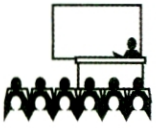

Concept Review Questions

1. How many ten letter words can be formed with all the letters of the word 'ENGAGEMENT'?
   a. 10!
   b. 10! / (3! x 2! x 2!)
   c. 10! / (3! x 2!)
   d. None of these

2. How many 5 - digit numbers divisible by 4 can be formed using the digits 5, 6, 7, 8, and 9 such that there is no repetition of digits?
   a. 30
   b. 21
   c. 24
   d. 18

3. Find the sum of all 4 - digit numbers formed by taking all the digits 2, 4, 5, and 7.
   a. 118899
   b. 119988
   c. 19998
   d. 19988

4. A conference is attended by 25 participants. If each participant shakes hand with every other participant, what will be the resultant number of handshakes?
   a. 300
   b. 25

c. 276

d. 325

5. How many diagonals does an octagon have?

a. 56

b. 20

c. 28

d. 24

6. How many parallelograms are formed by a set of 6 parallel lines intersecting another set of 4 parallel lines?

a. 24

b. 90

c. 15

d. None of these

7. If all the possible words using the letters of the word 'DRAW' are formed without repetition and arranged in alphabetical order, what will be the position of the word 'WARD'?

a. 23

b. 24

c. 19

d. 20

8. In how many ways can 6 tennis players be divided into 3 teams of 2 each?

a. 20

b. 45

c. 90

d. None of these

9. What is the probability that a clerk while randomly placing 5 letters (each intended for a particular recipient) in 5 addressed envelopes will place exactly one of those letters in a wrong envelope?

   a. 5!

   b. 1/5!

   c. 0

   d. None of these

10. If two different numbers are randomly selected from the first 10 natural numbers, what is the probability that the sum of the selected numbers will be 11?

    a. 1/55

    b. 1/11

    c. 1/9

    d. 1/45

11. From a bag with 2 white, 3 black and 5 red marbles, 3 marbles are randomly selected. What is the probability that all the 3 selected marbles are red in colour?

    a. 1/2

    b. 1/120

    c. 1/12

    d. None of these

12. A football player was practicing penalty shots. If the probability of scoring a goal for each attempt is 80%, what is the probability that he will score a goal in each of his 3 attempts?

    a. 80%

    b. 64%

c. 0%

d. 51%

13. If the letters of the word 'TRAP' are jumbled at random, what is the probability that the position in which the vowel appears will remain unchanged?

a. 6/23

b. 1/24

c. 1/6

d. 1/4

14. A man plays a game of dice in a casino. The man has to pay Rs. 100 for every roll of the dice. If a multiple of 3 turns up, the man doubles his money; else, he forfeits it. In the long run, what is his expected gain or loss per roll of the dice?

a. Rs. 33 1/3 gain

b. No gain or loss

c. Rs. 33 1/3 loss

d. Rs. 100 loss

15. There are two boxes with numerous balls in them. The first box has 13 red and 17 white balls. The second box has 12 red and 8 green balls. If one of those boxes is selected at random and a ball is selected at random from the selected box, what is the probability that the selected ball will be white?

a. 17 / 30

b. 17 / 50

c. 17 / 60

d. 29 / 60