

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)**

**Term-End Examination**

00771

**June, 2015**

**BME-057 : CNC MACHINES**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note : Answer any five questions.**

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1. (a) How are CNC machines different from other manufacturing machines ? Explain briefly. 7
- (b) Explain the program instructions of an NC system. 7
  
2. (a) Discuss the various steps to be accomplished for utilization of numerical control in manufacturing. 7
- (b) Explain briefly point-to-point NC motion control system. 7

3. (a) Explain the different types of words in the formation of a block in NC machine. 7
- (b) Differentiate between Manual part programming and Computer-assisted part programming. 7
4. (a) Describe the different ways to implement a computer-assisted part programming system. 7
- (b) Describe APT language. 7
5. (a) Briefly explain the Adaptive Control Optimization. 7
- (b) Enumerate the benefits of Adaptive Control Machining. 7
6. (a) State the suitability of NC technology. Discuss its advantages and disadvantages. 7
- (b) What strategies should be adopted while automating a system ? Explain. 7

**7. (a) Explain the following M-words : 7**

(i) M00

(ii) M02

(iii) M04

(iv) M05

(v) M09

(vi) M13

(vii) M30

**(b) Describe the following programming formats in detail : 7**

(i) Word address format

(ii) TAB sequential format

(iii) Fixed block format