5. $f_A = 15\% f_0 (10\% \cdot \frac{1}{3T} + 90\% \times 10\% \times \frac{1}{4T})$

设周期为 $T$    $T_1 + T_2 = T$   $\frac{1}{T_1} : \frac{1}{T_2} = 15\%$   $\therefore \frac{T_2}{T_1} = \frac{3}{20}$

$T_1 = \frac{20}{23} T$    $T_2 = \frac{3}{23} T$

$T_A = \frac{20}{23} T \times (10\% \times (3+1) + 90\% \times 10\% \times (4+1) + 90\% \times 90\% \times 1)$

$\doteq 1.44 T$

$T_B = 3T$

$\therefore S = \frac{T_B}{T_A} = 2.08$

12.

(1)
```
for (i=1; i<10000; i++)
  { if (i%2 ==0)     code A
    else if (i%5 ==0)  code B
  }
```
(crossed out)

```
for (i=1; i<10000; i++){
  if (i%2 ==0 ){
    if (i%5 ==0) CodeB
  }
  else  code A
}
```

(2) B1:  50%
   B2:  20%
   B3:  0.01%

(3) B1:  0%
   B2: 60%
   B3: 99.98%

13. (1) $k_{min} = 8$
   (2) $N_{min} = 2$
   (3) B1: 50%
       B2: 80%    B3: 99.99%