① If a and b are two distinct prime number and a is the smallest prime number than which one can not be the even?

① $a+2b$ ② $a+b$ ③ $a \times b$ ④ a^b

② Find the rational form of the recurring Decimal $0.233333\ldots$?

(a) $11/99$ (b) $1/3$ (c) $7/30$ (d) $13/30$

③ Find the rational form of the recurring Decimal $1.025555\ldots$?

(a) $91/990$ (b) $923/900$ (c) $1025/990$ (c) $883/900$

④ A 6 digit number of "aaaaaa" type is always divisible by?

(a) 7 (b) 11 (c) 13 (d) all of these

⑤ How many pairs of (x, y) are possible if Number 3568 4xy is divisible by 40?

(a) 1 (b) 3 (c) 4 (d) 5

⑥ what is the remainder when 689^{362} is divided by 25?

(a) 13 (b) 12 (c) 21 (d) 19

⑦ How many trailing zeros are in $1! + 2! + 3! + \cdots 25!$?

(a) 0 (b) 1 (c) 2 (d) 3

⑧ All natural number less than 100 are multiplied together. How many zeros will be there at the end?

(a) 0 (b) 25 (c) 36 (d) 40

⑨ How many trailing zeros are at the end of $(10^{12} \times 2^{13} \times 5^{15} \times 11^{23})$

(a) 25 (b) 22 (c) 40 (d) 42

⑩ what is the Biglest power of 30 that divide 50! completely.

(a) 10 (b) 12 (c) 13 (d) 14

(11) Find the remainder when 7^{2014} is divided by 8?

(a) 0 (b) 12 (c) 18 (d) 28

(12) Find the remainder when $(1001)^{1003}$ is divided by 7?

(a) 0 (b) 1 (c) 6 (d) 1001

(13) A Number when divided by 12 leaves remainder as 8. What would be remainder when same number is divided by 3?

(a) 2 (b) 1 (c) 0 (d) None

(14) What is the remainder when $319 \times 324 + 327$ is divided by 12?

(a) 2 (b) 3 (c) 8 (d) 0

(15) What is the Remainder when 77^{195} divided by 13?

(a) 12 (b) 13 (c) 1 (d) 0

(16) The HCF of two numbers is 15 and their difference is 15. Which of the following can be the numbers?

(a) 75, 45 (b) 60, 75 (c) 40, 55 (d) 75, 80.

(17) The LCM of two numbers is 420. The numbers are in the ratio 3:2. Then sum of the number is

(a) 210 (b) 200 c) 160 d) 140

(18) A, B, C start a race at the same time in the same direction around a circular track. A completes a round in 25 seconds, B in 30 sec and C in 60 sec. all starting at the same point. After what time will they meet again at the same point?

(a) 2 min (b) 3 min (c) 4 min (d) 5 min

Find the (1) total No. of factors (2) Sum of factors (3) product of factors (4) total number of odd factors and (5) total no of even factors.

(19) $N = 280$

(20) $N = 2^3 \times 3^2 \times 10^2$