

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)**

**Term-End Examination**

**December, 2015**

**BME-057 : CNC MACHINES**

*Time : 2 hours*

*Maximum Marks : 70*

---

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

---

---

1. (a) What are the advantages and disadvantages of CNC machines over other machines ? 7
- (b) Explain the controller unit of an NC system. 7
2. (a) Discuss the NC co-ordinate system for Numerical Control. 7
- (b) Explain briefly straight cut NC motion control system. 7

3. (a) What are the various NC part programming languages ? Explain any one of them briefly. 7
- (b) Describe the steps involved in the computer's job in computer-assisted part programming. 7
4. (a) Explain the principal functions of CNC. 7
- (b) Explain the general configuration of CNC system. 7
5. (a) Briefly explain the adaptive control constraint. 7
- (b) Describe the various sources of variability in machining. 7
6. (a) What is flexible automation ? How does it differ from programmable automation ? 7
- (b) What is an automatic tool changer ? What are the necessities and advantages of an ATC ? 7

7. (a) Explain the following G-codes : 7

(i) G00

(ii) G01

(iii) G02

(iv) G04

(v) G21

(vi) G90

(vii) G98

(b) Briefly explain the following terms : 7

(i) Bit

(ii) Byte

(iii) Character

(iv) NC word

(v) Block

(vi) RAM

(vii) ROM

---