

## Standard Answer of the Test Questions of Wuhan University of Technology (A)

2018 ~2019 Academic Year the 1st Semester

Course : Interchangeability and Measurement

### I. Multiple-choice questions (single answer) (1 point \*10=10 points)

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1、 B | 2、 D | 3、 B | 4、 C | 5、 A  |
| 6、 D | 7、 C | 8、 A | 9、 B | 10、 D |

### II. True or false questions (mark $\checkmark$ for right sentences and mark X for wrong ones, 1 point \*10=10 points)

- 1、  $\times$    2、  $\times$    3、  $\checkmark$    4、  $\times$    5、  $\checkmark$    6、  $\times$    7、  $\checkmark$    8、  $\checkmark$    9、  $\checkmark$    10、  $\times$

### III. Design questions (15 points)

1、 Answer:

(1)  $T_f = T_h + T_s = |Y_{\min} - Y_{\max}| \leq 0.055\text{mm}$  (2 points)  
 $T_s = IT_6 = 0.019\text{mm}, T_h = IT_7 = 0.030\text{mm}$

(2) From the basic hole system, we can know  $\phi 60H7/s6$

$$\begin{cases} Y_{\min} = ES - ei \leq (Y_{\min}) = -0.020\text{mm} \\ Y_{\max} = EI - es \geq (Y_{\max}) = -0.075\text{mm} \\ T_s = es - ei = 0.019\text{mm} \\ T_h = ES - EI = 0.030\text{mm} \end{cases} \quad (4 \text{ points})$$

We can attain that:  $\begin{cases} +0.050\text{mm} \leq ei \leq +0.056\text{mm} \\ +0.069\text{mm} \leq es \leq +0.075\text{mm} \end{cases}$  (ei is fundamental deviation)

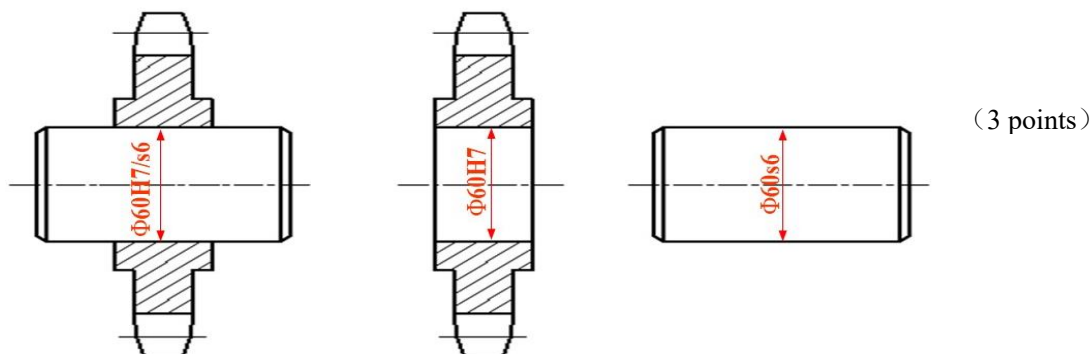
Through table look-up, we can know  $ei = +0.053\text{mm}$  The code is s (4 points)

So,  $es = ei + IT_7 = +0.072\text{mm}$

(3) Check: Because  $\begin{cases} Y_{\min} = ES - ei = -0.023\text{mm} < (Y_{\min}) = -0.020\text{mm} \\ Y_{\max} = EI - es = -0.072\text{mm} > (Y_{\max}) = -0.075\text{mm} \end{cases}$

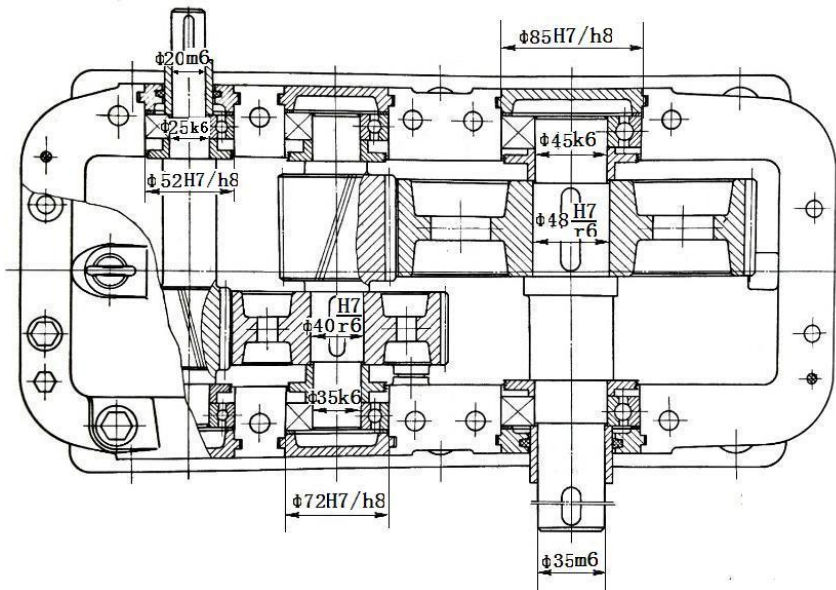
So, it meets the requirements, and its fit code is  $\phi 60H7/s6$

(4) Mark on the drawing: (2 points)

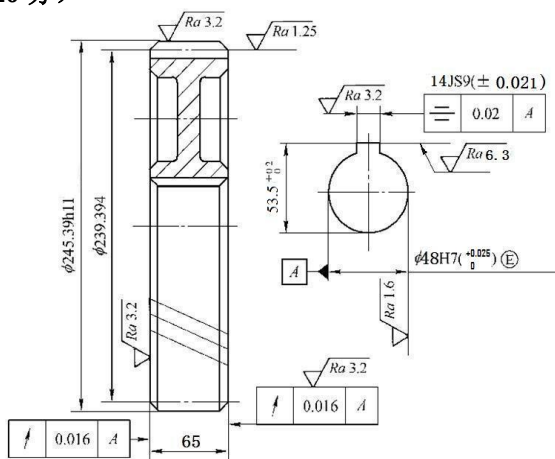


#### IV. Comprehensive problem solving questions (65 points)

1、 (20 分)



2、 (20 分)



3、 (25 分)

