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5th Sem./ Mechanical Engg. Mechanical (Tool & Die)
Subject : CNC Machines & Automation

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 In a DNC system

a) Only a single machine tool can be controlled

b) NC machine cannot be controlled

c) Many machine tools can be controlled simultaneously

d) None of these

Q.2 M-Codes are also knows as

a) Preparatory codes b) Spindle speed codes

c) Tool selection codes d) Miscellaneous codes

Q.3 Full form of CIM is

a) Computer Integrated Manufacturing

b) Common Integral Manufacturing

c) Computer Integrated Machine

d) Machine computer universal

Q.4 Which of the following code will give a linear interpolation movement?

a) G00 b) G01

c) G78 d) G65

Q.5 The function of side ways in CNC is to _____.

a) Reduce friction

b) Reduce Wear

c) Improve smoothness

d) All of the mentioned

Q.6 LVDT has got_____ number of windings.

a) 04 b) 02

c) 03 d) 08

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Write the full form of NC, CNC and DNC.

Q.8 Define Part program.

Q.9 Define transducer.

Q.10 Define :

i) Opto interupter

ii) Potentiometer

Q.11 AGV stands for _____.

Q.12 Enlist the types of Automation.

SECTION-C

Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)

Q.13 Explain the rules for axis identification in NC machines.

Q.14 What are the common problems found in mechanical components of a CNC machines?

Q.15 Explain cutter radius compensation.

Q.16 Differentiate between Conventional machine and CNC machine.

Q.17 What are the main advantages of LVDT?

Q.18 What are the different types of slide ways? Explain.

Q.19 Explain the type of DNC.

Q.20 Explain any one type of Automated guided vehicles.

Q.21 What is FMS? What are advantages and limitation of FMS?

Q.22 Define law of Robotics.

SECTION-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)

Q.23 What is robot? Explain in detail the various types of motions and joints in robots.

Q.24 Explain the different formats and basic structure of a part program. explain in detail.

Q25 Define sensors? What are the characteristics and factors should be considered while selecting a sensor?