**MATHEMATICS**

**DPP**

DAILY PRACTICE PROBLEMS

# DPP No. 73

**Total Marks : 27**

**Max. Time : 28 min.**

**Topic : Permutation & Combination**

| **Type of Questions** | | **M.M., Min.** |
|---|---|---|
| **Single choice Objective (no negative marking) Q.12,3,4,5** | **(3 marks, 3 min.)** | **[15, 15]** |
| **Subjective Questions (no negative marking) Q.6** | **(4 marks, 5 min.)** | **[4, 5]** |
| **Match the Following (no negative marking) Q.7** | **(8 marks, 8 min.)** | **[8, 8]** |

**1.** 10 IIT & 2 PET students sit in a row. If the number of ways in which exactly 3 IIT students sit between 2 PET students is K.10!, then the value of 'K' is :

(A) 16. 10! (B) 2.10! (C) 12! (D) 16

**2.** Number of ways in which 7 people can occupy six seats, 3 seats on each side in a first class railway compartment if two specified persons are to be always included and occupy adjacent seats on the same side, is (k). 5 ! then k has the value equal to:

(A) 2 (B) 4 (C) 8 (D) none

**3.** Number of different ways in which 8 different books can be distributed among 3 students, if each student receives at least 2 books is

(A) 2940 (B) 2600 (C) 2409 (D) 2446

**4.** If letters of the word "PARKAR" are written down in all possible manner as they are in a dictionary, then the rank of the word 'PARKAR' is

(A) 98 (B) 99 (C) 100 (D) 101

**5.** 5 Indian & 5 American couples meet at a party & shake hands. If no wife shakes hands with her husband & no Indian wife shakes hands with a male, then the number of hand shakes that takes place in the party is :

(A) 95 (B) 110 (C) 135 (D) 150

**6.** The tamer of wild animals has to bring one by one 5 lions & 4 tigers to the circus arena. The number of ways this can be done if no two tigers immediately follow each other is ..... .

**7.** **Match the column**

| **Column - I** | **Column - II** |
|---|---|
| (A) Six boys and six girls sit along a line alternately in x ways and along a circle (again alternately) in y ways, then x = ky, then k = | (p) 2.48! |
| (B) There are 50 persons among whom 2 are brothers. The number of ways they can be arranged in a circle, if there is exactly one person between the two brothers is | (q) 12 |
| (C) The number of ways in which 10 boys can take positions around a circular table round table, if two particular boys must not be seated side by side is : | (r) 360 |
| (D) The number of 5 digit numbers of the form x y z y x in which x < y is : | (s) 7.8! |

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# Answers Key

**1.** (D) **2.** (C) **3.** (A) **4.** (B)

**5.** (C) **6.** 43200

**7.** (A) → (q), (B) → (p), (C) → (s), (D) → (r)

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