Q.25 Explain the working of opto interruptor.

Q.26 What are the disadvantages of CNC?

Q.27 Differentiate between preset and qualified tooling.

Q.28 What are the advantages and disadvantages of PLC?

Q.29 Explain conveyer method of swarf removal.

Q.30 Write short note on safety devices.

Q.31 Explain different types of tool magazines.

Q.32 Write short notes on any one
   a) LVDT   b)   Axis drive

Q.33 Explain the brazed tool with their applications.

Q.34 Explain any two tool holding devices, with their neat sketch.

Q.35 Describe rotary encoders and their functions.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions.   (2x10=20)

Q.36 Explain the types of slideways with neat sketches.

Q.37 What are the various features of CNC tooling?

Q.38 Explain various work holding devices with neat sketches.

5th Sem / Branch : CNC
Subject:- Basics of CNC Machines, Classifications of CNC, Tooling M/C

Time : 3Hrs.   M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory   (10x1=10)

Q.1 What is the purpose of using recirculating ball screw nut mechanism in CNC machine?
   a)   To reduce the setup time
   b)   For higher surface finish
   c)   For carrying out up-milling
   d)   To remove backlash

Q.2 On turning lathes the machine zero point is generally at the
   a)   Head stock of lathe spindle nose face
   b)   Dead center of tail stock
   c)   Tool point mounted on tool post
   d)   none of the above

Q.3 Which type of feedback device used in CNC machine?
   a)   Positional feedback device
   b)   Velocity feedback device
   c)   Both a and b
   d)   None of the above

Q.4 Point-to-point systems are used for _____
    a) reaming   b) parting
    c) grooving   d) facing

Q.5 The lost motion in CNC machine tool is on account of
    a) Backlash in gearing
    b) Wind-up of drive shafts
    c) Deflection of machine tool members
    d) All of the above

Q.6 The setting of tools to a specific length is called
    a) Tool on setting   b) Specific setting
    c) Presetting   d) Post setting

Q.7 Which feedback device translate physical motion into electrical data?
    a) Encoder
    b) transducer
    c) Digital system monitoring
    d) None of the above

Q.8 Several machine tools can be controlled by a central computer in
    a) NC   b) CNC
    c) CCNC   d) DNC

Q.9 Stepper motors are suitable only for which types of machines?
    a) Light duty   b) Medium duty
    c) Heavy duty   d) Ultra heavy duty

Q.10 Tool change cycle has _____ stages.
    a) 2   b) 3
    c) 4   d) None of the above

SECTION-B

Note: Objective type questions. All questions are compulsory.   (10x1=10)

Q.11 Name any two safety device of CNC.

Q.12 In servo motor the input command is in the form of _____.

Q.13 PLC in CNC is used for _____

Q.14 Swarf is in the form of _____

Q.15 Hydrostatic slideways introduce a layer of _____ between metal components.

Q.16 The setting of tools to a particular standard length is known as _____.

Q.17 Expand ATC.

Q.18 The feedback device which transforms data from one form to another is known as _____

Q.19 _____ tool has tip joined together by melting and flowing a filler metal into the join.

Q.20 A _____ is a controlling device wherein the memory and I/O output component are present internally.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions.   (12x5=60)

Q.21 Write short note on types of CNC.

Q.22 What are different types of MCU?

Q.23 Describe various types of tool magazines.

Q.24 Write short note on Tachometer.