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121755/031755

5th Sem. / Mech. / Mechatronics / Prod / T&D / CAD CAM / CNC

Subject : CnC M/C & Auto.

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) Write any two application of CNC Machines.

b) Part Family.

c) FMS.

d) Name various input devices of CNC machine.

e) Function of Tachometer.

f) Name various part program formats.

g) Qualified Tools.

h) ATC.

i) Transducer.

j) LVDT.

k) Industrial Automation.

l) Write NC word use for feed rate with example.

m) Canned cycle.

n) Machine Zero.

o) Home position.

p) Name different component of a FMS.

q) Robot.

r) Repeatability.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

Q.2 i) Explain the NC coordinate system.

ii) Explain axis identification of a CNC system.

iii) What are spindle drive requirements in CNC machines?

iv) Explain opto-interrupters.

v) What do you meant by open loop control system.

vi) Differentiate between open loop and close loop control system.

vii) What do you mean by manual part programming?

viii) Explain absolute and incremental system.

ix) Discuss any one swarf removal method in CNC machine.

x) Write short note on subroutine.

xi) Explain briefly on-line diagnostic.

xii) What are the needs of automation?

xiii) What are benefits of FMS?

xiv) What do you mean by group technology?

xv) State advantages and disadvantages of Robots.

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.3 What are main components of MCU explain in detail.

Q.4 What are the requirements of slide ways in a CNC system. Also discuss different types of slide ways.

Q.5 Explain different type automation along with advantages and limitation.

Q.6 What are main problems in electrical and mechanical components of a CNC machine. Also give their remedies.

Q.7 Explain canned cycle with an example.