Number system, HCF & LCM, Factorials, Permutations & combinations & Mensuration

Q1. Which one of the following is the least number of four digits divisible by 71?

(a) 1006   (b) 1065   (c) 1094   (d) 1056

Q2. How many numbers up to 500 are divisible by 23?

(a) 23   (b) 27   (c) 21   (d) 19

Q3. The LCM of two numbers is 864 and their HCF is 144. If one of the number is 288, the other number is:

(a) 576   (b) 1296   (c) 432   (d) 144

Q4. The perimeter of a square is equal to twice the perimeter of a rectangle of length 10 cm and breadth 4 cm. What is the circumference of a semi-circle whose diameter is equal to the side of the square?

(a) 46 cm   (b) 36 cm   (c) 38 cm   (d) 23 cm

Q5. Which of the following numbers is not divisible by 14?

(a) 3542   (b) 2086   (c) 1998   (d) 2996

Q6. The number of zeros at the end of 60! is

(a) 10   (b) 12   (c) 14   (d) 16

Q7. What is the are of an equilateral triangle of side 16 cm?

(a) $48\sqrt{3}$ cm2   (b) $128\sqrt{3}$ cm2   (c) $9.6\sqrt{3}$ cm2   (d) $64\sqrt{3}$ cm2   (e) None of these

Q8. The sum of the two digits of a number is 10. If the number is subtracted from the number obtained by reversing its digits, the result is 54. Find the number?

(a) 34   (b) 28   (c) 12   (d) 17

Q9. The area of a triangle will be when a = 1m, b = 2m, c = 3m, a, b, c being lengths of respective sides.

(a) 0 sq m   (b) 3 sq m   (c) 2 sq m   (d) 6 sq m

Q10. The smallest number by which 66 must be multiplied to make the result divisible by 18 is

(a) 3   (b) 6   (c) 9   (d) 18

Q11. How many numbers are there in all from 4000 to 4999 (both 4000 and 4999 included) having at least one of their digits repeated?

(a) 216   (b) 356   (c) 496   (d) 504

Q12. Which of the following numbers will completely divide $(4^{61} + 4^{62} + 4^{63} + 4^{64})$?

(a) 3   (b) 10   (c) 11   (d) 13

Q13. What is the highest power of 12 that divides 54!?

(a) 25   (b) 26   (c) 30   (d) 4

Q14. The sides of the triangle are in the ratio 1/2:1/3:1/5 and Its perimeter is 155 cm, what is the difference between the smallest and the largest sides?

(a) 100 cm   (b) 60 cm   (c) 45 cm   (d) 90 cm

Q15. Two alarm clocks ring their alarms at regular intervals of 72 seconds and 50 seconds. If they beep together at noon, at what time will they beep again for the first time?

(a) 12:15   (b) 12:30   (c) 12:31   (d) None of these

Q16. If a and b be positive integers such that $a^2 - b^2 = 19$, then the value of a is

(a) 7   (b) 8   (c) 9   (d) 10

Q17. Given $a^2 = b^2$ of which of the following is true?

(a) a > b   (b) a < b   (c) Either a > b or a < b or equal   (d) a=b

Q18. In how many ways can 6 lottery tickets be distributed among 4 different people if all of the four different people can get any number of tickets?

(a) 6C4   (b) 6P4   (c) 4^6   (d) 6^4

Q19. Four different electronic devices make a beep after every 30 minutes, 1 hour, 3/2 hour and 1 hour 45 minutes respectively. All the devices beeped together at 12 noon. They will again beep together at:

(a) 12 midnight   (b) 3 a.m   (c) 6 a.m   (d) 9 a.m

Q20. $(27^2/4^{-3})^{-5/6}$ = ?

(a) 1/1296   (b) 1/46656   (c) 1/7256   (d) 1/7776   (e) None of theses

Q21. The sum of two numbers is 22. Five times one number is equal to 6 times the other. The bigger of the two numbers is:

(a) 10   (b) 12   (c) 15   (d) 16

Q22. The sum of the digits of a two-digit number is 12. The difference of the digits is 6. Find the number?

(a) 93   (b) 39   (c) 75   (d) 48   (e) Either (a) or (b)

Q23. Find the remainder when 9797 is divided by 10?

(a) 1   (b) 7   (c) 9   (d) 0

Q24. Find the greatest number which leaves the same remainder when it divides 25, 57 and 105.

(a) 18   (b) 8   (c) 12   (d) 16   (e) None of these

Q25. A rope of which a calf is tied is increased from 12 m to 23 m, how much additional grassy ground shall it graze?

(a) 1120 m²   (b) 1250 m²   (c) 1210 m²   (d) 1200 m²

Q26. How many three letter words are formed using the letters of the word TIME?

(a) 12   (b) 20   (c) 16   (d) 24   (e) 30

Q27. A delegation of 5 members has to be formed from 3 ladies and 5 gentlemen. In how many ways the delegation can be formed, if 2 particular ladies are always included in the delegation?

(a) 20   (b) 54   (c) 42   (d) 60   (e) 40

Q28. $(64 + 9 + 9) / (2 * 20 + 1) = ?$

(a) 1   (b) 3/2   (c) 2   (d) 5/2   (e) 3

Q29. The number of sequences in which 7 players can throw a ball, so that the youngest player may not be the last is -.

(a) 4000   (b) 2160   (c) 4320   (d) 5300   (e) 4160

Q30. The ratio of the volumes of a cube to that of the sphere which will fit inside the cube is?

(a) 4:3   (b) 4:2   (c) 4:4   (d) 6: 1

Q31. How many minimum number's of whole square slabs are required for paving the floor 12.96 meters long and 3.84 meters side?

(a) 216   (b) 192   (c) 108   (d) 256

Q32. In how many different ways can letters of the word "PRAISE" be arranged?

(a) 720   (b) 610   (c) 360   (d) 210   (e) None of these

Q33. The number of 5 digit numbers which are divisible by 4, with digits from the set {1,2,3,4,5} and the repetition of digits is allowed, is

(a) 125   (b) 250   (c) 625   (d) None of these

Q34. Smallest side of a right-angled triangle is 13 cm less than the side of a square of perimeter 72 cm. Second largest side of the right-angled triangle is 2 cm less than the length of the rectangle of area 112 cm² and breadth 8 cm. What is the largest side of the right-angled triangle?

(a) 20 cm   (b) 12 cm   (c) 10 cm   (d) 13 cm

Q35. x and y are 2 numbers which when divided by 6 leave a remainder of 4 and 5 respectively. what will be the remainder when y+x is divided by 6?

(a) 9   (b) 6   (c) 1   (d) 3

Q36. The length of a rectangle is 3/5th of the side of a square. The radius of a circle is equal to the side of the square. The circumference of the circle is 132 cm. What is the area of the rectangle, if the breadth of the rectangle is 15 cm?

(a) 112 cm^2 (b) 149 cm^2 (c) 189 cm^2 (d) 199 cm^2

Q37. Find the remainder when 347^{347} is divided by 100?

(a) 12 (b) 13 (c) 99 (d) 63

Q38. The product of two numbers is 1587. If the H.C.F. of these numbers is 23, then the greater number is:

(a) 23 (b) 115 (c) 92 (d) None of these

Q39. Find the remainder when 7^777 is divided by 28?

(a) 1 (b) 7 (c) 26 (d) 27

Q40. Find the number of zeroes present at the end of 100!

(a) 10 (b) 20 (c) 24 (d) 50

Answer key

1	B	9	A	17	C	25	C	33	C
2	C	10	A	18	C	26	D	34	D
3	C	11	C	19	D	27	A	35	D
4	B	12	A	20	D	28	C	36	C
5	C	13	A	21	B	29	C	37	D
6	C	14	C	22	E	30	D	38	D
7	D	15	B	23	B	31	A	39	B
8	B	16	D	24	D	32	A	40	C