The number of integers greater than 6,000 that can be formed, using the digits 3, 5, 6, 7 and 8, without repetition, is :

(1) 120

(2) 72

(3) 216

(4) 192

Number of integers greater than 6000 = Number of 4 digit integers greater than 6000 + Number of 5 digit integers greater than 6000

∴ Number of 4 digit integers greater than 6000

$$= 3 \times 4 \times 3 \times 2 = 72$$

∴ Number of 5 digit integers greater than 6000

$$= 5 \times 4 \times 3 \times 2 \times 1 = 120$$

∴ Total number of integers greater than 6000

$$= 72 + 120 = 192$$

Correct option (4)