

Q S -sylow subgroup are cyclic
in S_7 , we have to find, no. of element of S cycle,

i.e. $(5+1+1=7)$

$$\text{no. of element of } S \text{ cycle in } S_7 = \frac{7!}{5^1 \times 1^2 \times 2!} = \boxed{504}$$

$$\text{no. of } S\text{-sylow subgroup} = \frac{504}{\phi(5)} = \frac{504}{4} = \boxed{126}$$