Number System

1. If one is added to the numerator while 7 is subtracted from the denominator, ratio becomes 5 : 3. While if one is added to the denominator while 3 is subtracted from the numerator , ratio becomes 4 : 5. What is the sum of the numerator and the denominator?
(A) 34 **(B)** 31
(C) 20 **(D)** 19
(E) 38

2. If 3 is added to the numerator while 1 is subtracted from the denominator, their ratio becomes 5 : 4 while if one is added to the denominator and 5 is subtracted from the numerator the ratio becomes 2 : 3. What is the original fraction?
(A) 11/14 **(B)** 12/13
(C) 17/17 **(D)** 17/15
(E) None of these

3. A certain sum is divided among X, Y and Z in a manner that for every rupee X gets, Y gets 50 paise and for every rupee Y gets, Z gets 25paise. If Z's share in the total sum is Rs.480, then find the share of X.
(A) 3820 **(B)** 3840
(C) 3740 **(D)** 3850
(E) 3480

4. Neha has a certain number of 10-paise coin, 3 times as many 25-paise coins as 10-paise coins, and number of 50-paise coins are 5 more than the number of 25-paise coins. If the total value is Rs 120. How many 10-paise coins are there?
(A) 70 **(B)** 60
(C) 50 **(D)** 40
(E) 30

5. A bus starts with passengers filled completely to its capacity. At first stop, it drops one-third of the passengers and picks up 12 others. At the next stop, it drops half of the new total and picks up 3 others. On reaching the next station, the total number of passengers left is 18. What is the number of passengers it can fill at most?
(A) 27 **(B)** 35
(C) 52 **(D)** 32
(E) None of the Above

6. In a national park there are four different animals Tiger, Elephant, Deer and Zebra. It is known that, there are 191 animals except Tigers, 178 animals except Elephants, 169 animals except Deers and 161 animals except Zebras. What is the total number of animals in the national park?
(A) 221 **(B)** 233
(C) 254 **(D)** 245
(E) Can't be determined

7. Shagun lost her purse on her way from market to her home. But she clearly remembers that before she lost her wallet she bought one notebook and a pen. For the notebook she spent 1/5th of the money she had and for the pen she spent 10% of the remaining money and that is equal to Rs.12. Then how much money did she lose?
(A) 150 **(B)** 108
(C) 120 **(D)** 112
(E) None of these

8. A student divided 581 books among three of his friends such that four times the number of books received by first friend may be equal to five times the second friend and

seven times the third friend. Find the number of books received by first friend?
(A) 482 **(B)** 702
(C) 568 **(D)** 245
(E) 342

9. There are three signals at the traffic light. They blink after an interval of 30 seconds, 40 seconds and 25 seconds. If they all blinked first time together at 10.00 a.m. then at what time they will blink 5th time together?
(A) 10: 50 a.m. **(B)** 10: 40 a.m.
(C) 10: 40 p.m. **(D)** 10: 30 a.m.
(E) 10: 00 a.m.

10. If the numerator of a fraction is increased by 20% and the denominator is increased by 25%, the fraction obtained is 3/5. What was the original fraction?
(A) 5/7 **(B)** 4/7
(C) 3/8
(D) Can't be determined
(E) None of these

11. Sum of four numbers is 225. If 4 is subtracted from first number, added to second, multiplied to third and divided from last one then all the values are same. Find the difference b/w highest and smallest number?
(A) 145 **(B)** 135
(C) 123 **(D)** 139
(E) 132

12. Two numbers A and B are given
(i) LCM of A and B is 44 times their HCF
(ii) The sum of LCM of A & B and their HCF is 540.
(iii) $\frac{A}{10} + \frac{B}{10}$ is an integer
(iv) A + B> 150
Which of the given statements are redundant to find the answer of the question.
(A) statement (ii) **(B)** statement (iii)
(C) statement (iv) **(D)** statement (i)
(E) Answer cannot be determined even after using all the statements.

13. When the digits of a two digit natural number are interchanged then original number is greater than three times the new number so obtained. How many such natural numbers are there which satisfy the above given condition? Ignore the numbers which have '0' in its unit place.
(A) 5 **(B)** 6
(C) 7 **(D)** 8
(E) 9

14. A piggy bag has coins of denominations of Rupee one, two, and five in the ratio 11:9:5. If the total value of five-rupee coins is Rs. 56 more than the total value of two-rupee coins, find the total value of the coins in it (In Rupees).
(A) 424 **(B)** 428
(C) 432 **(D)** 440
(E) 468

15. Anindita went to Arsalaan Restaurant with her friends to celebrate her birthday. They ordered four special biriyani and some plates of kebabs. The price of one plate of kebab is 1/2 of that of the biriyani. While preparing the bill, the cashier interchanged the number of plates of biriyani and kebab by mistake which increased the bill by 20%. How many plates of kebabs were ordered?
(A) 5 **(B)** 6
(C) 3 **(D)** 7
(E) None of these

16. Team titans can be formed by 20 boys and 10 girls of a school while team vipers can be formed by 30 boys and 20 girls of the same school. If there are total of 1300 boys in the school and 800 girls in the school and from them 'm' number of team titans are formed and total 'n' number of team vipers are

formed, then find that 'm' is what per cent of 'n'?

(A) 55.55% **(B)** 33.33%
(C) 66.67% **(D)** 150%
(E) None of these

17. M and N have less than 125 apples together. If N gives M a certain number of apples, then M would have 5 times as many apples as N. Instead if M gives the same number of apples to N, then M would have 4 times as many apples as N. The number of apples with M and N together can be

(A) 100 **(B)** 85
(C) 110 **(D)** 120
(E) None of these

18. Hashmi had Rs. 574 with him. He went to market and bought 23 articles comprising of hats, mirrors and handkerchiefs each priced at Rs 45, Rs 20 and Rs 19 respectively. If the number of handkerchiefs bought were more than number of mirrors bought which in turn were more than number of hats bought, then number of hats, mirrors and handkerchiefs respectively are ___.

(A) 6, 7, 10 **(B)** 4, 9, 10
(C) 5, 7, 11 **(D)** 6, 8, 9
(E) None of the above are possibilities

19. In a doll showroom, there are 65 dolls. With each doll three packs of doll dresses are to be given free as accessory. Rats damaged 80 percent of the dress packs with their teeth. Now the showroom manager decides to give only 2 packs of doll dress with each pack. For this he orders forty-one number of doll dress packs from the factory. Also he decides to send back the extra dolls back to the factory. Find the number of dolls he sends back.

(A) 26 **(B)** 22
(C) 25 **(D)** 23
(E) None of these

20. Four bells toll together at 2:10 PM. The biggest bell tolls after every 48 seconds, the 2nd biggest bell tolls every 132 seconds. The smallest and the second smallest bell tolls at 432 and 48 seconds respectively. How many times will the third largest bell would have tolled when all the bells toll together in the third time(including the bells toll together initially).

(A) 10 **(B)** 198
(C) 199 **(D)** 595
(E) None of these