PRACTICE TEST PAPER NO. 2
Mathematical Ability

Qs. 1-3. Study the given information carefully to answer the following questions.

A Basket contain 3 blue, 5 black and 3 red balls.

1. If two balls are drawn at random, what is the probability that none of them is blue?
   (1) $\frac{21}{25}$ (2) $\frac{3}{55}$
   (3) $\frac{28}{55}$ (4) $\frac{9}{11}$
   (5) None of these

2. If 2 balls are drawn at random, what is the probability that one is black and one is red?
   (1) $\frac{2}{11}$ (2) $\frac{8}{11}$
   (3) $\frac{9}{11}$ (4) $\frac{3}{11}$
   (5) None of these

3. If 3 balls are drawn at random what is the probability that all are black?
   (1) $\frac{2}{33}$ (2) $\frac{1}{11}$
   (3) $\frac{3}{11}$ (4) $\frac{8}{33}$
   (5) None of these

4. A 180 metres long train crosses a platform of equal length in 18 seconds. What is the speed of the train?
   (1) 22 metres/ second (2) 10 metres/ second
   (3) 15 metres/ second (4) 18 metres/ second
   (5) None of these

5. What would be the compound interest drawn on an amount of Rs. 18,400/- @ 12 p.c.p.a at the end of 3 years?
   (1) Rs 4680.96 (2) Rs 7450.6752
   (3) Rs 6235.2143 (4) Rs 8042.16
   (5) None of these

Qs. 6-9. What should come in place of the question mark (?) in the following number series?

6. 24 ? 109 134 150 159
   (1) 71 (2) 65
   (3) 86 (4) 53
   (5) None of these

7. 3 20 78 332 1680 ?
   (1) 8410 (2) 9836
   (3) 10098 (4) 1150
   (5) None of these

8. 13 30 66 140 ? 592
   (1) 210 (2) 290
   (3) 428 (4) 430
   (5) None of these

9. 3 5 15 ? 1125 84375
   (1) 75 (2) 20
   (3) 45 (4) 80
   (5) None of these

10. A boat takes 8 hours to cover a distance while traveling upstream, whereas while traveling downstream it takes 6 hours. If the speed of the current is 4 kmph, what is the speed of the boat in still water?
   (1) 12 kmph (2) 28 kmph
   (3) 16 kmph (4) Cannot be determined
   (5) None of these

11. The area of a circle is seven times its circumference. What is the circumference of the circle?
   (1) 616 (2) 132
   (3) 88 (4) Cannot be determined
   (5) None of these

12. 8 men alone can complete a piece of work in 12 days. 4 Women alone can complete the same piece of work in 48 days and 10 children alone can complete the piece of work in 24 days. In how many days can 10 men, 4 women and 10 children together completed the piece of work?
(1) 5 (2) 15
(3) 28 (4) 6
(5) None of these

13. Subhash starts a business by investing Rs. 25,000. 6 months later Aditya joins him by investing Rs. 15,000. After another 6 months Aditya invests an additional amount of Rs. 15,000. At the end of 3 years they earn a profit of Rs. 2,47,000. What is Aditya's share in the profit?
(1) Rs. 1,30,000 (2) Rs. 1,23,000
(3) Rs. 1,05,000 (4) Rs. 1,11,500
(5) None of these

14. If the digits of a two digit number are interchanged, the number so obtained is greater than the original number by 27. if the sum of the two digits of the number is 11, what is the original number?
(1) 47 (2) 38
(3) 74 (4) Cannot be determined
(5) None of these

Qs. 15-19. What approximate value should come in place of the question mark (?) in the following questions? (You are not expected to calculate the exact value)

15. 59.99% of 255.012 +22.98% of 182.005 = ?
(1) 162 (2) 146
(3) 195 (4) 225
(5) 178

16. $\sqrt{1000} = ?$
(1) 10 (2) 24
(3) 45 (4) 18
(5) 32

17. $15.002 \times ? \times 25.0210 = 7113.918$
(1) 19 (2) 26
(3) 11 (4) 31
(5) 35

18. $8^{1.38} \times 8^{1.63} = ?$
(1) 680 (2) 218
(3) 726 (4) 512
(5) 134

19. $12 \times 958 \div 17 = ?$

(1) 532 (2) 676
(3) 765 (4) 483
(5) 806

Qs. 20-24. Study the table carefully to answer the following questions.
Number of Cars (in thousands) Manufactured and sold by Six Companies over the years

Company / Year	A		B		C		D		E		F	
	Manu-factured	Sold	Manu-factured	Sold	Manu-factured	Sold	Manu-factured	Sold	Manu-factured	Sold	Manu-factured	Sold
2000	2.58	1.96	1.98	1.62	1.97	1.53	2.46	2.11	2.35	2.16	1.88	1.50
2001	2.34	1.98	2.15	2.00	2.20	2.03	2.46	2.14	2.45	2.20	1.95	1.62
2002	2.85	2.05	2.35	1.99	2.18	1.87	2.55	2.23	2.60	2.13	2.25	1.93
2003	2.87	2.11	2.62	2.01	2.25	1.95	2.62	2.30	2.79	2.31	2.39	2.08
2004	2.91	2.22	2.71	2.12	2.68	2.32	2.71	2.19	2.88	2.19	2.58	2.10
2005	2.94	2.25	2.84	2.15	2.86	2.36	2.76	2.28	2.90	2.32	2.67	2.30

20. What is the respective ratio of total number of cars manufactured by Companies A,B, and C together in the year 2001 to those manufactured by Companies D,E and F together in the year 2003?

(1) 164 : 217 (2) 223 : 260
(3) 260 : 223 (4) 217 : 164
(5) None of these

21. What is the percentage of number of cars sold by Company D in the year 2002 to those manufactured by it in that year? (rounded off to two digits after decimal).

(1) 87.45 (2) 77.28
(3) 92.54 (4) 79.65
(5) None of these

22. In which year were the maximum number of cars manufactured by all Companies together?

(1) 2001 (2) 2002
(3) 2003 (4) 2004
(5) None of these

23. What is the **approximate** per cent increase in the number of cars sold by Company F in the year 2004 from the previous year?

(1) 13 (2) 0.9
(3) 2 (4) 8
(5) 23

24. What is the total number of cars sold by Company C in all the year together?

(1) 120600 (2) 14205
(3) 12060 (4) 142050
(5) None of these

Q. 25-29. What should come in place of the question mark (?) in the following questions?

25. $8.88 \times 88.8 \times 88 = ?$

(1) 68301.142 (2) 79391.642
(3) 65365.824 (4) 76218.414
(5) None of these

26. $1\frac{4}{7} + 1\frac{3}{5} + 1\frac{1}{3} = ?$

(1) $5\frac{47}{105}$ (2) $4\frac{58}{105}$
(3) $4\frac{53}{105}$ (4) $5\frac{43}{105}$
(5) None of these

27. $\frac{9 \div 2 \times 27 \div 9}{18 \div 7.5 \times 5 \div 4} = ?$

(1) 4.5 (2) 5.7
(3) 2.5 (4) 6.8
(5) None of these

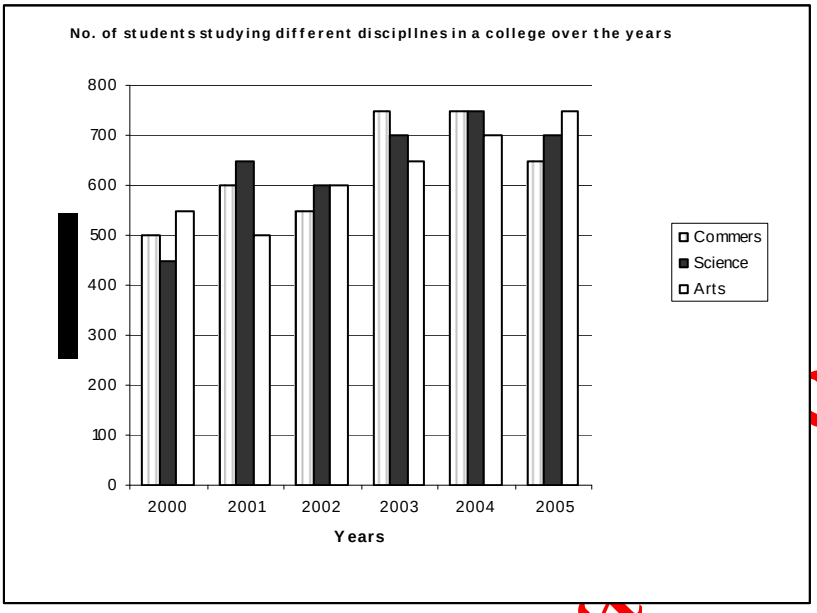
28. ?% of 280+18% of 550 = 143.8

(1) 11 (2) 18
(3) 21 (4) 16
(5) None of these

29. $\sqrt{\sqrt{2500} + \sqrt{961}} = (?)^2$

(1) 81 (2) 3
(3) 6561 (4) 9
(5) None of these

Qs. 30-34. Study the following graph carefully to answer the questions that follow:



30. What is the respective ratio of total number of students studying Commerce in the year 2000 and 2002 together to those studying Arts in the years 2003 and 2005 together?
(1) 3 :4 (2) 7 : 9
(3) 4 :3 (4) 9 : 7
(5) None of these

31. What is the respective ratio of total number of students studying Arts, Science and Commerce in all the year together?
(1) 77 : 75 : 76 (2) 76 : 75 : 77
(3) 76 : 77 : 75 (4) 75 : 77 : 76
(5) None of these

32. Number of students studying Commerce in the year 2004 forms **approximately** what per cent of the total number of students studying Commerce in all the years together?
(1) 13 (2) 20
(3) 29 (4) 33
(5) 38

33. What is the total number of students studying Arts in all the years together?
(1) 3700 (2) 2750
(3) 3500 (4) 2550
(5) None of these

34. Number of students studying Science in the year 2001 forms what per cent of total number of students studying all the disciplines together in that year? (rounded off to two digits after decimal)

(1) 46.24 (2) 23.51
(3) 37.14 (4) 40.15
(5) None of these

Qs. 35-39. In the following questions, who equations I and II are given. You have to solve both the equations and-
Give Answer if

(1) x>y (2) $x \geq y$
(3) x<y (4) $x \leq y$
(5) x=y or the relationship cannot be determined

35. 1. 2x- 15y =5
II. 6x – 5y =-1

36. I. x2 = 1521
II. y = $\sqrt{1521}$

37. I. x2 – 12x +35 =0
II y2– 9y+20 = 0

38. I. 4x + 3y=16
II. 2x +2y = 9

39. I. $x^2 + 7x + 12 = 0$

II. $y^2 + 5y + 6 = 0$

Qs. 40-44. Study the following table carefully to answer the questions that follow:
Per cent rise in production of Six companies over the years.

Company / Year	P	Q	R	S	T	U
2000	25	30	20	45	25	45
2001	20	55	45	50	45	40
2002	35	60	35	35	30	20
2003	40	30	25	30	55	55
2004	30	40	30	25	35	15
2005	45	45	40	20	45	25

40. What is the difference in the per cent rise in production of Company U in the year 2003 from the year 2000?
(1) 22 (2) 12
(3) 18 (4) 9
(5) None of these

41. If the production of Company T in the year 2000 was 3,55,000 units, what was its production in the year 2002?
(1) 6,69,175 units (2) 5,14,251 units
(3) 7,21,345 units (4) 4,22,895 units
(5) None of these

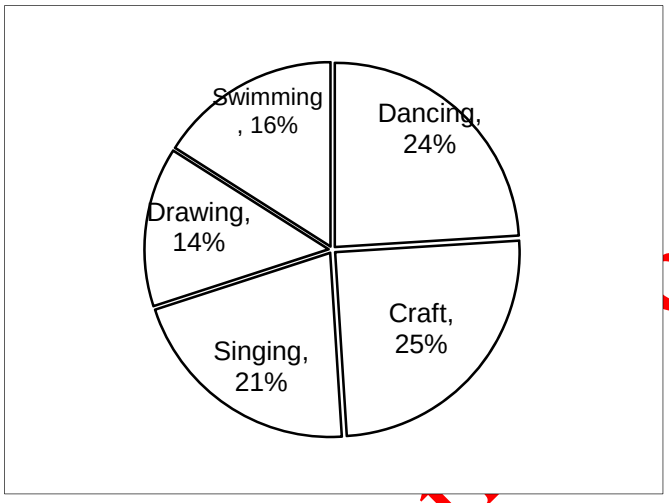
42. What is the per cent increase in per cent rise of production of Company R in the year 2001 from the previous year?
(1) 55 (2) 115
(3) 125 (4) 130
(5) None of these

43. Which company has the highest average per cent rise in production over the years?
(1) U (2) T
(3) S (4) Q
(5) None of these

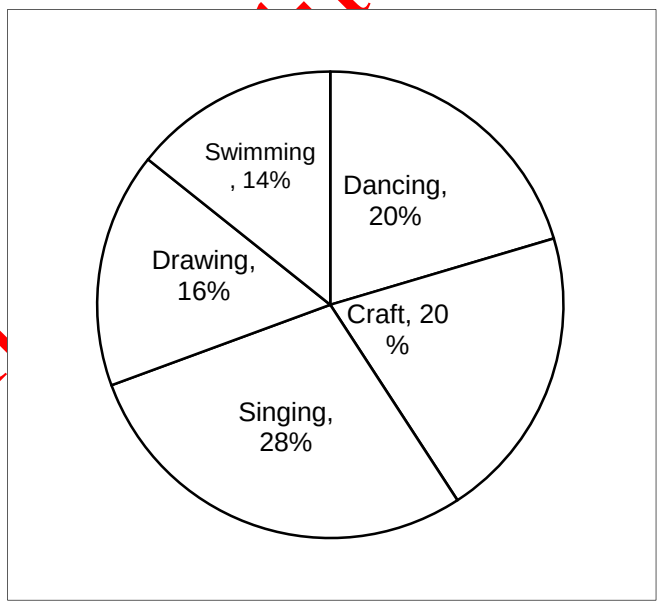
44. If the production of Company S in the year 2002 was 3,57,750 units, what was its production in the year 2001?
(1) 3,40,000 units (2) 2,65,000 units
(3) 2,30,000 units (4) 2,55,000 units
(5) None of these

Qs. 45-49. Study the pie- chart carefully to answer the following questions.

Percentage of students enrolled in different activities in a school N=3000



Percentage break- up of girls enrolled in these activities out of the total students N=1750



45. Number of girls enrolled in Dancing form what per cent of total number of students in the school? (rounded off to two digits after decimal)
(1) 12.35 (2) 14.12
(3) 11.67 (4) 10.08
(5) None of these

46. What is the respective ratio of number of girls enrolled in Swimming to the number of boys enrolled in Swimming?

(1) 47 : 49
(2) 23 : 29
(3) 29 :23
(4) 49 : 47
(5) None of these

47. What is the **approximate** percentage of boys in the school?
(1) 34
(2) 56
(3) 28
(4) 50
(5) 42

48. How many boys are enrolled in Singing and Craft together?
(1) 505
(2) 610
(3) 485
(4) 420
(5) None of these

49. What is the total number of girls enrolled in Swimming and Drawing together?
(1) 480
(2) 525
(3) 505
(4) 495
(5) None of these

Answers

1. (3)	11. (3)	21. (1)	31. (4)	41. (5)
2. (4)	12. (4)	22. (5)	32. (2)	42. (3)
3. (1)	13. (5)	23. (2)	33. (5)	43. (4)
4. (5)	14. (1)	24. (3)	34. (3)	44. (5)
5. (2)	15. (3)	25. (5)	35. (3)	45. (3)
6. (5)	16. (5)	26. (3)	36. (4)	46. (5)
7. (3)	17. (1)	27. (1)	37. (2)	47. (5)
8. (2)	18. (4)	28. (4)	38. (1)	48. (5)
9. (1)	19. (2)	29. (2)	39. (4)	49. (2)
10. (2)	20. (5)	30. (1)	40. (5)	