

Ques - The number of ~~flags~~ signals that can be sent by 6 flags of different colors taking one or more at a time is:

(A) 63

(B) 1956

(C) 720

(D) 21

Sol.

Number of signals using one flag =  ${}^6P_1 = 6$   
similarly for two, three, four, five & six

flags  $\Rightarrow {}^6P_2, {}^6P_3, {}^6P_4, {}^6P_5, {}^6P_6$

$\Rightarrow 30, 120, 360, 720, 720$

there total using one or more flags

$$= 6 + 30 + 120 + 360 + 720 + 720$$

$$= \underline{1956}$$

(B)