RRB PO PRE MEMORY BASED QUANT

Directions (41-45): In each of these equations, two equations are given. You have to solve these equations and find out the value x and y and –

Give answer:

(a) If x < y   (b) if x > y   (c) if x ≤ y   (d) x ≥ y

(e) if x = y or relationship cannot be established

41. I. $8x^2 - 106x + 323 = 0$ II. $12y^2 - 109y + 247 = 0$

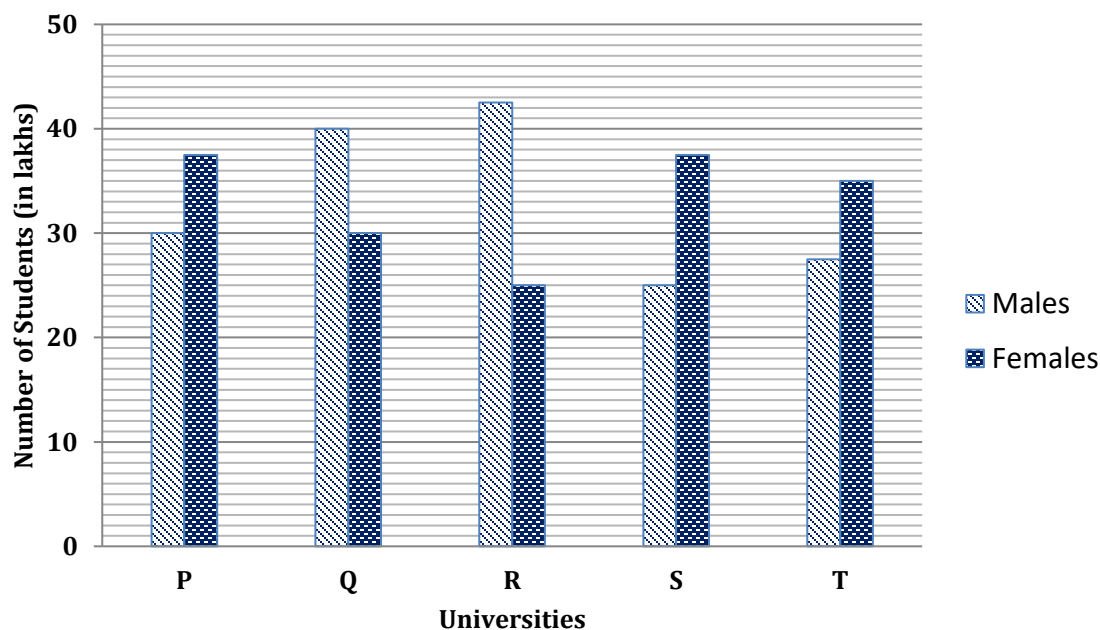**42.** I. $4x + 7y = 42$ II. $3x - 11y = -1$

43. I. $9x^2 - 29x + 22 = 0$ II. $y^2 - 7y + 12 = 0$

44. I. $3x^2 - 4x - 32 = 0$ II. $2y^2 - 17y + 36 = 0$

45. I. $3x^2 - 19x - 14 = 0$ II. $2y^2 + 5y + 3 = 0$

Directions (46 –50) : Study the following graph carefully and answer the questions given below

Number of students Studying in Different universities in a year (Number in lakhs)

46. What is the average number of females in all the universities together?

(a) 3300000   (b) 350000

(c) 320000   (d) 3200000   (e) None of these

47. What is the total number of students (males and females together) in University P and R together?

(a) 1300000   (b) 1350000

(c) 1400000   (d) 14500000   (e) None of these

48. What is the respective ratio of the number of females from University P and Q together to the number of males in the Universities R and T together?

(a) 27 : 32   (b) 27 : 28

(c) 25 : 28   (d) 28 : 27   (e) None of these

49. The number of males in University Q are what per cent of the total number of students (males and females together) in University S?

(a) 68   (b) 62

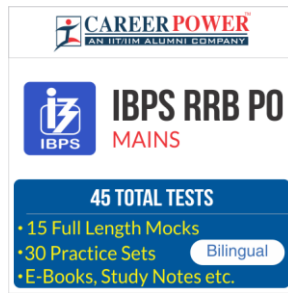(c) 66   (d) 64   (e) None of these
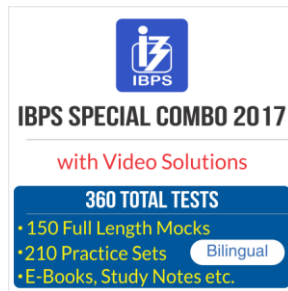
50. If the total number of males in University T increases by 50%, what would be the total number of students (males and females together) in that university?
(a) 7526000 (b) 76250000
(c) 7625000 (d) 75260000 (e) None of these

Directions (Q. 51-55): Study the table carefully to answer the questions that follow.
**Number of officers and clerks (in hundred)**
From five different districts in six different banks

Banks	Districts									
	District–P		District–Q		District–R		District–S		District–T	
	Officers	Clerks	Officers	Clerks	Officers	Clerks	Officers	Clerks	Officers	Clerks
Bank-A	3.6	13.6	6.2	12.1	7.5	34.5	6.4	21.4	3.5	9.6
Bank-B	5.6	16.2	4.9	10.2	10.9	23.3	4.4	22.3	6.5	16.6
Bank-C	7.3	31.9	4.8	14.2	15.8	40.9	4.5	33.3	2.9	12.4
Bank-D	8.4	35.6	12.3	35.4	16.6	45.2	7.3	35.4	9.4	25.7
Bank-E	2.4	9.9	4.5	15.9	12.7	26.6	12.4	35.2	6.9	21.5
Bank-F	1.3	14.3	5.8	14.4	13.7	24.2	15.2	29.4	10.8	32.8

51. What is the respective ratio between the number of clerks in Bank-E from District-Q and the number of officers in Bank-C from Districk-S?
(a) 51 : 16 (b) 53 : 15
(c) 43 : 16 (d) 53 : 16 (e) None of these

52. What is the average number of officers in Bank-D from all the districts together?
(a) 400 (b) 700
(c) 800 (d) 900 (e) None of these

53. In which bank from District-R is the difference between the number of officers and clerks second lowest?
(a) Bank-A (b) Bank-B
(c) Bank-C (d) Bank-D (e) Bank -E

54. Total number officers in Bank-C and Bank-F from District-P together is approximately what percentage of the number of clerks in Bank-B from district-S?
(a) 29% (b) 23%
(c) 45% (d) 49% (e) 39%

55. Twenty six per cent of the number of officers in Bank-A from District-T is female. What is the number of male officers in Bank-A from Districk-T?
(a) 336 (b) 332
(c) 248 (d) 259 (e) None of these

56. A merchant purchases a wrist watch for Rs. 450 and fixes its list price in such a way that after allowing a discount of 10%, he earns a profit of 20%. Then the list price of the watch is
(a) Rs. 650 (b) Rs. 700
(c) Rs. 550 (d) Rs. 600 (e) None of these

57. An article was sold at a profit of 12%. If the cost price would be 10% less and selling price would be Rs. 5.75 more, there would be profit of 30%. Then at what price it should be sold to make a profit of 20%?
(a) Rs. 115 (b) Rs. 120
(c) Rs. 138 (d) Rs. 215 (e) None of these

58. The simple interest on a sum of money is $\frac{8}{25}$ of the sum. If the number of years is numerically half the rate percent per annum, then the rate percent per annum is

(a) 5   (b) 4

(c) $6\frac{1}{4}$ (d) 8   (e) None of these

59. Three glasses of equal volume contain acid mixed with water. The ratio of acid and water are 2 : 3, 3 : 4 and 4 : 5 respectively. Contents of these glasses are poured in a large vessel. The ratio of acid and water in the large vessel is

(a) 417 : 564   (b) 401 : 544

(c) 407 : 560   (d) 411 : 540   (e) None of these

60. The average weight of 36 students is 50 kg. If was found later that the weight of one of the student was misread as 73 kg. whereas his actual weight was 37 kg. Find the correct average weight(in kg).

(a) 47   (b) 49.5   (c) 49

(d) 51   (e) None of these

61. A man standing on a railway platform observes that a train going in one direction takes 4 seconds to pass him. Another train of same length going in the opposite direction takes 5 seconds to pass him. The time taken (in seconds) by the two trains to cross each other will be :

(a) $\frac{31}{9}$ (b) $\frac{40}{9}$ (c) $\frac{49}{9}$

(d) $\frac{50}{9}$ (e) None of these

62. One third of a certain journey is covered at the rate of 25 km/hr , one-fourth at the rate of 30 km/hr and the rest at 50 km/hr. The average speed for the whole journey is

(a) 35 km/hr   (b) $33\frac{1}{3}$ km/hr   (c) 30 km/hr

(d) 37 km/hr   (e)None of these

63. 8 men and 4 women together can complete a piece of work in 6 days. Work done by a man in one day is double the work done by a woman is one day. If 8 men and 4 women started working and after 2 days, 4 men left and 4 new women joined. In how many more days will the work be completed?

(a) 5 days   (b) 8 days   (c) 6 days

(d) 4 days   (e) None of these

64. A motor-boat, travelling at the same speed, can cover 25 Km upstream and 39 Km downstream in 8 hours. At the same speed, it can travel 35 Km upstream and 52 Km downstream in 11 hours. The speed of the stream is:

(a) 2 Km/h   (b) 3 Km/h   (c) 4 Km/h

(d) 5 Km/h   (e) None of these

65. In a laboratory, two bottles contain mixture of acid and water in the ratio 2 : 5 in the first bottle and 7 : 3 in the second. The ratio in which the contents of these two bottles be mixed such that the new mixture has acid and water in the ratio 2 : 3 is:

(a) 4 : 15   (b) 9 : 8   (c) 21 : 8

(d) 1 : 2   (e) None of these
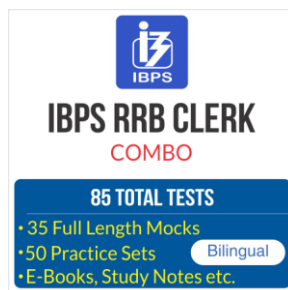
Directions (66-70): Study the following Pie-chart carefully to answer these questions.
Total students = 6500,

**Percentage distribution of students in different courses**
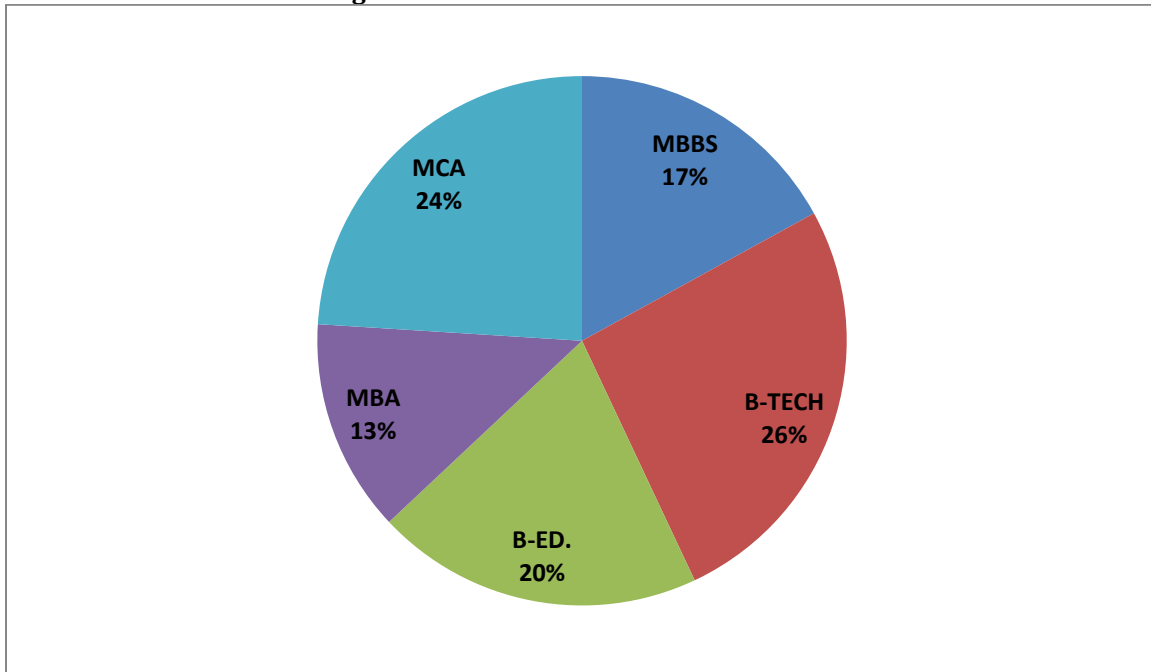
66. What is the value of **half** of the difference between the number of students in MBBS and MBA?
   (a) 70   (b) 260
   (c) 195   (d)65   (e)130
67. How much more percentage (approx) of students are in MCA as compared to students in MBA?
   (a) 88   (b) 80
   (c) 85   (d) 75   (e) None of these
68. What is the total number of students in BEd, B.tech and MBBS together?
   (a) 3454   (b) 5445
   (c) 4545   (d) 4095   (e) None of these
69. What is the respective ratio between the number of students in MCA and the number of students in MBBS?
   (a) 17 : 24   (b) 41 : 65
   (c) 65 : 41   (d) 24 : 17   (e) None of these
70. Number of students in Btech is (approx) what percentage of the number of students in B.Ed
   (a) 130   (b) 125
   (c) 122   (d) 115   (e) None of these

Direction (71-75): What should come in place of question mark (?) in the following questions?
71. $98 \div 14 \times 49 - 294 = (?)^2$
   (a) −14   (b) $\sqrt{7}$ (c) −7
   (d) 196   (e) None of these
72. $(2 \times 3)^3 \div (4 \times 9)^2 \times (27 \times 8)^2 = (6)^?$
   (a) 5   (b) 6   (c) 3
   (d) 8   (e) None of these
73. $454.58 - 376.89 + 121.45 - 95.42 = ?$
   (a) 102.22   (b) 103.72   (c) 91.72
   (d) 92.32   (e) None of these
74. $\sqrt{576} \div (4)^2 \times 7.4 + (7)^3 - 231 = ?$
   (a) 123.9   (b) 121.1   (c) 111.1
   (d) 122.1   (e) None of these
75. $\left(\sqrt{3} - 2\right)^2 = ? - \sqrt{12} - \sqrt{36}$
   (a) $13 - 2\sqrt{3}$ (b) 13   (c) $13 - 4\sqrt{3}$
   (d) 1   (e) None of these

Directions (76-80): What should come in place of question mark (?) in the following number series?
76. 3, 1.5, 1.5, 2.25, 4.5, ?
   (a) 11.25   (b) 10.25
   (c) 15.5   (d) 12.25   (e) None of these
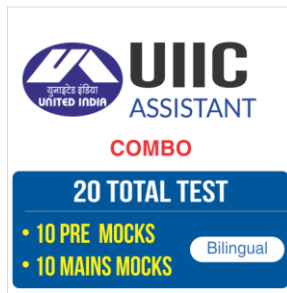
77. 2, 4, 11, 37, 153, ?
   (a) 770   (b) 771
   (c) 772   (d) 773   (e) None of these

78. 9, 14, 21, 32, 45, ?
   (a) 60   (b) 61
   (c) 65   (d) 62   (e) None of these

79. 4, 4, 6, 12, 24, ?
   (a) 33   (b) 11
   (c) 44   (d) 55   (e) None of these

80. 10, 22, 39, 61, ?
   (a) 98   (b) 78
   (c) 84   (d) 74   (e) None of these