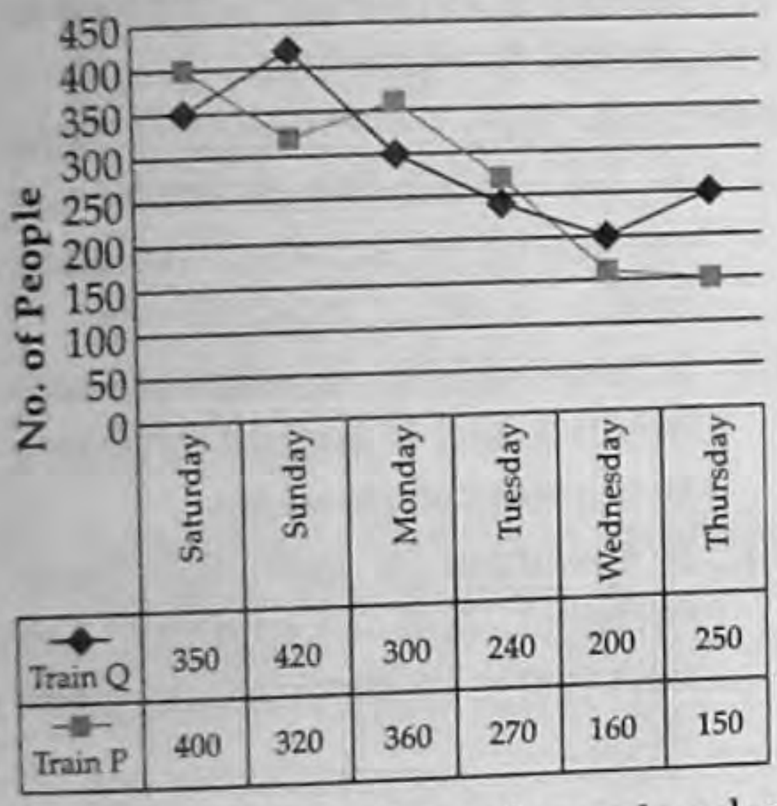
Directions—(Q. 1–5) Refer to the graph and answer the given questions.

Number of people who travelled from Delhi to Shimala by trains P&Q on 6 different days



Train Q	350	420	300	240	200	250
Train P	400	320	360	270	160	150

1. The total number of people who travelled by both the given trains together on Tuesday is what per cent more than the total number of people who travelled by both the given trains together on Thursday ?
(A) 29 (B) 25·5
(C) 31 (D) 27·5
(E) 28·4

2. What is the average number of people who travelled by train P on Sunday, Tuesday, Wednesday and Thursday ?
(A) 225 (B) 235
(C) 215 (D) 195
(E) 205

3. The number of people who travelled by Train Q on Friday is 20% more than the number of people who travelled by the same train on Thursday. What is the respective ratio between the number of people who travelled on Friday and those who travelled on Saturday by the same train ?
(A) 6 : 11 (B) 6 : 7
(C) 5 : 7 (D) 3 : 5
(E) 5 : 9

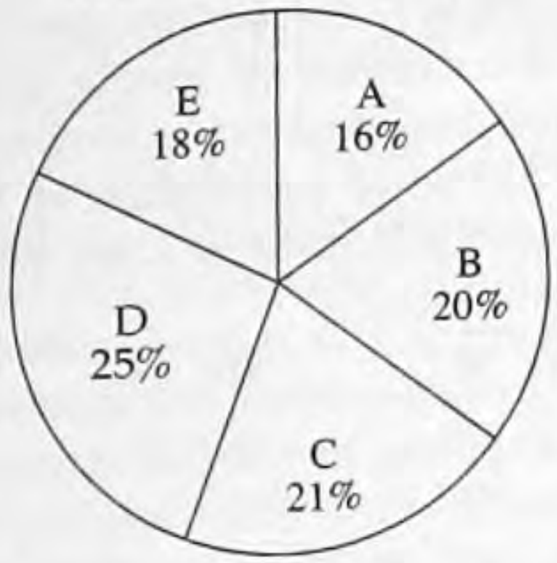
4. The number of people who travelled by Train P decreased by what per cent from Monday to Wednesday ?
(A) $53\frac{1}{4}\%$ (B) $57\frac{1}{4}\%$
(C) $55\frac{1}{4}\%$ (D) $58\frac{1}{4}\%$
(E) $50\frac{1}{4}\%$

5. What is the difference between the total number of people who travelled by Train P on Monday and Sunday together and the total number of people who travelled by Train Q on the same days together ?
(A) 10 (B) 20
(C) 30 (D) 50
(E) 40

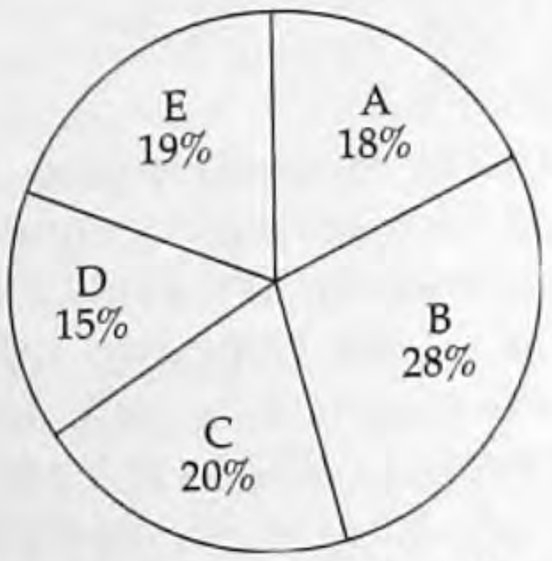
6. The respective ratio of curved surface area and total surface area of a right circular cylinder is 3 : 5. If the curved surface area of the right circular cylinder is 1848 cm^2, what is its height ? (in m)
(A) 24 (B) 14
(C) 21 (D) 28
(E) 18

7. Jar A and Jar B both contain mixture of milk and water. Jar A has 80 litres of mixture out of which 20% is water. The mixture in Jar B has 40% of water. The mixture from both the jars is poured in an empty Jar C. The resultant respective ratio between milk and water in the Jar C is 5 : 2. What is the quantity of milk in Jar C ? (in litres)
(A) 105 (B) 120
(C) 110 (D) 100
(E) 130

Distribution of number of students (both male and female) in five management institutions is 2011 : Total Number : 3300



Distribution of number of male students in five management institutes in 2011 : Total Number : 1800



8. What is the difference between total number of female students in institutions C and D together and number of students (both male and female) in institute E ?
(A) 415 (B) 414
(C) 424 (D) 418
(E) 294

9. Number of male students in institute E is approximately what per cent more than the number of female students in institute A ?
(A) 80 (B) 68
(C) 60 (D) 75
(E) 55

10. Number of female students in institute B is what per cent of the number of male students in Institute D ?

(A) $65\frac{1}{4}$ (B) $58\frac{1}{4}$
(C) $53\frac{1}{4}$ (D) $55\frac{1}{4}$
(E) $57\frac{7}{9}$

11. What is the central angle corresponding to number of students (both male and female) in institute A ?
(A) 55·2° (B) 51·2°
(C) 57·6° (D) 63·4°
(E) 61·6°

12. 2/3rd of the number of students (both male and female) in institute C are science graduate. If the number of female science graduate students in institute C is 68, what percentage of male students in institute C are science graduates ?
(A) 30 (B) 55
(C) 45 (D) 35
(E) 57

13. What is the average number of male students in institute A, B and E ?
(A) 382 (B) 390
(C) 394 (D) 388
(E) 396

14. Number of students (both male and female) in institute E increased by 25% from 2011 to 2012, if the respective ratio of number of male and female students in 2012 in institute E is 5 : 6, what is the number of female students institute E in 2012 ?
(A) 300 (B) 324
(C) 420 (D) 380
(E) 405

Directions—(Q. 15–19) Study the given table carefully to answer the questions that follow—

Number of People Staying in Five Different Localities and the Percentage Breakup of Men, Women and Children in them

Locality	Total No. of People	Percentage		
		Men	Women	Children
F	5640	55	35	10
G	4850	34	44	22
H	5200	48	39	13
I	6020	65	25	10
J	4900	42	41	17

15. What is the total number of men and children staying in locality I together ?
(A) 4115 (B) 4551
(C) 4515 (D) 4155
(E) None of these

16. The number of women staying in which locality is the highest ?
(A) H (B) J
(C) F (D) G
(E) None of these

17. What is the total number of children staying in localities H and I together—
(A) 1287 (B) 1278
(C) 1827 (D) 1728
(E) None of these

18. What is the respective ratio of number of men staying in locality F to the number of men staying in locality H ?
(A) 517 : 416 (B) 403 : 522
(C) 416 : 517 (D) 522 : 403
(E) None of these

19. Total number of people staying in locality J forms approximately what per cent of the total number of people staying in locality F ?
(A) 81 (B) 72
(C) 78 (D) 93
(E) 87

20. 8 8 11 19 34 ?
(A) 49 (B) 73
(C) 51 (D) 58
(E) 62

21. 80 82·1 86·3 92·6 ? 111·5
(A) 102·3 (B) 101
(C) 99 (D) 98·2
(E) 100·4

22. 16 7 6 8 15 ?
(A) 42 (B) 38
(C) 55·5 (D) 44·8
(E) 38·5

23. 3 4 9 28 113 ?
(A) 462 (B) 566
(C) 585 (D) 558
(E) 36·5

24. 126 62 30 14 ?
(A) 3 (B) 4
(C) 6 (D) 8
(E) 7

Direction—(Q. 25–27) 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 Answers :
(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.

25. Equal sums have been invested in schemes A and B for two years. Scheme A offers simple interest while scheme B offers compound interest (compounded annually. Both the schemes have equal rate of interest (p.c.p.a.). What is the rate of interest (p.c.p.a.) offered by each of the schemes ?
I. The interest earned from scheme A per annum on the given sum is ₹ 545.
II. The interest earned on scheme B after two years is 65·40 more than the interest earned from scheme A after two years.

26. What is the cost price of the table ?
I. The profit earned when the table is sold for ₹ 560 is double the loss incurred when the same table is sold for ₹ 320.
II. The market price of the table is 40% more than the cost price. If a discount of 30% is given on the marked price, loss incurred is ₹ 8.

27. How much time will Train M take to cross Train N (from the moment they meet) running in opposite direction (towards each other) ?

I. Train M can cross a signal pole in 10 seconds it can cross 420 m long station in 25 seconds.

II. The respective ratio of speeds of Train M and Train N is 5 : 3. The sum of the lengths of Train M and Train N is 575 m.

28. The circumference of a circular field is 20 m less than the perimeter of square field. If the radius of the circular field is 9 m less than the side of the square field, what is the cost of gravelling the circular field @ ₹ 50 per m sq. ?

(A) ₹ 10,200 (B) ₹ 7,700
(C) ₹ 8,342 (D) ₹ 6,500
(E) ₹ 12,920

29. Present age of Ram is equal to Shyam's age 8 years ago, the respective 6 years hence, the respective ratio between Shyam's age and Ram's age will be 6 : 5 at that time. What is Ram's present age ?

(A) 40 years (B) 24 years
(C) 28 years (D) 38 years
(E) 34 years

30. $600{\cdot}16 \times \sqrt{?} + 60{\cdot}05 \times \sqrt{63} = 2280$

(A) 9 (B) 49
(C) 81 (D) 121
(E) 25

31. $59{\cdot}99\%$ of $500{\cdot}18 + 60{\cdot}97 = ?^2$

(A) 11 (B) 9
(C) 19 (D) 21
(E) 7

32. $18{\cdot}01^3 \div ? \times 19{\cdot}95 \times 3{\cdot}01 = 350{\cdot}15$

(A) 22 (B) 56
(C) 40 (D) 34
(E) 15

33. $4501^2 \div 14{\cdot}85 \div \sqrt{146} \times 4{\cdot}98 = ?$

(A) 125 (B) 110
(C) 250 (D) 50
(E) 75

34. $(1280{\cdot}14 + 519{\cdot}85) \div 11{\cdot}99 = ?$

(A) 250 (B) 100
(C) 200 (D) 150
(E) 125

35. A boat travels from A to B upstream and then from B to C downstream taking the same time. The respective ratio between the distance from A to B and the distance from B to C is 5 : 7. If the boat takes 2 hours 30 minutes to travel a distance of 35 km downstream what is the speed of the stream ? (in km/h)

(A) 2 km/h (B) 3 km/h
(C) 12 km/h (D) 10 km/h
(E) 14 km/h

36. ₹ 7,350 was partly invested in Scheme A at 10% p.a. compound interest (compounded annually) for 2 years and partly in Scheme B at 7% p.a. simple interest for 4 years. Both the schemes earn equal interests. How much was invested in Scheme A ?

(A) ₹ 5,000 (B) ₹ 4,200
(C) ₹ 4,500 (D) ₹ 3,150
(E) ₹ 6,000

37. The height of cylinder is 14 cm and its curved surface area is 264 sqm. The volume of the cylinder is—

(A) 308 cm^3 (B) 396 cm^3
(C) 148 cm^3 (D) 1232 cm^3
(E) 529 cm^3

38. A certain sum is divided among A, B and C in such a way that A gets 220 more than 1/3th of the sum, B gets ₹ 40 less than 2/5th of the sum and C gets ₹ 300. What is the total sum invested ?

(A) ₹ 1,300 (B) ₹ 1,400
(C) ₹ 1,800 (D) ₹ 1,500
(E) ₹ 1,250

Direction—(Q. 39–43) In the following questions two equation numbered I and II are given you have to solve both the questions and given answers—

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

39. I. $x^2 - 8x + 15 = 0$
II. $y^2 - 7x + 10 = 0$

40. I. $2x^2 + 9x + 9 = 0$
II. $2y^2 + 15y + 28 = 0$

41. I. $2x^2 - 13x + 18 = 0$
II. $2y^2 - 19y + 45 = 0$

42. I. $2x^2 + 19x + 44 = 0$
II. $2y^2 + 7y + 3 = 0$

43. I. $x^2 + 7x + 12 = 0$
II. $2y^2 + 17y + 35$

44. The cost of 2 TV sets and a radio is 7,000, while 2 radios and one TV set together cost 4,250 the cost of a TV set is—

(A) ₹ 3,000 (B) ₹ 3,160
(C) ₹ 3,240 (D) ₹ 4,160
(E) ₹ 3,250

Direction—Study the following information carefully to answer the given question.

In a college, there were 700 students in 2012 the college offers Engineering in five specialization's—Computer Science, Civil, Electrical, Mechanical and Bio-technology. Out of the total number of male students in the college, 30% study computer science, 15% study Civil, 18% study Electrical, 12% study Mechanical and the remaining students study bio-technology.

Out of the total number of female students in the college, 35% study computer science, 5% study civil, 20% study electrical and 15% study Mechanical. There are 75 female students in bio-technology.

45. The number of male students in bio-technology is what per cent more than the number of female students studying in the same course ?

(A) $35\frac{1}{2}$ (B) $37\frac{1}{6}$
(C) $33\frac{1}{3}$ (D) $35\frac{1}{8}$
(E) $34\frac{1}{6}$

46. What is the respective ratio between the male students in computer science and the number of female students studying in the same course ?

(A) 15 : 8 (B) 13 : 9
(C) 8 : 7 (D) 10 : 9
(E) 12 : 11

47. What is the difference between the total number of female students in Electrical and Mechanical together and total number of male studying in the same courses together ?

(A) 12 (B) 19
(C) 15 (D) 11
(E) 17

48. The total number of male students in Civil and Computer Science together are what per cent of the total number of students (male and female) studying in these two courses together ?
(A) 66 (B) 62
(C) 64 (D) 65
(E) 60

49. What is the average number of students (male and female) in Mechanical and Bio-technology ?
(A) 132 (B) 124
(C) 134 (D) 128
(E) 138

50. A started a business. After 4 months from the start of the business, B and C joined. The respective ratio between the amounts invested by A, B and C was 6 : 11 : 12. If the C's share in annual profit was 720 more than A's share. What was the total annual profit earned ?
(A) ₹ 7,680 (B) ₹ 7,860
(C) ₹ 10,500 (D) ₹ 8,680
(E) ₹ 9,000