D.K.M. College for Women (Autonomous)
Aptitude Test

Permutation Combination- Test 18

1. An intelligence agency forms a code of two distinct digits selected from 0, 1, 2, ..., 9 such that the first digit of the code is nonzero. The code, handwritten on a slip, can however potentially create confusion, when read upside down-for example, the code 91 may appear as 16. How many codes are there for which no such confusion can arise?

a) 80 b) 78
c) 71 d) 69

2. If a refrigerator contains 12 cans such that 7 blue cans and 5 red cans. In how many ways can we remove 8 cans so that at least 1 blue can and 1 red can remains in the refrigerator.

a) 513 b) 455
c) 627 d) 369

3. There is meeting of 20 delegates that is to be held in a hotel. In how many ways these delegates can be seated along a round table, if three particular delegates always seat together?

a) 17! 3! b) 18! 3!
c) 17! 4! d) 18! 4!

4. In how many ways a four digit even number can be formed by using the digits 2,3,5,8 exactly once?

a) 24 b) 12
c) 6 d) 18

5. In a plane there are totally 8 points (no three points are collinear), how many lines can be drawn ?

a) 28 b) 24
c) 56 d) 64

6. A boy has nine trousers and 12 shirts. In how many different ways can he select a trouser and a shirt?

a) 21 b) 12
c) 9 d) 108

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

a) 12 b) 20
c) 16 d) 24

8. Using all the letters of the word "THURSDAY", how many different words can be formed?

a) 8 b) 8!
c) 7! d) 7

9. Using all the letters of the word "NOKIA", how many words can be formed, which begin with N and end with A?

a) 3 b) 6
c) 24 d) 120

10. The number of arrangements that can be made with the letters of the word MEADOWS so that the vowels occupy the even places?

a) 720 b) 144
c) 120 d) 36

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11. A group consists of 4 men, 6 women and 5 children. In how many ways can 2 men, 3 women and 1 child selected from the given group?

a) 300 b) 600
c) 750 d) 900

12. Amit has five friends, 3 girls and 2 boys. Amit's wife also has 5 friends, 3 boys, and 2 girls. In how many maximum numbers of different ways can their invite 2 boys and 2 girls such that two of them are Amit's friends and two are his wife's?

a) 24 b) 38
c) 46 d) 58

13. A group of 10 representatives is to be selected out of 12 seniors and 10 juniors. In how many different ways can the group be selected if it should have at least one senior?

a) $^{22}C_{10}$ b) $^{22}C_{10} + 1$
c) $^{22}C_9 + {}^{10}C_1$ d) $^{22}C_{10} - 1$

14.Six points are marked on a straight line and five points are marked on another line which is parallel to the first line. How many straight lines, including the first two, can be formed with these points?

a) 29 b) 33
c) 55 d) 32

15. Three dice (each having six faces with each face having one number from 1 or 6) are ralled. What is the number of possible outcomes such that atleast one dice shows the number 2?

a) 36 b) 81
c) 91 d) 116

16. Three flags each of different colours are available for a military exercise, Using these flags different codes can be generated by waving

I. Single flag of different colours
II. Any two flags in a different sequence of colours.
III. three flags in a different sequence of colours.
The maximum number of codes that can be generated is.

a) 6 b) 9
c) 15 d) 18

17. 2 men and 1 woman board a bus of which 5 seats are vacant, one of these 5 seats is reserved for ladies. A woman may or may not sit on the seat reserved for ladies, In how many different ways can the five seats be occupied by these passengers?

a) 15 b) 36
c) 48 d) 60

18. A student has to opt for 2 subjects out of 5 subjects for a course. Namely commerce, economics, statistics, mathematics 1 and Mathematics 2, Mathematics 2 can be offered only if mathematics 1 has also opted. The number of different combinations of two subjects which can be opted is

a) 5 b) 6
c) 7 d) 18

19. A selection is to be made for one post of principal and two posts of vice-principal amongst the six candidates called for the interview only two are eligible for the post

of principal while they all are eligible for the post of vice-principal. The number of possible combinations of selectees is

a) 4 b) 12
c) 18 d) None of these

20. A person ordered 5 pairs of black socks and some pairs of brown socks. The price of a black pair was thrice that of a brown pair while preparing the bill the bill clerk inter-changed the number of black and brown pairs by mistake which increased the bill by 100% what was the number of pair of brown socks in the original order?

a) 10 b) 15
c) 20 d) 25

21. There are 5 tasks and 5 persons, Task 1 cannot be assigned to either person 1 or person 2, Task 2 must be assigned to either person-3 or person-4 every person is to be assigned one task, In how many ways can the assignment be done?

a) 6 b) 12
c) 24 d) 144

22. A two number committee comprising of one male and the female number is to be constituted out of five male and 3 females. Amongst the females, Ms. A refused to be number committee in which Mr.B is taken as the number of how many different ways can the committee be constituted?

a) 11 b) 30
c) 14 d) 20

23. In a society, it is customary for friends of the same sex to hug and for friends of opposite sex to shake hands when they meet. A group of friends met in a party and there were 24 hand shakers. Which one among the following numbers indicates the possible number of hugs?

a) 39 b) 30
c) 21 d) 20

24. There are two identical red, two identical black, and two identical white balls. In how many different ways can the balls be placed in the cells (Each cell to contain one ball) shown above such that balls of the same colour do not occupy any two consecutive cells?

a) 15 b) 18
c) 24 d) 30

25. In how many different ways can four books A, B, C and D be arranged one above another in a vertical order such that the books A and B are never in continuous position?

a) 9 b) 12
c) 14 d) 18