Program: BE Mechanical Engineering
Curriculum Scheme: Rev2016
Examination: Third Year Semester VI
Course Code: MEDLO6022 and Course Name: Robotics

Time: 1 hour   Max. Marks: 50

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

Q1.	Which one is not the statement of laws of Robotics?
Option A:	A robot may not injure a human being or through in action, allow a human to be harmed.
Option B:	A robot must obey orders given by humans except when that conflict with first law.
Option C:	A robot must protect its own existence unless that conflicts with the first or second law.
Option D:	A robot can harm human if it is in danger
Q2.	Which of the following is robot?
Option A:	CNC machine
Option B:	NC machine
Option C:	Lathe machine
Option D:	SCARA
Q3.	Manipulator is similar to?
Option A:	Human hand
Option B:	Human eye
Option C:	Human leg
Option D:	Human body
Q4.	What is RIA stands for?
Option A:	Robotic Institute of America
Option B:	Robotic Industries Association.
Option C:	Robotic Intelligence Association.

Option D:	Robotic Institute of Academics.
Q5.	DH transformation matrix is?
Option A:	4x2
Option B:	4x3
Option C:	4x4
Option D:	4x1
Q6.	Inverse kinematics deals with?
Option A:	Finding Cartesian co-ordinates from angular position
Option B:	Finding angular co-ordinates from Cartesian coordinate
Option C:	Finding cylindrical coordinates from spherical coordinate
Option D:	Finding spherical coordinate from cylindrical co-ordinate
Q7.	For fixed angle rotation about x,y and z axis which of the following expression is correct?
Option A:	Rx.Ry.Rz
Option B:	Rz.Ry.Rx
Option C:	Rx.Rz.Rx
Option D:	Ry.Rz.Rz
Q8.	For a fixed standard wheel, the degree of steerability is
Option A:	0
Option B:	1
Option C:	2
Option D:	3
Q9.	lift off position, continuity at lift-off position, continuity of velocity at lift-off point, continuity of acceleration at lift-off point, continuity at set-down position, continuity of velocity at set-down point, continuity of acceleration at set-down point are all

Option A:	Intermediate constraints of the trajectory
Option B:	Via points of the trajectory
Option C:	Path planning
Option D:	Trajectory planning
Q10.	SCARA robot is very suitable in which kind of operations
Option A:	Single operation
Option B:	Rotary operation
Option C:	Assembly operation
Option D:	Translatory operation
Q11.	Pick and place is convenient by
Option A:	3 Axis robot
Option B:	5 Axis robot
Option C:	SCARA
Option D:	6 Axis robot
Q12.	Position and orientation of a rigid body can be clearly defined in
Option A:	Confined space
Option B:	Cartesian space technique
Option C:	Parametric description of path
Option D:	Joint space technique
Q13.	Computationally extensive and requires fast processing is in
Option A:	Parametric description
Option B:	n>6 joints description
Option C:	Cartesian space description
Option D:	Joint space description
Q14.	Rotor pitch of hybrid stepper motor is 36° and step angle is 9°, the number of

	phases will be:
Option A:	4
Option B:	2
Option C:	3
Option D:	6
Q15.	Ability to give same output repeatedly by keeping input value constant is known as:
Option A:	Stability
Option B:	Repeatability
Option C:	Sensitivity
Option D:	Accuracy
Q16.	Drones uses
Option A:	Servo motor
Option B:	DC motor
Option C:	Stepper motor
Option D:	BLDC
Q17.	A sink is
Option A:	a transmission dynamometer
Option B:	a driving dynamometer
Option C:	an absorption dynamometer
Option D:	a recording dynamometer
Q18.	Output of an actuator is in the form of a
Option A:	Sinusoidal waveform
Option B:	Rectangular waveform
Option C:	Triangular waveform
Option D:	Trapezoidal waveform

Q19.	What is CCD?
Option A:	Complementary metal oxide
Option B:	Charged coupled device
Option C:	Complementary non-metal oxide
Option D:	Charged clubbed device
Q20.	A driverless wheeled truck which automatically follows a route defined by buried wire or a painted line.
Option A:	Hoists
Option B:	Conveyors
Option C:	Automated storage and retrieval system
Option D:	Automated guided vehicles
Q21.	In _____principle, a desire of not to waste natural resources and to predict and eliminate the possible negative effects of our daily actions on the environment is addressed.
Option A:	Life cycle cost
Option B:	System
Option C:	Environmental
Option D:	Ergonomics
Q22.	Motion capture has had a significant impact on humanoids
Option A:	Used for teleportation
Option B:	For improving humanoid locomotion and robot learning
Option C:	High level Precision Capture System
Option D:	All of the above
Q23.	ZMP can be used for_____
Option A:	Determining whether or not the sole slips on the ground surface.
Option B:	The ground surface is not flat.

Option C:	Planning the walking motion on the flat ground with enough friction.
Option D:	The arms or the hands of a humanoid robot contact the environment.
Q24.	Activation, direction, intensity, duration and motivation terms are related to
Option A:	Auditory control
Option B:	Motives
Option C:	Facial expression
Option D:	Balance and stability
Q25.	Humanoid hand is not concerned with the design policies of _____
Option A:	Size
Option B:	Shape
Option C:	Gaze control
Option D:	Skin

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

Q23.	C
Q24.	B
Q25.	C