Q.21 Write a short note on Adaptive Control in CNC. (CO5)

Q.22 What is Broaching? Mention its advantages. (CO2)

SECTION-D

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

Q.23 Describe the construction and working of a Vertical milling Machine with sketch. (CO3)

Q.24 Explain Resistance Spot Welding with neat sketch and list its industrial applications. (CO4)

Q.25 What is CNC Programming? Explain its types and structure with example code. (CO5)

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6th Sem. / Automation & Robotics

Subject : Manufacturing Technologies and Applications

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Which one of the following is a fusion welding process? (CO4)

a) Friction welding b) Gas Welding

c) Forge welding d) Cold Welding

Q.2 Case hardening is mainly used to improve: (CO1)

a) Toughness b) Surface hardness

c) Machinability d) Corrosion resistance

Q.3 The tailstock of a lathe is mainly used for: (CO2)

a) Holding the cutting tool

b) Supporting the workpiece

c) Driving the spindle

d) Changing spindle speed

Q.4 CNC machines operate based on: (CO5)

a) Hydraulic power

b) Pre-programmed codes

c) Human intuition d) Random data entry

Q.5 Which of the following properties indicated how easily a material can be stretched into a wire? (CO1)

a) Ductility b) Malleability

c) Brittleness d) Hardness

Q.6 Resistance welding includes which of the following? (CO3)

a) MIG welding b) TIG welding

c) Spot welding d) Gas welding

SECTION-B

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

Q.7 Arc welding uses _____ to generate heat. (CO4)

Q.8 In lathe operations, _____ is used to hold small diameter jobs. (CO2)

Q.9 The hardness of a material is tested using the _____ test. (CO1)

Q.10 CNC stands for_____. (CO5)

Q.11 In welding, _____ rod is used to fill the gap between metals. (CO3)

Q.12 _____ is the property of a material to absorb energy before fracture. (CO1)

SECTION-C

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

Q.13 Define: (CO1)

a) Malleability b) Elasticity

Q.14 Explain the process of Normalizing and its purpose. (CO1)

Q.15 What are the functions of a Tailstock and a Chuck in lathe? (CO2)

Q.16 What is Projection Welding. Mention its application. (CO3)

Q.17 What are G-codes and M-codes in CNC? Give examples. (CO5)

Q.18 Differentiate between Shaper and Slotter. (CO2)

Q.19 Explain the working principle of EDM. (CO4)

Q.20 Discuss the importance of thermal conductivity in tool material selection. (CO1)