

THE HONG KONG POLYTECHNIC UNIVERSITY  
HONG KONG COMMUNITY COLLEGE

**Subject Title** : Engineering Communication                      **Subject Code** : CCN2296  
**Session** : Semester One, 2017/18

**Numerical Answers**

**Question A3**

$$Ra = 2.64\mu\text{m}$$

**Question A5**

- (a) \*20,20 \*20,40 \*40,40 \*40,0 \*0,0 OR \*40,0 \*40,40 \*20,40 \*20,20 \*0,0  
(b) @28<45 @20<90 @20<0 @40<270 (or @-40<90 or @40<-90) @40<180 (or @-40<0)  
OR  
@40<0 @40<90 @20<180 @20<270 (or @-20<90 or @20<-90) @28<225 (or @28<-135)

**Question A6**

- (a) 1.042 inch or 1.043 inch  
(b) 0.669 inch or 0.670 inch

**Question A7**

- (a) 0.333 inch  
(b) 0.141 inch

**Question A8**

- (a)(i)  $T_{\text{hole}} = 25\mu\text{m}$ ,  $T_{\text{shaft}} = 16\mu\text{m}$ , Max. Clearance =  $50\mu\text{m}$ , Min. Clearance =  $9\mu\text{m}$   
(a)(ii)  $T_{\text{hole}} = 220\mu\text{m}$ ,  $T_{\text{shaft}} = 22\mu\text{m}$ , Max. Clearance =  $183\mu\text{m}$ , Max. Interference =  $-59\mu\text{m}$   
(b)  $\varnothing 40$  hole :  
Actual size of  $\varnothing 40$  hole at MMC =  $\varnothing 40\text{mm}$   
Tolerance zone =  $0.050\text{mm}$   
Actual size of  $\varnothing 40$  hole at LMC =  $\varnothing 45.025\text{mm}$   
Tolerance zone =  $0.025\text{mm}$   
 $\varnothing 85$  hole :  
Actual size of  $\varnothing 85$  hole at LMC =  $\varnothing 85.037\text{mm}$   
Tolerance zone =  $0.023\text{mm}$   
Actual size of  $\varnothing 85$  hole at LMC =  $\varnothing 85.059\text{mm}$   
Tolerance zone =  $0.045\text{mm}$