) = 5 Harsh (H)

$$S = \frac{2}{3}K \text{ and } H = \frac{2}{5}K$$

$$K : S : H$$

$$K : \frac{2}{3}K : \frac{2}{5}K$$

$$= 15 : \frac{2 \times 15}{3} : \frac{2 \times 15}{5}$$

$$= 15 : 10 : 6$$

$$\therefore \text{Reqd ratio} = 15 : 10 : 6$$

37. 1 Let the length of the rectangle be x metres and breadth be y metres.

$$\text{Area} = xy \text{ m}^2$$

When the length is increased then the new

$$\text{length} = \frac{11x}{10}$$

Given that the area remains unchanged

$$\text{Area} = xy$$

$$\text{Breadth} = \frac{\text{Area}}{\text{Length}}$$

$$= \frac{xy}{\frac{11x}{10}} = \frac{10y}{11}$$

$\therefore$  Percentage decrease in breadth

$$= \frac{y - \frac{10y}{11}}{y} \times 100 = \frac{y}{11y} \times 100$$

$$= \frac{100}{11} = 9\frac{1}{11}\%$$

38. 2 Total weight of 7 members of the family

$$= 18 \times 7 = 126 \text{ kg}$$

Average weight of the family without head of the family

$$= (18 - 5) = 13 \text{ kg}$$

Total weight of family of 6 members

$$= (13 \times 6) = 78 \text{ kg}$$

$\therefore$  Weight of the head of the family

$$= (126 - 78) = 48 \text{ kg}$$

39. 2 Distance travelled by the first bus in 1.20h

$$= \left( 25 + 30 \times \frac{20}{60} \right) = 35 \text{ km}$$

$$\therefore \text{Remaining distance} = (150 - 35) = 115 \text{ km}$$

This distance is travelled by the second bus in 1.20 hours

$$= 1\frac{20}{60} = \frac{4}{3} \text{ hours}$$

$\therefore$  Speed of the second bus

$$= \frac{115 \times 3}{4} = \frac{345}{4} = 86\frac{1}{4} \text{ kmph}$$

40. 3 Let the cost price of the cow be ₹x.

$$\text{Selling price at the loss of 15\%} = \frac{85x}{100}$$

$$\text{Selling price at the profit of 10\%} = \frac{11x}{10}$$

According to the question,

$$\frac{11x}{10} - \frac{85x}{100} = 2400$$

$$\text{or, } \frac{(110 - 85)x}{100} = 2400$$

$$\text{or, } x = \frac{2400 \times 100}{25} = ₹9600$$

41. 3 Total number of employees in IT department

$$= 6400 \times \frac{9}{100} = 576$$

No. of women employees in IT department

$$= 576 \times \frac{4}{9} = 256$$

42. 1 Total number of employees working in Marketing and Production department

$$= 6400 \times \frac{(30 + 20)}{100} = 3200$$

43. 4 Reqd ratio =

$$\begin{aligned}
& 6400 \left( \frac{30}{100} \times \frac{8}{15} + \frac{12}{100} \times \frac{11}{6} + \frac{9}{100} \times \frac{5}{9} \right. \\
& \left. + \frac{20}{100} \times \frac{13}{32} + \frac{11}{100} \times \frac{3}{8} + \frac{18}{100} \times \frac{11}{18} \right) \\
& = \frac{6400 \left( \frac{30}{100} \times \frac{7}{15} + \frac{12}{100} \times \frac{5}{16} + \frac{9}{100} \times \frac{4}{9} \right. \\
& \left. + \frac{20}{100} \times \frac{19}{32} + \frac{11}{100} \times \frac{5}{8} + \frac{18}{100} \times \frac{7}{18} \right)}{16 + 8.25 + 5 + 8.125 + 4.125 + 11} \\
& = \frac{14 + 3.75 + 4 + 11.875 + 6.875 + 7}{52.5} = \frac{21}{47.5} = 21:19
\end{aligned}$$

44. 1 Reqd % =  $\frac{6400 \times \frac{11}{100} \times \frac{5}{8}}{6400} \times 100$

$$= \frac{440}{6400} \times 100 = 6.875 \approx 6.88\%$$

45. 5 Reqd ratio =  $\frac{6400 \times \frac{30}{100} \times \frac{8}{15}}{6400 \times \frac{20}{100} \times \frac{13}{32}}$

$$= \frac{8 \times 32 \times 3}{15 \times 13 \times 2} = \frac{128}{65} = 128:65$$

46. 3 Let  $n(S)$  be the sample space.  
Then,  $n(S)$  = number of ways of drawing 2 balls out of 11 =  ${}^{11}C_2$

$$= \frac{11 \times 10}{2} = 55$$

Events of drawing 2 balls of the same colour

$$= ({}^6C_2 + {}^5C_2) = \left( \frac{6 \times 5}{2} + \frac{5 \times 4}{2} \right) = 15 + 10$$

$$= 25$$

$$\therefore P(E) = \frac{n(E)}{n(S)} = \frac{25}{55} = \frac{5}{11}$$

47. 4 Ratio of expenditure of Komal to that of Rajat = 7:9

Let the expenditure of Komal be  $7x$  and that of Rajat be  $9x$ .

Both save ₹1000.

Income = Expenditure + Saving

$$\text{Now, } \frac{7x+1000}{9x+1000} = \frac{4}{5}$$

or,  $x = 1000$

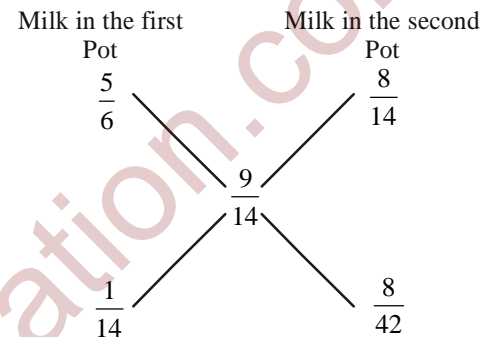
Monthly expenditure of Rajat

$$= 9 \times 1000 = ₹9000$$

48. 4 Amount of milk is  $\frac{5}{6}$  litres in the first mixture and  $\frac{8}{14}$  litre in the second mixture.

New mixture contains  $\frac{9}{14}$  litre of milk.

**By Alligation Method:**



$$\text{Reqd ratio} = \frac{1}{14} : \frac{8}{42} = \frac{1}{14} : \frac{4}{21} = 3:8$$

49. 1 Selling price = ₹10000

$$\text{Labelled price} = \frac{10000 \times 100}{80} = ₹12500$$

Let the cost price be ₹ $x$ .

According to the question,

$$= \frac{12500 - x}{x} \times 100 = 25$$

$$\therefore x = ₹10000$$

50. 4 Given simple interest = ₹1000

$$\text{Principal} = \frac{1000 \times 100}{5 \times 5} = ₹4000$$

$$= \left[ 4000 \left( 1 + \frac{5}{100} \right)^3 - 4000 \right]$$

$$= \left[ 4000 \times \frac{105}{100} \times \frac{105}{100} \times \frac{105}{100} - 4000 \right]$$

$$= 4630.5 - 4000 = ₹630.5$$