| BIME-027 |

DIPLOMA – VIEP – MECHANICAL ENGINEERING (DMEVI)

Term-End Examination

□□356   June, 2016

BIME-027 : METROLOGY AND QUALITY CONTROL

Time : 2 hours   *Maximum Marks : 70*

Note : *Attempt any* *five* *questions. All questions carry equal marks.*

1. (a) What are the primary, secondary and tertiary measurements ? Explain.   7

    (b) Explain hole basis system and shaft basis system with suitable sketch.   7

2. Explain the various types of fits used for the purpose of assembly of machine parts with neat sketch.   14

3. (a) Explain the working of pneumatic comparator with a neat sketch. Also list out its advantages.   7

    (b) Define the pitch of a screw thread and explain the working of a pitch measuring machine and describe the working principles.   7

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4. (a) Explain the measuring techniques of tool-maker's microscope. Describe its features with conventional microscope.   7

(b) Explain the construction and working principle of a co-ordinate measuring machine (CMM) with a neat sketch.   7

5. (a) How do you measure the surface roughness ? Explain with a suitable sketch.   7

(b) What do you understand by cost of quality and value of quality ? How can you balance them ?   7

6. (a) Define TQM. State the important requirement for the implementation of TQM programme in an industrial organization.   7

(b) What do you mean by acceptance sampling ? State and explain the advantages and limitations.   7

7. Write short notes on the following : $4 \times 3\frac{1}{2} = 14$

(a) Sampling Inspection

(b) Zero Defects

(c) Quality Assurance

(d) Angular Measurement