CSAT

Number System

1. There are thirteen 2-digit consecutive odd numbers. If 39 is the mean of the first live such numbers, then what is the mean of all the thirteen numbers? **(2017)**

a. 47

b. 49

c. 51

d. 45

2. Six boys A, B, C, D, E and F play a game of cards. Each has a pack of 10 cards. F borrows 2 cards from A and gives away 5 to C who in turn gives 3 to B while B gives 6 to D who passes 1 to E. Then the number of cards possessed by D and E is equal to the number of cards possessed by **(2017)**

a. A, B and C

b. B, C and F

c. A, B and F

d. A, C and F

3. Certain 3-digit numbers following characteristics: **(2017)**

1. All the three digits are different.
2. The number is divisible by 7.
3. The number on reversing the digits is also divisible by 7.

How many such 3-digit numbers are there?

a. 2
b. 4
c. 6
d. 8

4. How many numbers are there between 99 and 1000 such that the digit 8 occupies the units place? **(2017)**

a. 64

b. 80

c. 90

d. 104

5. A 2-digit number is reversed. The larger of the two numbers is divided by the smaller one. What is the largest possible remainder? **(2017)**

a. 9

b. 27

c. 36

d. 45

6. There are certain 2-digit numbers. The difference between the number and the one obtained on reversing it is always 27. How many such maximum 2-digit numbers are there? **(2017)**

a. 3

b. 4

c. 5

d. None of the above

7. What is the total number of digits printed, if a book containing 150 pages is to numbered from 1 to 150? **(2017)**

a. 262

b. 342

c. 360

d. 450

8. X and Y are natural numbers other than 1, and Y is greater than X. Which of the following represents the largest number? **(2018)**

a. XY

b. X / Y

c. Y / X

d. (X + Y) / XY

9. A number consists of three digits of which the middle one is zero and their sum is 4. If the number formed by interchanging the first and last digits is greater than the number itself by 198, then the difference between the first and last digits is **(2018)**

a. 1

b. 2

c. 3

d. 4

10. While writing all the numbers from 700 to 1000, how many numbers occur in which the digit at hundred's place is greater than the digit at ten's place, and the digit at ten's place is greater than the digit at unit's place? **(2018)**

a. 61

b. 64

c. 85

d. 91

11. The number of times the digit 5 will appear while writing the integers from 1 to 1000 is **(2019)**

a. 269

b. 271

c. 300

d. 302

12. In a school every student is assigned a unique identification number. A student is a football player if and only if the identification number is divisible by 4, whereas a student is a cricketer if and only if the identification number is divisible by 6. If every number from 1 to 100 is assigned to a student, then how many of them play cricket as well as football? **(2019)**

a. 4

b. 8

c. 10

d. 12

13. The ratio of a two-digit natural number to a number formed by reversing its digits is 4: 7. The number of such pairs is **(2019)**

a. 5

b. 4

c. 3

d. 2

14. If x is greater than or equal to 25 and y is less than or equal to 40, then which one of the following is always correct? **(2019)**

a. x is greater than y

b. (y - x) is greater than 15

c. (y - x) is less than or equal to 15

d. (x - y) is greater than or equal to 65

15. If the numerator and denominator of a proper fraction are increased by the same positive quantity which is greater than zero, the resulting fraction is **(2019)**

a. always less than the original fraction

b. always greater than the original fraction

c. always equal to the original fraction

d. such that nothing can be claimed definitely

16. A printer numbers the pages of a book starting with 1 and uses 3089 digits in all. How many pages does the book have ? **(2019)**

a. 1040

b. 1048

c. 1049

d. 1050

17. Consider two statements S1 and S2 followed by a question: **(2019)**

S1: p and q both are prime numbers.

S2: p + q is an odd integer.

Question: Is pq an odd integer?

Which one of the following is correct ?

a. S1 alone is sufficient to answer the question

b. S2 alone is sufficient to answer the question

c. Both S1 and S2 taken together are not sufficient to answer the question

d. Both S1 and S2 are necessary to answer the question

18. Number 136 is added to 5B7 and the sum obtained is 7A3, where A and B are integers. It is given that 7A3 is exactly divisible by 3. The only possible value of B is **(2019)**

a. 2

b. 5

c. 7

d. 8

19. How many triplets (x, y, z) satisfy the equation x + y + z = 6, where x, y and z are natural numbers? **(2019)**

a. 4

b. 5

c. 9

d. 10

20. An 8-digit number 4252746B leaves remainder 0 when divided by 3. How many values of B are possible? **(2019)**

a. 2

b. 3

c. 4

d. 6

21. How many zeroes are there at the end of the following product? **(2020)**

1*5*10*15*20*25*30*35*40*45*50*55*60

a. 10
b. 12
c. 14
d. 15

22. Let XYZ be a three-digit number, where (x + y + Z) is not a multiple of 3. Then (XYZ + YZX + ZXY) is not divisible by **(2020)**

a. 3

b. 9

c. 37

d. (X + Y + Z)

23. Let p, q, r and s be natural numbers such that **(2020)**

p - 2016 = q + 2017 = r – 2018 = s + 2019

which one of the following is the largest natural number?

a. p

b. q

c. r

d. s

24. If you have two straight sticks of length 7.5 feet and 3.25 feet, what is the minimum length can you measure? **(2020)**

a. 0.05 foot

b. 0.25 foot

c. 1 foot

d. 3.25 feet

25. A simple mathematical operation in each number of the sequence 14, 18, 20, 24, 30, 32, ... results in a sequence with respect to prime numbers. Which one of the following is the next number in the sequence? **(2020)**

a. 34

b. 36

c. 38

d. 40

26. One page is torn from a booklet whose pages are numbered in the usual manner starting from the first page as 1. The sum of the numbers on the remaining pages Is 195. The torn page contains which of the following numbers? **(2020)**

a. 5, 6

b. 7, 8

c. 9, 10

d. 11, 12

27. Let A3BC and DE2F be four-digit numbers where each letter represents a different digit greater than 3. If the sum of the numbers is 15902, then what is the difference between the values of A and D? **(2020)**

a. 1

b. 2

c. 3

d. 4

28. Two Statements Si and S2 are given below followed by a Question: **(2020)**

S1: n is a prime number.

S2: n leaves a remainder of 1 when divided by 4.

Question: If n is a unique natural number between 10 and 20, then what is n?

Which one of the following is correct in respect of the above Statements and the Question?

a. S1 alone is sufficient to answer the Question.

b. S2 alone is sufficient to answer the Question.

c. S1 and S2 together are sufficient to answer the Question, but neither S1 alone nor S2 alone is sufficient to answer the Question.

d. S1 and S2 together are not sufficient to answer the Question.

29. Consider the following sequence of numbers: **(2020)**

5 1 4 7 3 9 8 5 7 2 6 3 1 5

8 6 3 8 5 2 2 4 3 4 9 6

How many odd numbers are followed by the odd number in the above sequence?

a. 5

b. 6

c. 7

d. 8

30. How many integers are there between 1 and 100 which have 4 as a digit but are not divisible by 4? **(2020)**

a. 5

b. 11

c. 12

d. 13

31. what is the largest number among the following? **(2020)**

a. $(1/2)^{-6}$

b. $(1/4)^{-3}$

c. $(1/3)^{-4}$

d. $(1/6)^{-2}$

32. What is the greatest length x such that 3 ½ m and 8 ¾ m are integral multiples of x? **(2020)**

a. 1 ½ m

b. $1\ {}^{1}/_{3}$ m

c. 1 ¼ m

d. 1 ¾ m

33. The recurring decimal representation 1.272727... is equivalent to **(2020)**

a. 13/11

b. 14/11

c. 127/99

d. 137/99

34. What is the least four-digit number when divided by 3, 4, 5 and 6 leaves a remainder 2 in each case? **(2020)**

a. 1012

b. 1022

c. 1122

d. 1222

35. What is the remainder when 51 x 27 x 35 x 62 x 75 is divided by 100? **(2020)**

a. 50

b. 25

c. 5

d. 1

36. For what value of n, the sum of digits in the number $(10^n + 1)$ is 2? **(2020)**

a. For n= 0 only

b. For any whole number n

c. For any positive integer n only

d. For any read number n

37.How many pairs of natural numbers are there such that the difference of whose squares is 63? **(2020)**

a. 3

b. 4

c. 5

d. 2

38. Which one of the following will have minimum change in its value if 5 is added to both numerator and the denominator of the fractions 2/3, 3/4, 4/5 and 5/6? **(2020)**

a. 2/3

b. 3/4

c. 4/5

d. 5/6

39. A digit n > 3 is divisible by 3 but not divisible by 6. Which one of the following is divisible by 4? **(2020)**

a. 2n

b. 3n

c. 2n + 4

d. 3n + 1

40. A frog tries to come out of a dried well 4.5 m deep with slippery walls. Every time the frog jumps 30 cm, slides down 15 cm. what is the number of jumps required for the frog to come out of the well? **(2020)**

a. 28

b. 29

c. 30

d. 31

41. If 3^{2019} is divided by 10, then what is the remainder? **(2021)**

a. 1

b. 3

c. 7

d. 9

42. The number 3798125P369 is divisible by 7. What is the value of the digit P? **(2021)**

a. 1

b. 6

c. 7

d. 9

43. Integers are listed from 700 to 1000. In how many integers is the sum of the digits 10? **(2021)**

a. 6

b. 7

c. 8

d. 9

44. Consider all 3-digit numbers (without repetition of digits) obtained using three non-zero digits which are multiples of 3. Let S be their sum. Which of the following is/are correct ? **(2021)**

1. S is always divisible by 74.
2. S is always divisible by 9.

Select the correct answer using the code given below :

a. 1 only
b. 2 only
c. Both 1 and 2
d. Neither 1 nor 2

45. Consider the following multiplication problem : **(2021)**

(PQ) x 3 = RQQ, where P, Q and R are different digits and R ≠ 0.

What is the value of (P + R) ÷ Q?

a. 1

b. 2

c. 5

d. Cannot be determined due to insufficient data

46. Consider the following statements : **(2021)**

1. The sum of 5 consecutive integers can be 100.
2. The product of three consecutive natural numbers can be equal to their sum.

Which of the above statements is/are correct?

a. 1 only
b. 2 only
c. Both 1 and 2
d. Neither 1 nor 2

47. When a certain number is multiplied by 7, the product entirely comprises ones only (1111...). What is the smallest such number? **(2021)**

a. 15713

b. 15723

c. 15783

d. 15873

48. An Identity Card has the number ABCDEFG, not necessarily in that order, where each letter represents a distinct digit (1, 2, 4, 5, 7, 8. 9 only). The number is divisible by 9. **(2022)**

After deleting the first digit from the right, the resulting number is divisible by 6.

After deleting two digits from the right of original number, the resulting number is divisible by 5.

After deleting three digits from the right of original number, the resulting number is divisible by 4.

After deleting four digits from the right of original number, the resulting number is divisible by 3.

After deleting five digits from the right of original number, the resulting number is divisible by 2.

Which of the following is a possible value for the sum of the middle three digits of the number?

a. 8

b. 9

c. 11

d. 12

49. Which number amongst 2^{40} , 3^{21} , 4^{18} and 8^{12} is the smallest? **(2022)**

a. 2^{40}

b. 3^{21}

c. 4^{18}

d. 8^{12}

50. Consider the Question and two Statements given below: **(2022)**

Question: Is x an integer?

Statement-1: x/3 is not an integer.

Statement-2: 3x is an integer.

Which one of the following is correct in respect of the Question and the Statements?

a. Statement-1 alone is sufficient to answer the Question

b. Statement-2 alone is sufficient to answer the Question

c. Both Statement-1 and Statement-2 are sufficient to answer the Question

d. Both Statement-1 and Statement-2 are not sufficient to answer the Question

51. How many seconds in total are there in x weeks, x days, x hours, x minutes and x seconds? **(2022)**

a. 11580x

b. 11581x

c. 694860x

d. 694861x

52. What is the remainder when 91 × 92× 93 ×94 ×95 ×96 ×97 ×98 ×99 is divided by 1261? **(2022)**

a. 3

b. 2

c. 1

d. 0

53. What is the smallest number greater than 1000 that when divided by any one of the numbers 6, 9. 12, 15, 18 leaves a remainder of 3? **(2022)**

a. 1063

b. 1073

c. 1083

d. 1183

54. Let p be a two-digit number and q be the number consisting of same digits written in reverse order. If $p \times q = 2430$, then what is the difference between p and q? **(2022)**

a. 45

b. 27

c. 18

d. 9

55. Consider the following statements in respect of two natural numbers p and q such that p is a prime number and q is a composite number: **(2022)**

1. p×q can be an odd number.
2. q/p can be a prime number.
3. p + q can be a prime number.

Which of the above statements are correct?

a. 1 and 2 only
b. 2 and 3 only
c. 1 and 3 only
d. 1, 2 and 3

56. If 15 X 14 X 13 X…….X 3 X 2 X 1= **3^m X n** where m and n are positive integers, then what is the maximum value of m? **(2022)**

a. 7

b. 6

c. 5

d. 4

57. What is the number of numbers of the form 0.XY, where X and Y are distinct nonzero digits? **(2022)**

a. 72

b. 81

c. 90

d. 100

Thanks!