BIME-027

DIPLOMA – VIEP – MECHANICAL ENGINEERING (DMEVI)

Term-End Examination

ロロ日22   December, 2017

BIME-027 : METROLOGY AND QUALITY CONTROL

Time : 2 hours   *Maximum Marks : 70*

*Note : Attempt any **five** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. (a)   Name and sketch three main types of fits. Give applications of each.

   (b)   Distinguish between Primary, Secondary and Tertiary working standards of length.   *7+7*

2. (a)   Discuss the method for testing of straightness by using spirit level.

   (b)   What are Slip Gauges ? Outline their applications.   *7+7*

3.   A hole is dimensioned as $25^{+0.033}_{+0.0}$ and the shaft is dimensioned as $25^{-0.040}_{-0.061}$. Determine the hole tolerance, the shaft tolerance and the allowance of the fit. What type of fit shall be established ?   *14*

BIME-027   1   P.T.O.

4. (a) Differentiate between Primary texture and Secondary texture.

(b) What are the advantages and disadvantages of mechanical comparators ? Explain. 7+7

5. (a) What is meant by a Gear Tooth Thickness ? How do you measure it with the help of a gear tooth vernier ?

(b) State the instruments used to find the base tangent thickness of a gear tooth. 7+7

6. (a) Define the term Quality Control. Explain its objectives.

(b) What do you understand by quality assurance ? State its advantages. 7+7

7. (a) What is meant by a Sequential Sampling Plan ? Explain stating its application.

(b) Draw a neat sketch of an OC curve showing its different zones. 7+7