1. $(1.96)^5 \div (2.744)^3 \times (140 \div 100)^4$
$$= (1.4)^{? + 2}$$

  (A) 3   (B) 2
  (C) 4   (D) 7
  (E) None of these

2. 67% of $\sqrt{676} \div 0.01 = ? + 577$

  (A) 1170   (B) 1165
  (C) 1175   (D) 1160
  (E) None of these

3. $\sqrt{12^2 \times 24 \div 5 - (6)^3 + 149.8} = (?)^2$

  (A) $\sqrt{5}$ (B) 25
  (C) 5   (D) 625
  (E) $(625)^2$

4. 5 times of 85% of $106.40 = ? \times 0.1$

  (A) 45220   (B) 452.2
  (C) 45.22   (D) 4522
  (E) None of these

5. $9936 \div 621 + (12 \times 15) = (?)^{1/2} \times 7$

  (A) 14   (B) 196
  (C) $\sqrt{28}$ (d) 784
  (E) None of these

Directions—(Q. 6–10) What approximate value will come in place of question-mark (?) in the following questions ?

(You are not expected to calculate the exact value.)

6. 29% of 3420 + 17% of 388
$$- 310 = ?$$

  (A) 750   (B) 600
  (C) 850   (D) 950
  (E) 500

7. $(\sqrt{1756} \times \sqrt{567} + \sqrt{477})^2 = ? \times 4$

  (A) 240   (B) 380
  (C) 450   (D) 520
  (E) 600

8. $\dfrac{767}{43} \div \dfrac{243}{612} \times \dfrac{693}{23} = ?$

  (A) 1120   (B) 1450
  (C) 1660   (D) 1240
  (E) 1350

9. $(18.11)^2 - (14.9)^2 + (6.9)^3$
$$= ? - (11.1)^2$$

  (A) 640   (B) 240
  (C) 320   (D) 420
  (E) 560

10. $8866 \div 39 \times 45 = ? \times 19$

  (A) 400   (B) 350
  (C) 540   (D) 250
  (E) 600

11. 23.2, 35.7, 60.7, 98.2, 148.2, (?)

  (A) 210.2   (B) 212.2
  (C) 210.7   (D) 212.7
  (E) None of these

12. 221, 437, 453, 578, 594, (?)

  (A) 605   (B) 611
  (C) 623   (D) 603
  (E) None of these

13. 34, 322, 546, (?), 834, 914

  (A) 348   (B) 714
  (C) 324   (D) 342
  (E) None of these

14. 121, 197, 311, 463, 653, (?)

  (A) 873   (B) 877
  (C) 885   (D) 881
  (E) None of these

15. 16, 163.2, 89.6, 126.4, 108, (?)

  (A) 92.4   (B) 92.8
  (C) 121.4   (D) 117.2
  (E) None of these

  (A) $x > y$
  (B) $x \geq y$
  (C) $x < y$
  (D) $x \leq y$
  (E) $x = y$ or the relationship cannot be established

16. I. $(1296)^{1/4} x + (216)^{1/3} - (6)^2$
   II. $\sqrt{256} \, y^2 - 987 - 587$

17. I. $\dfrac{12}{\sqrt{x}} + \dfrac{4}{\sqrt{x}} - (x)^{3/2}$
   II. $y^9 - (17)^{9/2} = 0$

18. I. $15x = (15)^2 + \sqrt{289} + 148 - 10x$
   II. $8y - 10.4 = 5y + 37.3$

19. I. $x^2 - 19x + 84 = 0$
   II. $y^2 - 20y + 91 = 0$

20. I. $6x + y = 23$
   II. $6(5x + 6y) = 270$

21. What will you obtain if the area of a rectangle of length 33 cm and breadth 13 cm is added to the area of a square of side 19 cm ?

  (A) 680 sq cm
  (B) 780 sq cm
  (C) 690 sq cm
  (D) 790 sq cm
  (E) None of these

22. The perimeter of a rectangle is seven times the side of a square. Area of the square is 576 sq cm. Length of the rectangle is 56 cm. What is the area of a circle whose radius is equal to breadth of the rectangle ?

  (A) 2486 sq cm
  (B) 2646 sq cm
  (C) 2464 sq cm
  (D) Cannot be determined
  (E) None of these

23. A milkman sells cow milk at the rate of ₹ 55 per litre including a profit of 12 per cent. He also sells buffalo milk at the rate of ₹ 36 per litre including a profit of

20%. How much profit will he earn in five days if he sells eight litres of cow milk and 10 litres of buffalo milk per day ?

(A) ₹ 632 (B) ₹ 624
(C) ₹ 646 (D) ₹ 642
(E) None of these

24. Anubhav's present age is four times Amit's present age and four-fifth of his father present age. The sum of the present ages of all of them is 160 years. What is the difference between Amit's present age and Anubhav's father's present age ?

(A) 72 years
(B) 48 years
(C) 68 years
(D) Cannot be determined
(E) None of these

25. Arun got a monthly increment of 18 per cent of Suresh's monthly income before increment. Suresh got a monthly increment of 15 per cent of Arun's monthly income before increment. Suresh's monthly income is ₹ 15,000. What is the total monthly income of both of them together after increment ?

(A) ₹ 42,600
(B) ₹ 34,500
(C) ₹ 36,460
(D) Cannot be determined
(E) None of these

Directions—(Q. 26–30) Each of the questions below consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answer—

(A) If the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.

(B) If the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.

(C) If the data in Statement I alone or in Statement II alone are sufficient to answer the question.

(D) If the data in both the Statements I and II are not sufficient to answer the question.

(E) If the data in both the Statements I and II together are necessary to answer the question.

26. What is the length of the train ?
I. The train crosses a pole in 25 seconds.
II. Same train crosses a 216 m long platform in 33 seconds.

27. What is the value of $x^2 + y^2$?
I. $4x + 7y = 40$, and $2x = z$
II. $13x + 2z = 51$

28. Who earned more profit, Nitin or Ekta (in terms of amount) ?
I. Nitin purchased an item for ₹ 5,600 and sold it for ₹ 4,800 while Ekta purchased an item for ₹ 4,800 and sold it for ₹ 4,100.
II. Nitin purchased an item for ₹ 5,600 and sold it for loss of approximately 15 while Ekta purchased an item for ₹ 4,800 and sold it.

29. What is the difference between the largest and the smallest angle of the triangle ?
I. None of the angles of the triangle is more than $80°$ and one angle is $50°$.
II. Angles of the triangle are in the ratio $6:7:5$ respectively.

30. Who among men, women or boys will complete same piece of work the fastest ?
I. 9 men and 8 women can complete the piece of work in 18 days.
II. 12 boys and 9 girls can complete the same piece of work in 24 days.

Directions—(Q. 31–35) Study the following pie-chart and answer the following questions—

Percentwise Distribution of Students in Six Courses in a University

Total number of Students = 11,200

Percentwise Distribution of Students
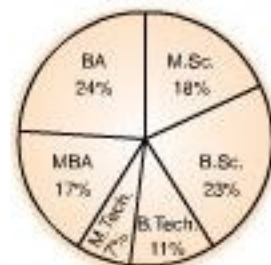
31. Number of students in B.Tech course is **approximately** what per cent more than the number of students in M. Tech course ?
(A) 57 (B) 43
(C) 149 (D) 143
(E) 157

32. If 25 per cent of the total number of students in B. A. course is girls, then the number of boys in B. A. course is exactly equal to the number of students of which course ?
(A) M.Sc. (B) B.Sc.
(C) B. Tech. (D) M.B.A.
(E) None of these

33. What is the difference between the total number of students in M. Sc., B. Tech. and MBA together and the total number of students in B.Sc., M.Tech. and B. A. together ?
(A) 874 (B) 896
(C) 884 (D) 894
(E) None of these

34. What is the average number of students in B. Tech, M. Tech and B. A. courses together ?
(A) 1648 (B) 1542
(C) 1568 (D) 1668
(E) None of these

35. Number of students in MBA course is **approximately** what percent of the total number of students in M.Sc. and B.Sc. together ?
(A) 54 (B) 48
(C) 34 (D) 46
(E) 41

Number of Officers (in thousand) Recruited in Five Different Forces during Six Different years

Year	Police		B.S.F.		Defence		Coast Guard		Commando	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
2006	7·2	6·3	13·3	3·2	15·5	6·1	12·6	4·1	2·7	1·1
2007	6·6	4·2	18·4	4·2	18·9	6·3	18·4	4·3	3·8	2·2
2008	10·6	5·8	27·4	12·8	23·2	8·8	19·3	10·3	5·7	3·5
2009	13·6	7·9	21·4	13·4	26·6	9·2	12·6	4·4	8·9	4·8
2010	16·8	6·4	12·6	8·2	27·9	12·4	24·4	6·2	14·8	3·2
2011	17·2	8·2	13·4	3·2	35·8	5·9	10·6	5·1	6·6	1·8

36. In which force did the recruitment of male officers consistently increase from year 2006 to 2011?
    (A) Police
    (B) BSF
    (C) Defence
    (D) Coast guard
    (E) Commando

37. What was the approximate per cent decrease in the number of female officers recruited in Defence in the year 2011 as compared to the number of female officers recruited in Defence in the year 2010 ?
    (A) 27   (B) 41
    (C) 52   (D) 47
    (E) 59

38. In which year was the difference between the male and female officers in Coast guard third lowest ?
    (A) 2006   (B) 2007
    (C) 2008   (D) 2009
    (E) 2011

39. What was the average number of male officers recruited in Police force over all the years together ?
   (A) 14000   (B) 16000
    (C) 1600   (D) 1200
    (E) None of these

40. Number of male officers recruited in BSF in the year 2008 was approximately what per cent of the total number of female officers recruited in Commando force over all the years together ?
    (A) 145   (B) 155
    (C) 165   (D) 175
    (E) 135

    Directions—(Q. 41–45) Study the following graph carefully to answer the questions that follow—

Number of Foreign Tourists who Visited Three Different Places in Five Different Days
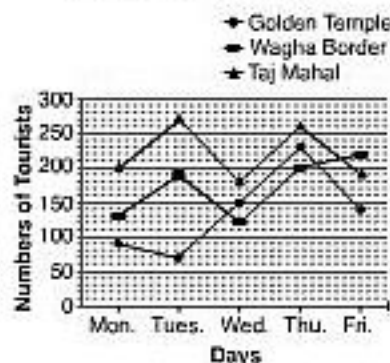
41. What is the average number foreign tourists who visited Wagha Border on all the days together ?
    (A) 184   (B) 172
    (C) 186   (D) 174
    (E) None of these

42. Total number of foreign tourists who visited all the three places on Tuesday together is what per cent of the total number foreign tourists who visited Wagha Border on Monday and Wednesday together ?
    (A) 168   (B) 124
    (C) 112   (D) 224
    (E) 212

43. On which day was the total number of foreign tourists who visited all the three places together second lowest ?
    (A) Monday
    (B) Tuesday
    (C) Wednesday
    (D) Thursday
    (E) Friday

44. What is the respective ratio between the number of foreign tourists who visited Taj Mahal on Thursday and the number of foreign tourists who visited Golden temple on Friday ?
    (A) 14 : 9   (B) 8 : 13
    (C) 13 : 8   (D) 13 : 7
    (E) None of these

45. On which day was the difference between the number of foreign tourists who visited Taj Mahal and Golden Temple, second highest ?
    (A) Monday
    (B) Tuesday
    (C) Wednesday
    (D) Thursday
    (E) Friday

    Directions—(Q. 46–50) Study the information carefully to answer the questions that follow—

    In a sports event, there are total of five different events viz. Hockey, Volley ball, Basket ball, Kho-kho and Kabbadi. Total number of players participating is 520. Twenty per cent of the total number of players is participating in Hockey. Two-thirteenth of the total number of players is participating in Volleyball. Number of players participating in basket ball is 16 less than the number of players participating in Hockey. Twenty five per cent of the total number of players is participating in Kho-kho. Remaining players are participating in Kabbadi.

46. Number of players participating in Basket ball is approximately what percent of the total number of players participating in Hockey and Kabbadi together ?
    (A) 25   (B) 30
    (C) 40   (D) 45
    (E) 35

47. What is the difference between the number of players participating in Kabbadi and the number of players participating in Hockey ?
    (A) 8   (B) 16
    (C) 18   (D) 24
    (E) None of these

48. What is the average number players participating in Volley-ball, Basketball, Kho-kho and Kabbadi together ?

    (A) 114   (B) 116
    (C) 106   (D) 104
    (E) None of these

49. What is the respective ratio bet-ween the number of players participating in Hockey, number of players participating in basket-ball and the number of players participating in Volleyball ?

    (A) 10 : 12 : 13

    (B) 13 : 11 : 7

    (C) 13 : 11 : 9

    (D) 13 : 11 : 8

    (E) None of these

50. If 35 per cent of the total number of players participating in volley-ball is female, what is the number of male players participating in volleyball ?

    (A) 56   (B) 52
    (C) 62   (D) 66
    (E) None of these