

University of Mumbai
Examination 2020 under cluster 4 (PCE)

Program: BE Mechanical Engineering

Curriculum Scheme: Rev2016

Examination: Third Year Semester VI

Course Code: MEDLO6023 and Course Name: Industrial Automation

Time: 1 hour

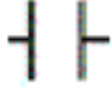
Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	The number of moveable joints in the base, the arm, and the end effectors of the robot determines_____
Option A:	Flexibility
Option B:	Payload capacity
Option C:	Operational limits
Option D:	Degrees of freedom
Q2.	Which of the following terms IS NOT one of the five basic parts of a robot?
Option A:	Peripheral tools
Option B:	End effectors
Option C:	Drive
Option D:	Controller
Q3.	From the following which type of work envelope is made in jointed arm robot?
Option A:	Rectangular work envelope
Option B:	Cylindrical work envelope
Option C:	Spherical or hemispherical work envelope
Option D:	Linear envelop
Q4.	Which is the following is continuous path controlled robot application.
Option A:	Spot welding
Option B:	Spray painting
Option C:	Drilling holes
Option D:	Machine loading and unloading
Q5.	In car which type of timer is used for fan
Option A:	on-delay
Option B:	off-delay
Option C:	on delay and off delay timer
Option D:	no delay timer
Q6.	Normally in latching circuit, the start switch is
Option A:	Normally open and detent switch
Option B:	Normally closed and detent switch
Option C:	Normally open and spring return switch
Option D:	Normally closed and spring return switch

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Q7.	Following symbol represents _____ in PLC 
Option A:	Normally open contact
Option B:	Carry '0' signal always
Option C:	Normally closed contact
Option D:	Capacitor
Q8.	Relay is used
Option A:	Break the fault current
Option B:	Sense the fault
Option C:	Sense the fault and direct to trip the circuit breaker
Option D:	Store the current
Q9.	Which one of the following is classified as input device in PLC systems?
Option A:	Motor
Option B:	Pump
Option C:	Solenoid Valve
Option D:	Sensor
Q10.	Which of the following motor has feedback control
Option A:	DC motor
Option B:	AC motor
Option C:	Servo motor
Option D:	Stepper motor
Q11.	The speed of a BLDC motor can be controlled by _____
Option A:	Changing input DC voltage
Option B:	Changing temperature
Option C:	Changing wind direction
Option D:	Cannot be controlled
Q12.	Solenoid valves are used in which applications
Option A:	Hydraulics
Option B:	Pneumatics
Option C:	Electrohydraulic
Option D:	Electro-hydraulic and electro-pneumatic
Q13.	"Stop the process invoke corrective action" In this case, the deviation or malfunction requires that the execution of the work cycle beduring corrective action.
Option A:	Continued
Option B:	Suspended
Option C:	Repeated
Option D:	Postponed

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Q14.	A Group of CNC machines is which level of automation
Option A:	Device level
Option B:	System level
Option C:	Machine level
Option D:	Enterprise level
Q15.	A safety monitoring system that sounds an alarm when.....gets dangerously close to the automated system.
Option A:	Human worker
Option B:	Work piece
Option C:	Control System
Option D:	Actuator
Q16.	Which type of automaton line uses indexing around circular table
Option A:	In line
Option B:	Rotary
Option C:	Single part
Option D:	U shape linear
Q17.	Developing a spares inventory for current systems can also help reducein the event of a hardware failure.
Option A:	Skill Time
Option B:	Average Time
Option C:	Down Time
Option D:	Process Time
Q18.	Which of the following statements are true for accumulators used in hydraulic systems? 1. Accumulator stores fluid with pressure 2. Accumulator stores fluid without any pressure 3. Accumulator stores compressible liquid 4. spring is used as an external source to keep the fluid under hydraulic pressure
Option A:	1, 3 and 4
Option B:	2 and 3
Option C:	1 and 4
Option D:	2, 3 and 4
Q19.	In pneumatic systems, AND gate is also known as
Option A:	Check valve
Option B:	Shuttle valve
Option C:	Dual pressure valve
Option D:	Flow control valve
Q20.	In pneumatic systems time lags are obtained by
Option A:	Pneumatic-electric elements
Option B:	Making the air to fill a volume after passing through a restriction

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Option C:	Elongating the path of air
Option D:	Using relay
Q21.	How is proximity switch differentiated from limit switch?
Option A:	Proximity switch is activated when moving parts have physical contact with it
Option B:	Proximity switch is activated when non-moving parts have physical contact
Option C:	Proximity switch is activated when moving parts are close to it
Option D:	Proximity switch is activated when magnetic parts have physical contact
Q22.	A double acting cylinder can be controlled by a _____ final control valve
Option A:	3/2 DCV
Option B:	5/2 DCV
Option C:	Dual pressure valve
Option D:	2/2 DCV
Q23.	One notable difference between the hydraulic as compared to pneumatic is that the return fluid is
Option A:	Vented to atmosphere
Option B:	Sent back to reservoir
Option C:	Sent back to cylinder
Option D:	Stored in line
Q24.	In pneumatic systems the medium used is
Option A:	Air
Option B:	Low viscous oil
Option C:	hydrogen
Option D:	high viscous oil
Q25.	Which of the following is applicable for bleed off circuits?
Option A:	develop heat in the system
Option B:	used for resistive loads
Option C:	used for heavy loads
Option D:	used for light loads

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	D
Q2.	A
Q3.	C
Q4	B
Q5	B
Q6	C
Q7	A
Q8.	C
Q9.	D
Q10.	C
Q11.	A
Q12.	D
Q13.	B
Q14.	B
Q15.	A
Q16.	B
Q17.	C
Q18.	C
Q19.	C
Q20.	B
Q21.	C
Q22.	B
Q23.	B
Q24.	A
Q25.	B