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11363_Artificial Intelligence and Robotics

Time: 1hr

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Q.no 1. Classification of data points is a technique of

A : Recursive filtering

B: Filtering

C: Laandmark

D: Pose estimation

Q.no 2. What is the evaluation function in greedy approach?

A: Heuristic function

B: Path cost from start node to current node

C: Path cost from start node to current node + Heuristic cost

D: Average of Path cost from start node to current node and Heuristic cost

Q.no 3. Which of the following branch is not a parts of robotics?

A : Computer Engineering
B : Mechanical Engineering
C : Electrical Engineering
D : Chemical Engineering
Q.no 4. The sensor that sends out sound pulses called pings, then receives the returning sound echo is called
A : Active Sonar
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D: Robot

Q.no 13. Natural or artificial can be category of

C: Position related

D: Edge related

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D : For robotics, you do not require help of computer engineers, mechanical engineers and electrical engineers

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B: Middleware

C: Actuator

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Q.no 27. A computer software that provide the services to software applications beyond those available from the operating system is called

A: Sensor

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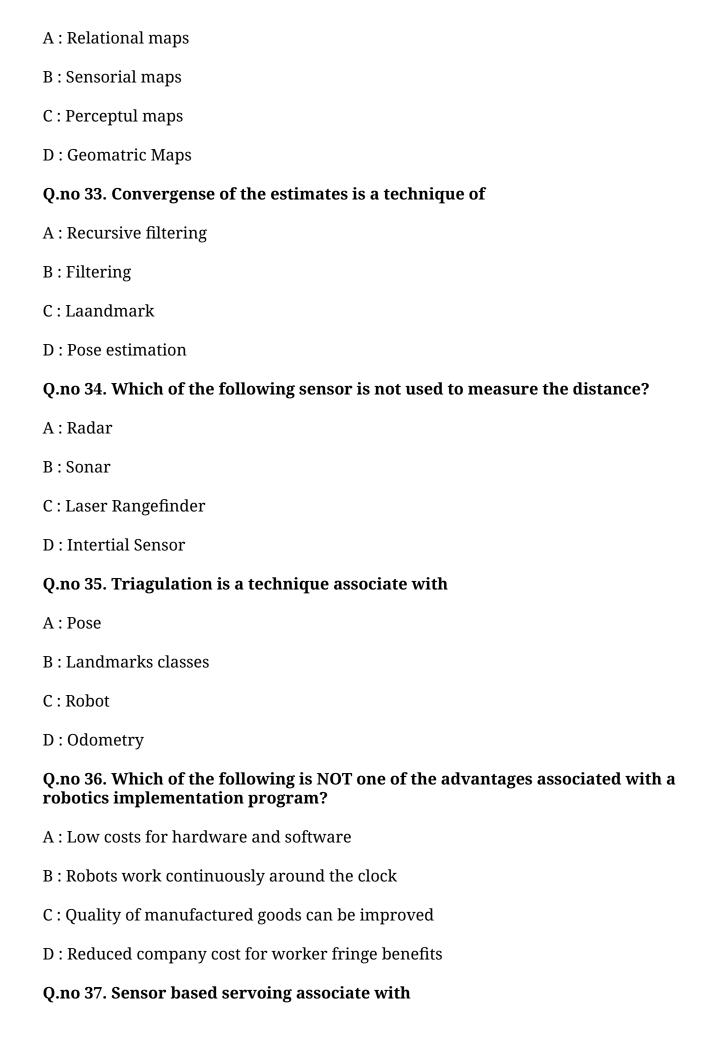
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D: Fail to find a solution

Q.no 32. The Signals which represent 2D & 3D odjects gathered from sensor data are referred as



A: Robot pose B: Robot action C: Robot position D: Robat path Q.no 38. Why do the robot need sensor? A: To collect information from environment B: To map environment atribute to a quantitative measurement C: only option 1 is true D: Both option 1 and 2 are true Q.no 39. The device that is used to convert energy from one form to another is called A: Emiter B: Transducer C: Transmitter D: Receiver Q.no 40. Which of the following is true? A: Robot minimize the labor cost B: Robot minimize the productivity C: Robot minimize the life of production machine D: Rotot minimize the qualtiy of work

Q.no 41. Which is mode of mining

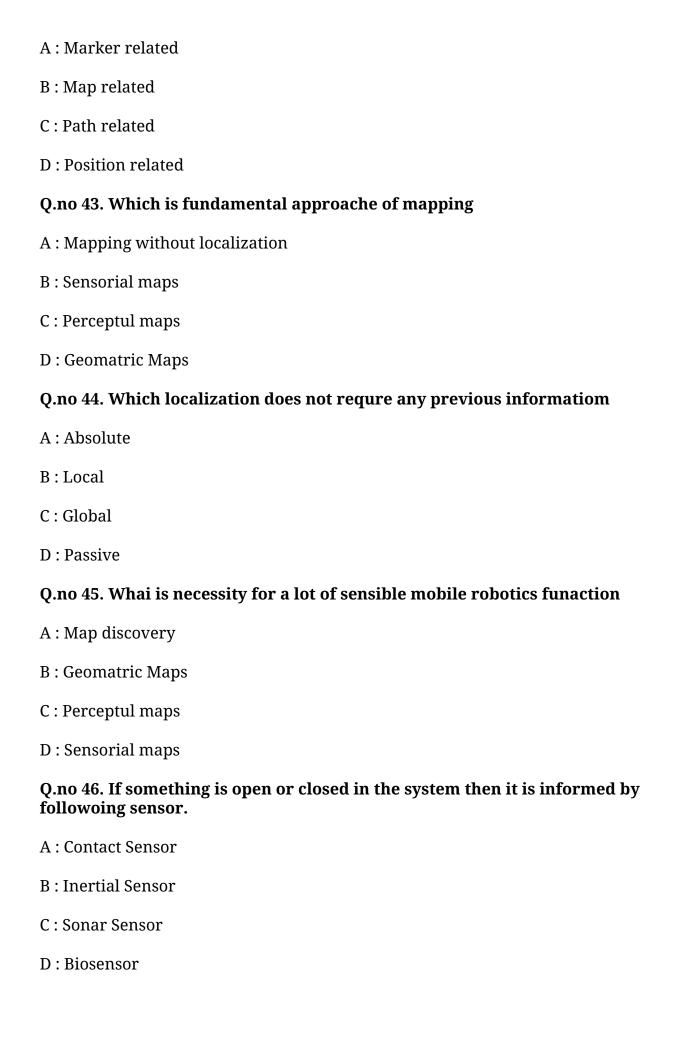
A: Close pit mining

B: Mining

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Q.no 47. With regard to the physics of power systems used operate robots, which statement or statements are most correct?

A: hydraulics involves the compression of liquids

B: hydraulics involves the compression of air

C: pneumatic involves the compression of air

D: chemical batteries produce AC power

Q.no 48. Which of the following is an example of inertia sensor?

A: Thermometer

B: Accelerometer

C: Touch screen

D: TV Remote

Q.no 49. Which of the following is an example of contact sensor?

A: Thermometer

B: Accelerometer

C: Gyroscope

D: TV Remote

Q.no 50. Which of the following sensor is used to monitor the motor activities?

A: Contact Sensor

B: Inertial Sensor

C: Infrared Sensor

D: Biosensor

Q.no 51. Industrial Robots are generally to designed to carry which of the following coordinate system(s).

A: Cartesian coordinate systems

B: Polar systems.

C: Cylindrical systems

D: Sperical Sytem

Q.no 52. For a robot unit to be considered a functional industrial robot	, typically,
how many degrees of freedom would the robot have?	

A: Three

B: Four

C:Six

D: Eight

Q.no 53. Radial movement (in & out) to the manipulator arm is provided by

A: Elbow extension

B: Wrist bend

C: Wrist swivel

D: Wrist yaw

Q.no 54. Which of the following robotic control paradigm make use of planning?

A: Horizontal and Vertical

B: Vertical and Hybrid

C: Horizontal and Hybrid

D: Horizontal, Vertical and Hybrid

Q.no 55. Which of the following is the serial robot?

A: Commercial robot

B: Industrial robot

C: In-house robot

D: Mobile Robot

Q.no 56. A clearly different group of maps showing particular application to robots is called as

A: Relational maps

B: Sensorial maps

C: Perceptul maps D: Geomatric Maps Q.no 57. The Robot designed with Cylindrical coordinate system has A: A Three linear movements B: Three rotational movement C: Two liner & one rotational movement D: Two rotational & one liner movement Q.no 58. The Robot designed with Polar coordinate system has A: Three linear movements B: Three rotational movement C: Two liner & one rotational movement D: Two rotational & one liner movement Q.no 59. Which of the following work is done by General purpose Robot? A: Part drive B: Welding C: Spray picking D: Part panting Q.no 60. The number of moveable joints in the base, the arm, and the end effectors of the robot determines A: degrees of freedom B: payload capacity C: operational limits D: flexibility

Answer for Question No 1. is a
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Answer for Question No 3. is d
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Answer for Question No 5. is b
Answer for Question No 6. is d
Answer for Question No 7. is a
Answer for Question No 8. is c
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Ans	wer for Question No 38. is d
Ans	wer for Question No 39. is b
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Ans	wer for Question No 41. is d
Ans	wer for Question No 42. is a
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Ans	wer for Question No 46. is a
Ans	wer for Question No 47. is c
Ans	wer for Question No 48. is b
,	

Answer for Question No 49.	is a
Answer for Question No 50.	is b
Answer for Question No 51.	is a
Answer for Question No 52.	is c
Answer for Question No 53.	is a
Answer for Question No 54.	is c
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B: Radar

C: Intertial

D: Biosensor

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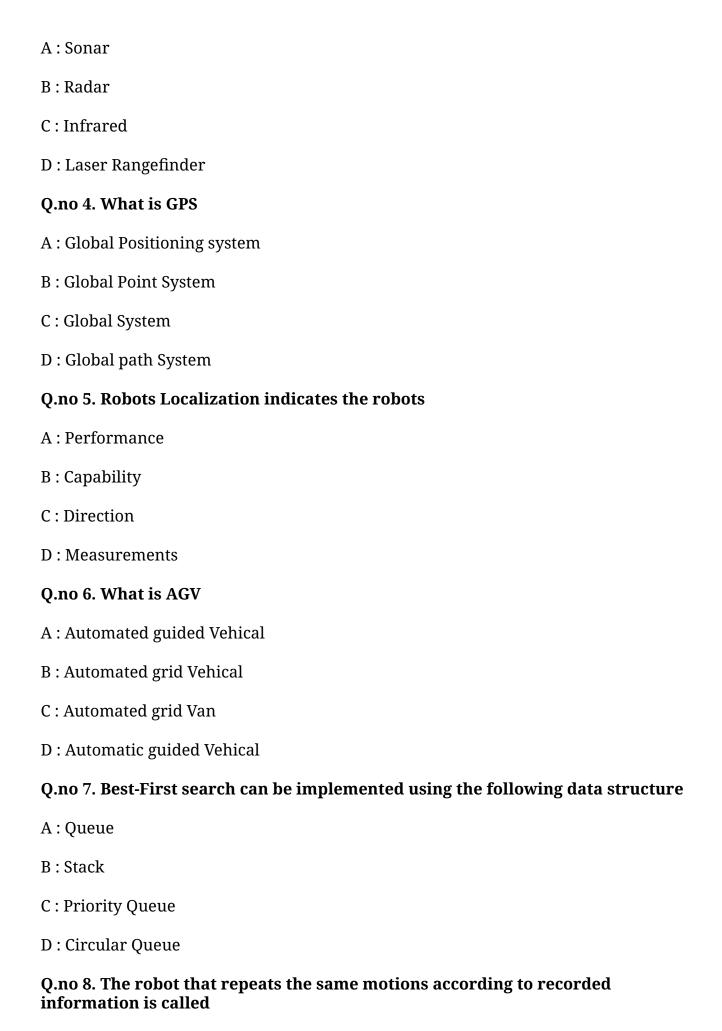
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A: uninformed Search

B: Breadth-First-Search

C: Heuristic Search

D: Best search

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Q.no 16. Best-First search is a type of informed search, which of the following principle used to choose the best next node for expansion

A: Evaluation function returning lowest evaluation

B: Evaluation function returning highest evaluation

C: Evaluation function returning lowest & highest evaluation

D: no evaluation function

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Q.no 20. Which of the following is a visual sensor?

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B: Radar

C: Smart Camera

D: Sonar

Q.no 21. Who work on space Robotics mission

A : Soviet

B: IBM

C: Google

D: Yahoo

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A: Intelligent

B: Mobile

C: Open loop

D: Non-servo

Q.no 29. In a rule-based system procedural domain knowledge is in the form of

A: Production rules

B: Rule interpreters

C: Meta-rules

D: control rules

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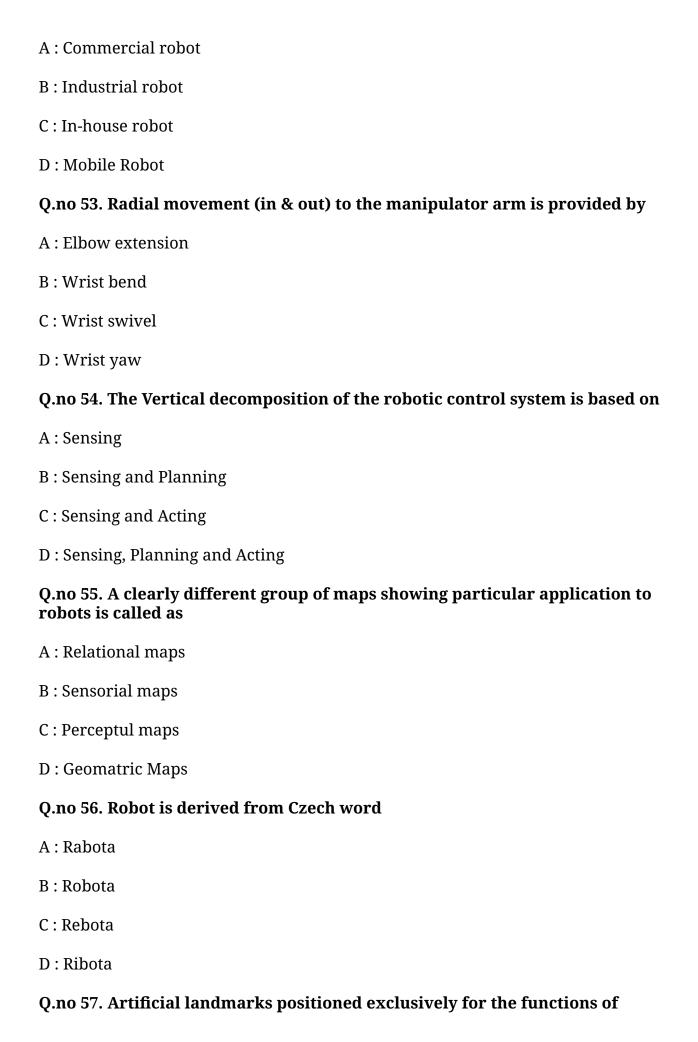
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Answer for Question No 42. is a	
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Answer for Question No 44. is a	
Answer for Question No 45. is d	
Answer for Question No 46. is b	
Answer for Question No 47. is a	
Answer for Question No 48. is a	

Answer for Question No 49. is a
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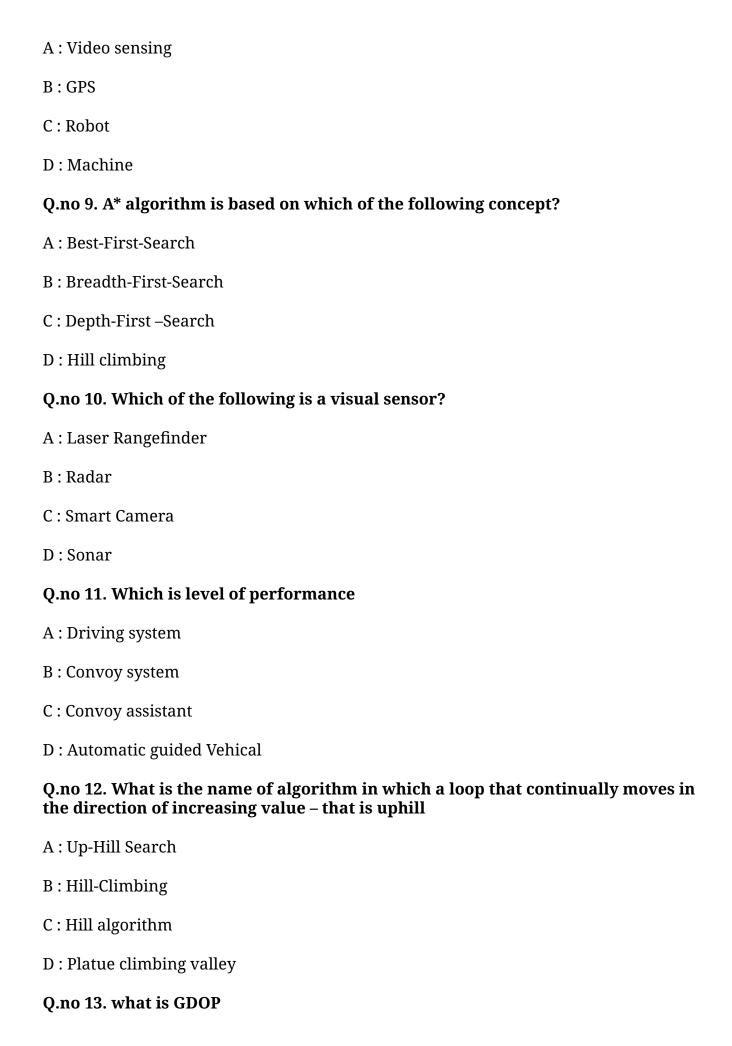
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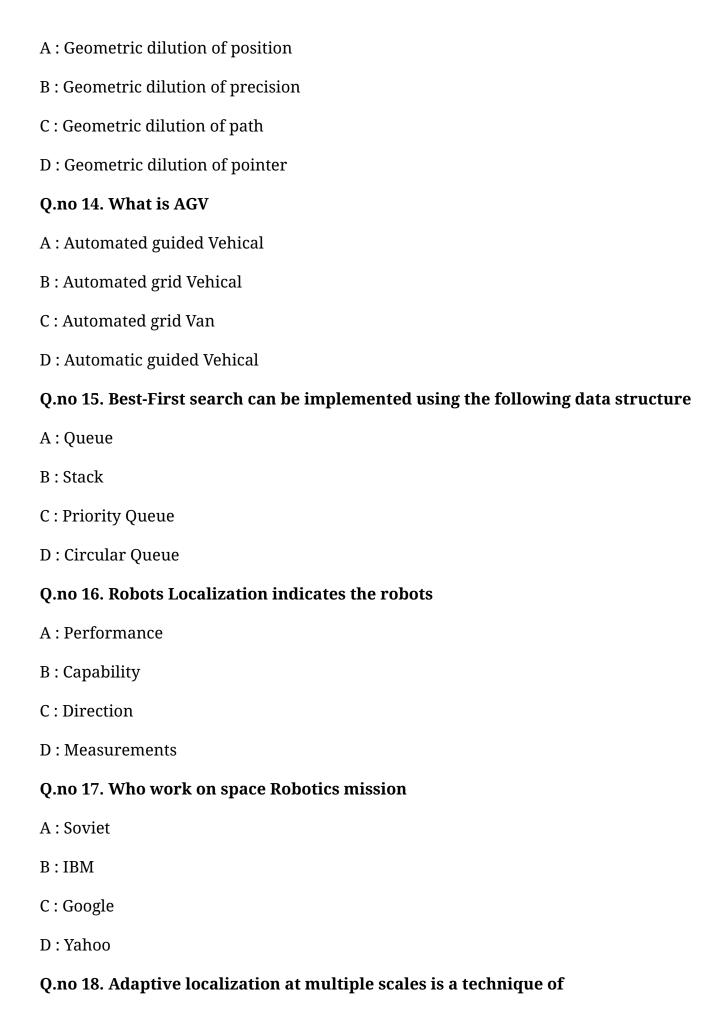
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Q.no 39. Which of the following is NOT one of the advantages associated with a robotics implementation program?

A: Low costs for hardware and software

B: Robots work continuously around the clock

C: Quality of manufactured goods can be improved

D : Reduced company cost for worker fringe benefits

Q.no 40. With regard to the physics of power systems used operate robots, which statement or statements are most correct?

A: hydraulics involves the compression of liquids

B : hydraulics involves the compression of air

C : pneumatic involves the compression of air

D : chemical batteries produce AC power

Q.no 41. Active or inactive can be category of

A: Localization

B: Landmarks classes

C : pose evalution

D: Robot

Q.no 42. The device that is used to convert energy from one form to another is called

A: Emiter

B: Transducer

C : Transmitter
D: Receiver
Q.no 43. Which of the following statements concerning the implementation of robotic systems is correct?
A : implementation of robots CAN not save existing jobs
B : implementation of robots CAN not create new jobs
C : robotics could prevent a business from closing
D : robotics could noy prevent a business from closing
Q.no 44. Which of the following sensor is used to monitor the motor activities?
A : Contact Sensor
B : Inertial Sensor
C : Infrared Sensor
D: Biosensor
Q.no 45. Which of the following sensor is not used to measure the distance?
A: Radar
B: Sonar
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B: Middleware
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A: Sonar B: Radar
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B: Radar C: Infrared D: Laser Rangefinder Q.no 51. For a robot unit to be considered a functional industrial robot, typically, how many degrees of freedom would the robot have? A: Three B: Four
B: Radar C: Infrared D: Laser Rangefinder Q.no 51. For a robot unit to be considered a functional industrial robot, typically, how many degrees of freedom would the robot have? A: Three B: Four C: Six

B: Sensing and Planning C: Sensing and Acting D: Sensing, Planning and Acting Q.no 53. Which of the following robotic control paradigm make use of planning? A : Horizontal and Vertical B: Vertical and Hybrid C: Horizontal and Hybrid D: Horizontal, Vertical and Hybrid Q.no 54. Which of the following work is done by General purpose Robot? A: Part drive B: Welding C: Spray picking D: Part panting Q.no 55. What is the name for space inside which a robot unit operates? A: Environment B: Spatial base C: Work envelop D: Exclusion zone Q.no 56. Triagulation problem is defined as A: Side-side-side

B: Side-angle-side

C: Both a&b

D: Side-by-side

Q.no 57. PROLOG is an AI programming language which solves problems with a form of symbolic logic known as predicate calculus. It was developed in 1972 at the University of Marseilles by a team of specialists. Can you name the person who headed this team?

A: Alain colmerauer Niklaus Wirth Seymour papert **C**: John McCarthy D: Q.no 58. Which of the basic parts of a robot unit would include the computer circuitry that could be programmed to determine what the robot would do? A: Sensor B: Controller C: Arm D: End effector Q.no 59. The horizontal decomposition of robotic control system is based on A: Sensing B: Sensing and Planning C: Sensing and Acting D: Sensing, Planning and Acting Q.no 60. When will Hill-Climbing algorithm terminate? A: Stopping criterion met

B: Global Min/Max is achieved

D: no criteria to terminate

C: No neighbour has higher value

Answer for Question No 1. is c
Answer for Question No 2. is a
Answer for Question No 3. is d
Answer for Question No 4. is b
Answer for Question No 5. is a
Answer for Question No 6. is a
Answer for Question No 7. is b
Answer for Question No 8. is b
Answer for Question No 9. is a
Answer for Question No 10. is c
Answer for Question No 11. is b
Answer for Question No 12. is b
Answer for Question No 13. is b
Answer for Question No 14. is a
Answer for Question No 15. is c
Answer for Question No 16. is b

Answer for Question No 17. is a
Answer for Question No 18. is a
Answer for Question No 19. is d
Answer for Question No 20. is d
Answer for Question No 21. is a
Answer for Question No 22. is a
Answer for Question No 23. is c
Answer for Question No 24. is a
Answer for Question No 25. is a
Answer for Question No 26. is a
Answer for Question No 27. is a
Answer for Question No 28. is a
Answer for Question No 29. is c
Answer for Question No 30. is a
Answer for Question No 31. is d
Answer for Question No 32. is a

Answer for Questi	on No 33. is a		
Answer for Questi	on No 34. is d		
Answer for Questi	on No 35. is a		
Answer for Questi	on No 36. is b		
Answer for Questi	on No 37. is a		
Answer for Questi	on No 38. is b		
Answer for Questi	on No 39. is a		
Answer for Questi	on No 40. is c		
Answer for Questi	on No 41. is b		
Answer for Questi	on No 42. is b		
Answer for Questi	on No 43. is c		
Answer for Questi	on No 44. is b		
Answer for Questi	on No 45. is d		
Answer for Questi	on No 46. is d		
Answer for Questi	on No 47. is a		
Answer for Questi	on No 48. is a		
· · · · · · · · · · · · · · · · · · ·			

Answer for Question No 49. is b
Answer for Question No 50. is c
Answer for Question No 51. is c
Answer for Question No 52. is b
Answer for Question No 53. is c
Answer for Question No 54. is b
Answer for Question No 55. is c
Answer for Question No 56. is c
Answer for Question No 57. is a
Answer for Question No 58. is b
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Answer for Question No 60. is c

Total number of questions: 60

11363_Artificial Intelligence and Robotics

Time: 1hr

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- 1) All questions are Multiple Choice Questions having single correct option.
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Q.no 1. Which of the following sensor make use of light emitting diode?

A: Sonar

B: Radar

C: Infrared

D: Laser Rangefinder

Q.no 2. What is AGV

A: Automated guided Vehical

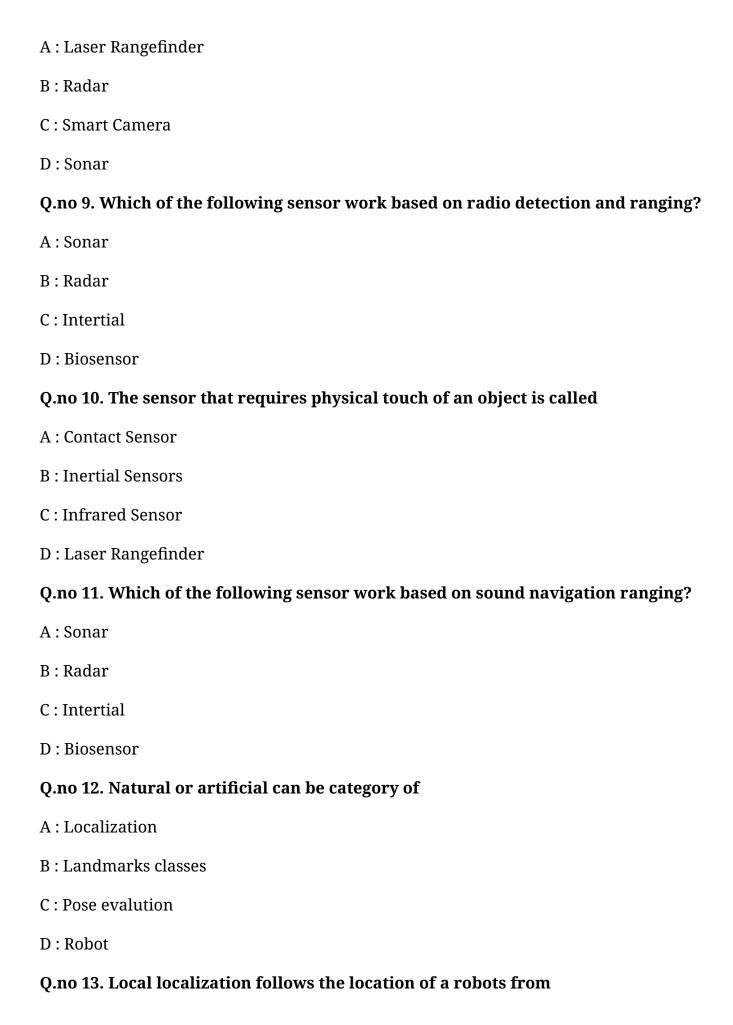
B: Automated grid Vehical

C: Automated grid Van

D: Automatic guided Vehical

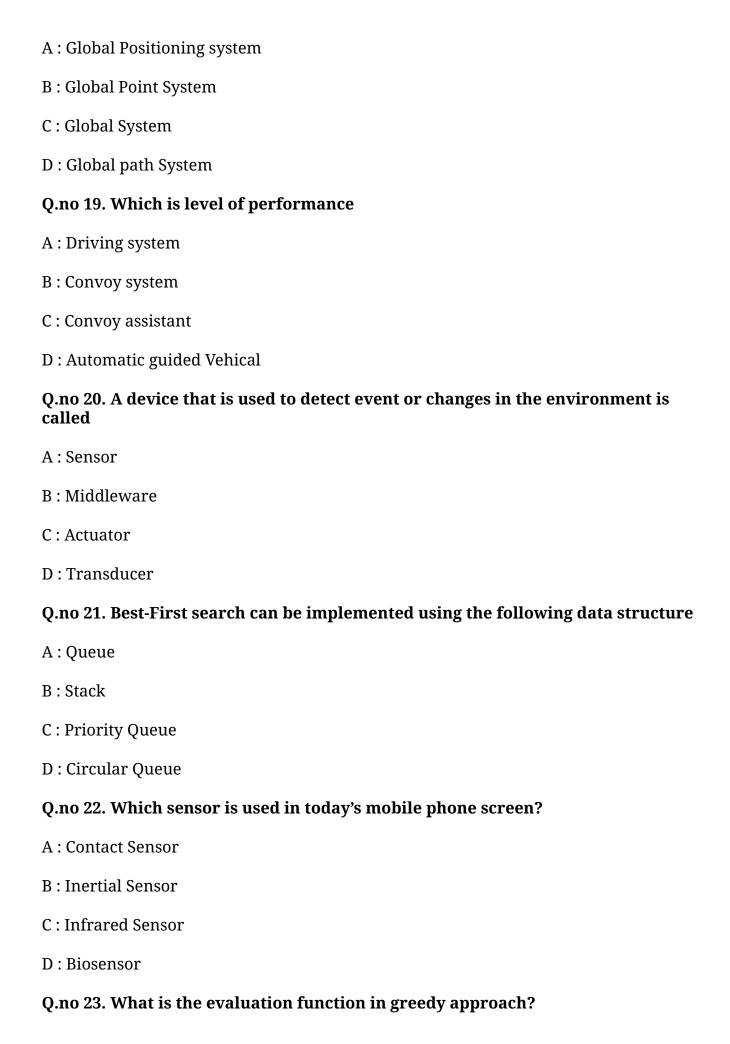
Q.no 3. Classification of data points is a technique of

A: Recursive filtering
B: Filtering
C: Laandmark
D : Pose estimation
Q.no 4. Which is type of Robotics Perception
A : Map related
B : Path related
C : Position related
D : Edge related
Q.no 5. Which of the following branch process with sensory feedback in robotics?
A : Computer Engineering
B : Mechanical Engineering
C : Electrical Engineering
D : Electronics Engineering
Q.no 6. Adaptive localization at multiple scales is a technique of
A : Recursive filtering
B: Filtering
C: Laandmark
D : Pose estimation
Q.no 7. What is the name of algorithm in which a loop that continually moves in the direction of increasing value – that is uphill
A: Up-Hill Search
B: Hill-Climbing
C : Hill algorithm
D : Platue climbing valley
Q.no 8. Which of the following is a visual sensor?



A: Initial Point
B : Final Point
C : Middle point
D : End point
Q.no 14. Best-First search is a type of informed search, which of the following principle used to choose the best next node for expansion
A : Evaluation function returning lowest evaluation
B : Evaluation function returning highest evaluation
C : Evaluation function returning lowest & highest evaluation
D : no evaluation function
Q.no 15. Which of the following is an example of infrared sensor?
A: Thermometer
B : Accelerometer
C: Gyroscope
D: TV Remote
Q.no 16. What is Global Hawk
A : Atonomous aircraft
B : Aircraft
C: Airoplan
D : Robot
Q.no 17. Weighted voting of correction vectors is a technique of
A: Recursive filtering
B: Filtering
C : Laandmark
D : Pose estimation

Q.no 18. What is GPS



- A: Heuristic function
- B: Path cost from start node to current node
- C: Path cost from start node to current node + Heuristic cost
- D : Average of Path cost from start node to current node and Heuristic cost

Q.no 24. Which of the following search strategy uses a problem specific knowledge

- A: uninformed Search
- B: Breadth-First-Search
- C: Heuristic Search
- D: Best search

Q.no 25. What is EKF

- A: Existance Kalman filter
- B: Extended Klaman Filter
- C: Each Kalman filter
- D: Evalution Kalman Filter

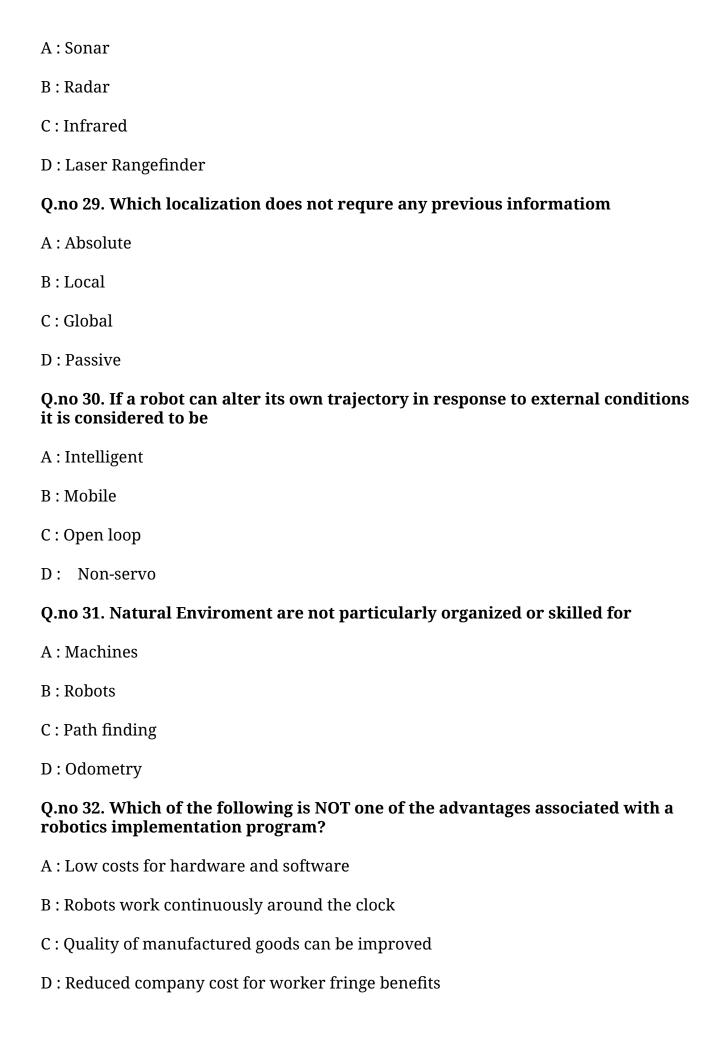
Q.no 26. Which is fundamental approache of mapping

- A: Mapping without localization
- B: Sensorial maps
- C: Perceptul maps
- D : Geomatric Maps

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- A: Robot pose
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Q.no 33. Which of the following is an example of inertia sensor? A: Thermometer B: Accelerometer C: Touch screen D: TV Remote Q.no 34. The Signals which represent 2D & 3D odjects gathered from sensor data are referred as A: Relational maps B : Sensorial maps C: Perceptul maps D: Geomatric Maps Q.no 35. Which of the following sensor is not used to measure the distance? A: Radar B: Sonar C: Laser Rangefinder D: Intertial Sensor Q.no 36. Which is mode of mining A: Close pit mining B: Mining C: Pit Mining D: Underground Mining Q.no 37. Which is fundamental approache of mapping A: Loop Closing B: Sensorial maps C: Perceptul maps D: Geomatric Maps

Q.no 38. Robot that perform the successive stages of a task according to predetermined, unchanging method is called as

A: Fixed Sequence Robot

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Q.no 39. Triagulation is a technique associate with

A: Pose

B: Landmarks classes

C: Robot

D: Odometry

Q.no 40. what is heuristic function

A: Lowest path cost

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C: Average path cost

D: Estimated cost of cheapest path from root to goal node

Q.no 41. Which of the following laws is ASIMOV'S first and most important law of robotics?

A: Robot actions must never result in damage to the robot

B: Robots must never take actions harmful to humans

C: Robot must follow the directions given by human

D : Robots must make business a greater profit

Q.no 42. With regard to the physics of power systems used operate robots, which statement or statements are most correct?

A: hydraulics involves the compression of liquids

B: hydraulics involves the compression of air

C: pneumatic involves the compression of air

D: chemical batteries produce AC power

arm	ionai motion of a robot
A: Swivel	
B: Axle	

D: Roll

C: Retrograde

Q.no 44. Who work on space Robotics mission

A: NASA

B: IBM

C: Google

D: Yahoo

Q.no 45. The device that is used to convert energy from one form to another is called

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C: Transmitter

D: Receiver

Q.no 46. Active or inactive can be category of

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A: Evaluating existing location

B: Evaluating Previous location

C: Information acquired

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Q.no 50. Which of the following is an example of contact sensor?

A: Thermometer

B: Accelerometer

C: Gyroscope

D: TV Remote

Q.no 51. Topological Maps referred as

A : Relational maps

B: Geomatric Maps

C: Perceptul maps

D: Sensorial maps

Q.no 52. The following is true for a Robot & NC Machine

A: Similar power drive technology is used in both

B: Different feedback systems are used in both

C: Programming is same for both

D: Programming is not same for both

O: no. 53. The main objective (s) of In

Q.no 53. The main objective (s) of Industrial robot is to

A : To maximize the labor requirement

B: To increase productivity

C: To decrease the life of production machines

D: To decrease productivity

Q.no 54. Internal state sensors are used for measuring which of below parameter of the end effector.

A: Position

B: Position & Velocity

C: Velocity & acceleration

D: Position, Velocity & acceleration

Q.no 55. Which of the following is the serial robot?

A: Commercial robot

B: Industrial robot

C: In-house robot

D: Mobile Robot

Q.no 56. Which of the following module is not related to horizontal decomposition?

A: Perception

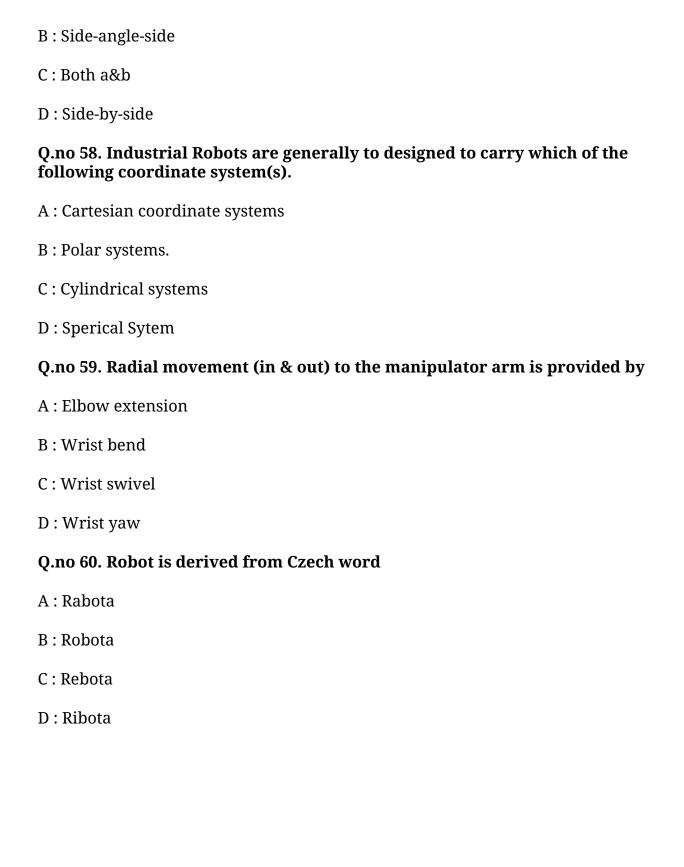
B: Planning

C: Execute

D: Building Map

Q.no 57. Triagulation problem is defined as

A: Side-side-side



Answer for Question No 1. is c
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Answer for Question No 3. is a
Answer for Question No 4. is d
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Answer for Question No 6. is a
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Answer for Question No 11. is a
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Answer for Question No 18. is a
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Answer for Question No 21. is c
Answer for Question No 22. is a
Answer for Question No 23. is a
Answer for Question No 24. is c
Answer for Question No 25. is b
Answer for Question No 26. is a
Answer for Question No 27. is a
Answer for Question No 28. is c
Answer for Question No 29. is c
Answer for Question No 30. is a
Answer for Question No 31. is b
Answer for Question No 32. is a

Answer for Question No 33. is b
Answer for Question No 34. is d
Answer for Question No 35. is d
Answer for Question No 36. is d
Answer for Question No 37. is a
Answer for Question No 38. is a
Answer for Question No 39. is a
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Answer for Question No 49. is a
Answer for Question No 50. is a
Answer for Question No 51. is a
Answer for Question No 52. is a
Answer for Question No 53. is b
Answer for Question No 54. is d
Answer for Question No 55. is b
Answer for Question No 56. is d
Answer for Question No 57. is c
Answer for Question No 58. is a
Answer for Question No 59. is a
Answer for Question No 60. is b

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11363_Artificial Intelligence and Robotics

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Q.no 1. Which of the following is an example of infrared sensor?

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Q.no 2. what is HDOP

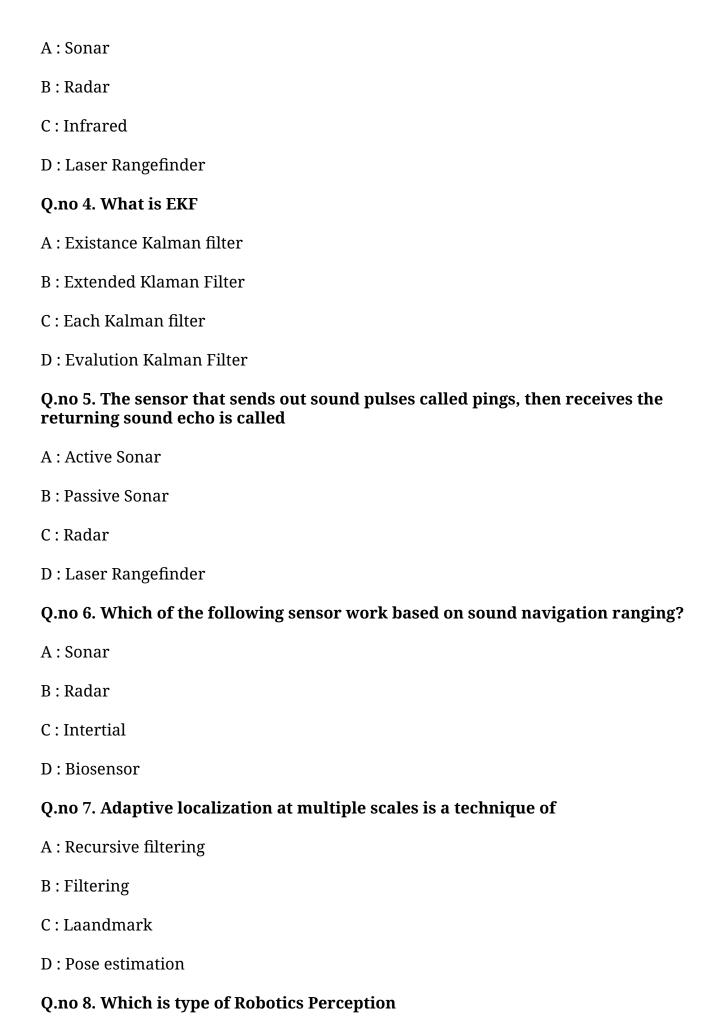
A: Horizantal geometric dilution of position

B: Horizantal geometric dilution of precision

C: Vertical geometric dilution of precision

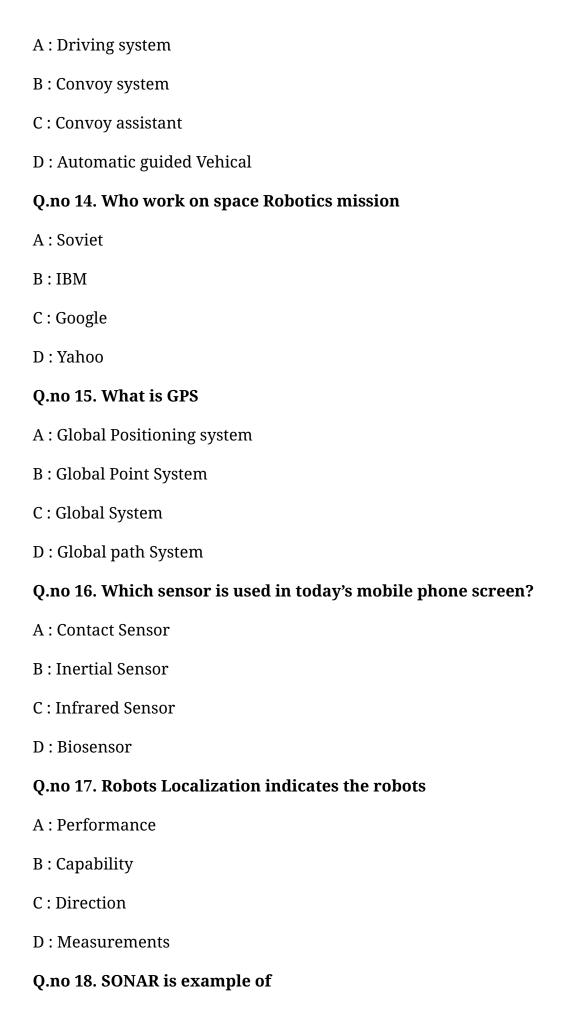
D: Vertical geometric dilution of position

Q.no 3. Which of the following sensor make use of light emitting diode?



A: Map related B: Path related C: Position related D: Edge related Q.no 9. A device that is used to detect event or changes in the environment is called A: Sensor B: Middleware C: Actuator D: Transducer Q.no 10. Natural or artificial can be category of A: Localization B: Landmarks classes C: Pose evalution D: Robot Q.no 11. Weighted voting of correction vectors is a technique of A: Recursive filtering B: Filtering C: Laandmark D: Pose estimation Q.no 12. What is AGV A: Automated guided Vehical B: Automated grid Vehical C: Automated grid Van D: Automatic guided Vehical

Q.no 13. Which is level of performance



A: Video sensing B: GPS C: Robot D: Machine Q.no 19. The robot that repeats the same motions according to recorded information is called A: Fixed Sequence Robot B: Variable sequence robot C: Playback Robot D: Numerical Control robot Q.no 20. Which of the following is not functionality of robotics? A: Re-programmability B: Multi-functionality C: Efficient performance D: Responsibility Q.no 21. Which of the following branch process with sensory feedback in robotics? A: Computer Engineering B: Mechanical Engineering C: Electrical Engineering D: Electronics Engineering Q.no 22. Which of the following sensor is most suitable for clinical, agricultural and food industry? A: Contact Sensor B: Inertial Sensor C: Infrared Sensor D: Biosensor

Q.no 23. What is Global Hawk

A : Atonomous aircraft
B : Aircraft
C : Airoplan
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Q.no 24. Which of the following sensor work based on radio detection and ranging?
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B: Radar
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Q.no 28. Which localization does not requre any previous informatiom

A: Absolute

B:Local

C: Global

D: Passive

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C: Laandmark

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Q.no 31. What are the main cons of hill-climbing search?

A: Terminates at local optimum & Does not find optimum solution

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C: Does not find optimum solution & Fail to find a solution

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B : Robots must never take actions harmful to humans
C : Robot must follow the directions given by human
D : Robots must make business a greater profit
Q.no 50. Which of the following sensor uses a laser beam to determine the distance to an object?
A: Sonar
B: Radar
C: Infrared
D : Laser Rangefinder
Q.no 51. The number of moveable joints in the base, the arm, and the end effectors of the robot determines
A: degrees of freedom
B : payload capacity
C: operational limits
D : flexibility
Q.no 52. What is the name for space inside which a robot unit operates?

A: Environment

B: Spatial base
C : Work envelop
D : Exclusion zone
Q.no 53. A Kalman filter is useful in
A : Merging position
B : Merging pose estimate
C : Merging path
D : Merging revoking
Q.no 54. Radial movement (in & out) to the manipulator arm is provided by
A : Elbow extension
B: Wrist bend
C: Wrist swivel
D: Wrist yaw
Q.no 55. Which of the following is the serial robot?
A : Commercial robot
B: Industrial robot
C: In-house robot
D : Mobile Robot
Q.no 56. In which of the following operations Continuous Path System is used
A: Pick & Place
B : Loading & unloading
C : Continuous welding
D : Pick and Loading
Q.no 57. Which of the following module is not related to horizontal decomposition?

A: Perception

В	:	Pl	an	ni	ng

C: Execute

D : Building Map

Q.no 58. The Vertical decomposition of the robotic control system is based on

A: Sensing

B: Sensing and Planning

C: Sensing and Acting

D: Sensing, Planning and Acting

Q.no 59. Practical sensor domensions which is referred as

A: Homing

B: servoing

C: Robat action

D: Pose estimation

Q.no 60. The Robot designed with Polar coordinate system has

A: Three linear movements

B: Three rotational movement

C: Two liner & one rotational movement

D: Two rotational & one liner movement

Answer for Question No 1. is d
Answer for Question No 2. is b
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Answer for Question No 31. is a
Answer for Question No 32. is b

Answer for Question No 33. is d
Answer for Question No 34. is a
Answer for Question No 35. is a
Answer for Question No 36. is a
Answer for Question No 37. is d
Answer for Question No 38. is a
Answer for Question No 39. is a
Answer for Question No 40. is c
Answer for Question No 41. is a
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Answer for Question No 52. is c
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Answer for Question No 57. is d
Answer for Question No 58. is b
Answer for Question No 59. is a
Answer for Question No 60. is d

Total number of questions: 60

11363_Artificial Intelligence and Robotics

Time: 1hr

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Q.no 1. What is EKF

A: Existance Kalman filter

B: Extended Klaman Filter

C: Each Kalman filter

D: Evalution Kalman Filter

Q.no 2. What is GPS

A : Global Positioning system

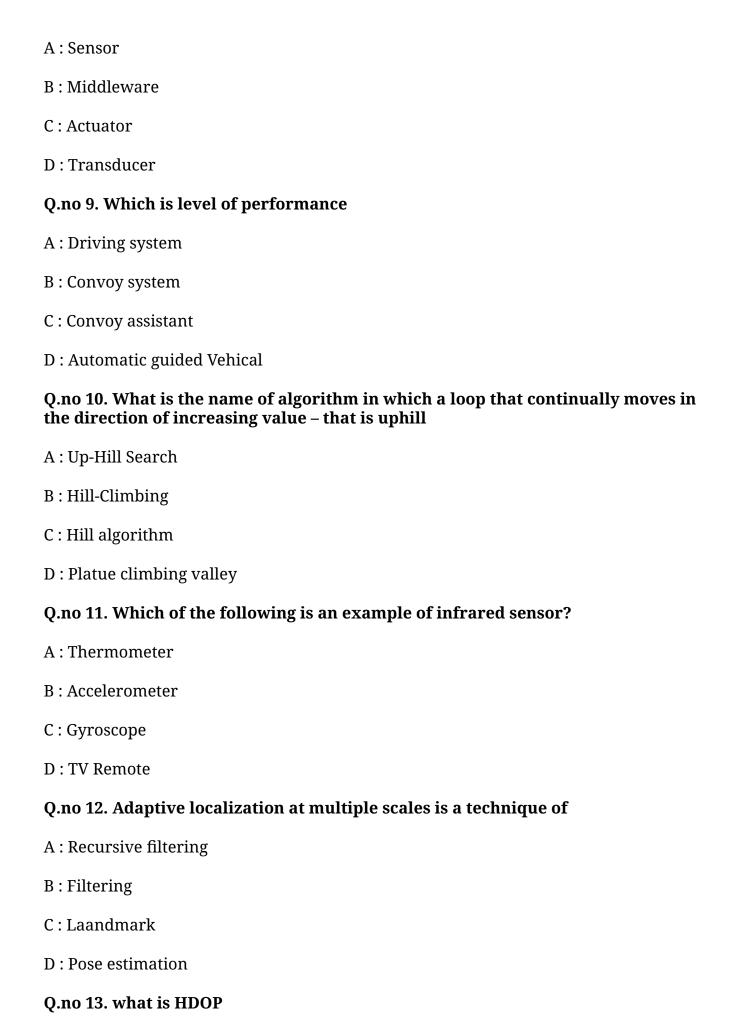
B: Global Point System

C: Global System

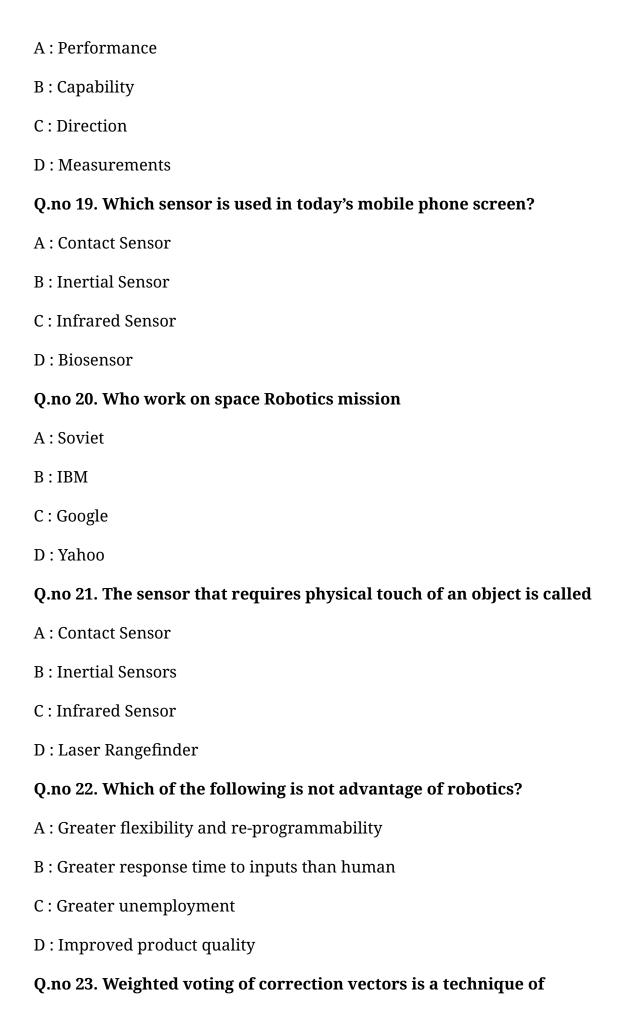
D: Global path System

Q.no 3. What is AGV

A : Automated guided Vehical
B : Automated grid Vehical
C : Automated grid Van
D : Automatic guided Vehical
Q.no 4. A* algorithm is based on which of the following concept?
A: Best-First-Search
B : Breadth-First-Search
C: Depth-First –Search
D : Hill climbing
Q.no 5. Best-First search can be implemented using the following data structure
A: Queue
B: Stack
C : Priority Queue
D : Circular Queue
Q.no 6. Which of the following sensor work based on sound navigation ranging?
A: Sonar
B: Radar
C: Intertial
D: Biosensor
Q.no 7. Which of the following is not functionality of robotics?
A : Re-programmability
B : Multi-functionality
C : Efficient performance
D : Responsibility
Q.no 8. A device that is used to detect event or changes in the environment is called



A: Horizantal geometric dilution of position B: Horizantal geometric dilution of precision C: Vertical geometric dilution of precision D: Vertical geometric dilution of position Q.no 14. What is Global Hawk A: Atonomous aircraft B: Aircraft C: Airoplan D: Robot Q.no 15. Which of the following is a visual sensor? A: Laser Rangefinder B: Radar C: Smart Camera D: Sonar Q.no 16. Which of the following sensor make use of light emitting diode? A: Sonar B: Radar C: Infrared D: Laser Rangefinder Q.no 17. Which of the following branch is not a parts of robotics? A: Computer Engineering B: Mechanical Engineering C: Electrical Engineering D: Chemical Engineering Q.no 18. Robots Localization indicates the robots



A: Recursive filtering

B: Filtering

C: Laandmark

D: Pose estimation

Q.no 24. Which of the following is not true?

A: For robotics, you should have a knowledge of different sensors

B: For robotics, you must be able to write different planning algorithms

C: For robotics, you may have to use actuators

D : For robotics, you do not require help of computer engineers, mechanical engineers and electrical engineers

Q.no 25. What is the evaluation function in greedy approach?

A: Heuristic function

B: Path cost from start node to current node

C: Path cost from start node to current node + Heuristic cost

D: Average of Path cost from start node to current node and Heuristic cost

Q.no 26. what is heuristic function

A: Lowest path cost

B: Cheapest path from root to goal node

C: Average path cost

D : Estimated cost of cheapest path from root to goal node

Q.no 27. Which is mode of mining

A: Open pit mining

B: Close pit mining

C: Mining

D: Pit Mining

Q.no 28. Sensor based servoing associate with

A: Robot pose
B : Robot action
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A : To collect information from environment
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C: only option 1 is true
D : Both option 1 and 2 are true
Q.no 31. Which of the following sensor is used to monitor the motor activities?
A : Contact Sensor
B : Inertial Sensor
C : Infrared Sensor
D: Biosensor
Q.no 32. Whai is necessity for a lot of sensible mobile robotics funaction
A : Map discovery
B : Geomatric Maps
C : Perceptul maps

Q.no 33. What is reckoning

D : Sensorial maps

A: Evaluating existing location B: Evaluating Previous location C: Information acquired D: Finding the location Q.no 34. The sensor that receive sound echoes without transmitting their own sound signals is called A: Active Sonar B: Passive Sonar C: Radar D: Laser Rangefinder Q.no 35. Which of the following terms refers to the rotational motion of a robot arm A: Swivel B: Axle C: Retrograde D: Roll Q.no 36. Which of the following is the component of machine that is responsible for controlling a mechanism system? A: Sensor B: Middleware C: Actuator D: Transducer Q.no 37. Which is type of Robotics Perception A: Marker related B: Map related C: Path related D: Position related

Q.no 38. Convergense of the estimates is a technique of

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D : Geomatric Maps
Q.no 43. Active or inactive can be category of
A: Localization
B : Landmarks classes
C : pose evalution
D : Robot
Q.no 44. The device that is used to convert energy from one form to another is called
A: Emiter
B: Transducer
C : Transmitter
D: Receiver
Q.no 45. To measure heat of an object which of the following sensor is used?
A: Sonar
B: Radar
C: Infrared
D : Laser Rangefinder
Q.no 46. The original LISP machines produced by both LMI and Symbolics were based on research performed at
A:CMU
B: MIT
C : Stanford University
D: RAMD
Q.no 47. In a rule-based system procedural domain knowledge is in the form of
A : Production rules
B : Rule interpreters

C: Meta-rules
D : control rules
Q.no 48. If a robot can alter its own trajectory in response to external conditions it is considered to be
A: Intelligent
B: Mobile
C: Open loop
D: Non-servo
Q.no 49. Which of the following laws is ASIMOV'S first and most important law of robotics?
A : Robot actions must never result in damage to the robot
B : Robots must never take actions harmful to humans
C : Robot must follow the directions given by human
D : Robots must make business a greater profit
Q.no 50. Which is mode of mining
A : Close pit mining
B: Mining
C: Pit Mining
D : Underground Mining
Q.no 51. Which of the following work is done by General purpose Robot?
A : Part drive
B: Welding
C : Spray picking
D : Part panting
Q.no 52. What is the name for space inside which a robot unit operates?

A: Environment

В:	Spatial base
C :	Work envelop

Q.no 53. The Signals which represent raw data or domainn conversions are referred as

A: Relational maps

D: Exclusion zone

B: Sensorial maps

C: Perceptul maps

D: Geomatric Maps

Q.no 54. What is the evaluation function in A* approach?

A: Heuristic function

B: Path cost from start node to current node

C: Path cost from start node to current node + Heuristic cost

D : Average of Path cost from start node to current node and Heuristic cost

Q.no 55. The following drive is used for lighter class of robot.

A: Pneumatic drive

B: Hydrometric drive

C: Electric drive

D: Mechanical drive

Q.no 56. The Robot designed with Cylindrical coordinate system has

A: A Three linear movements

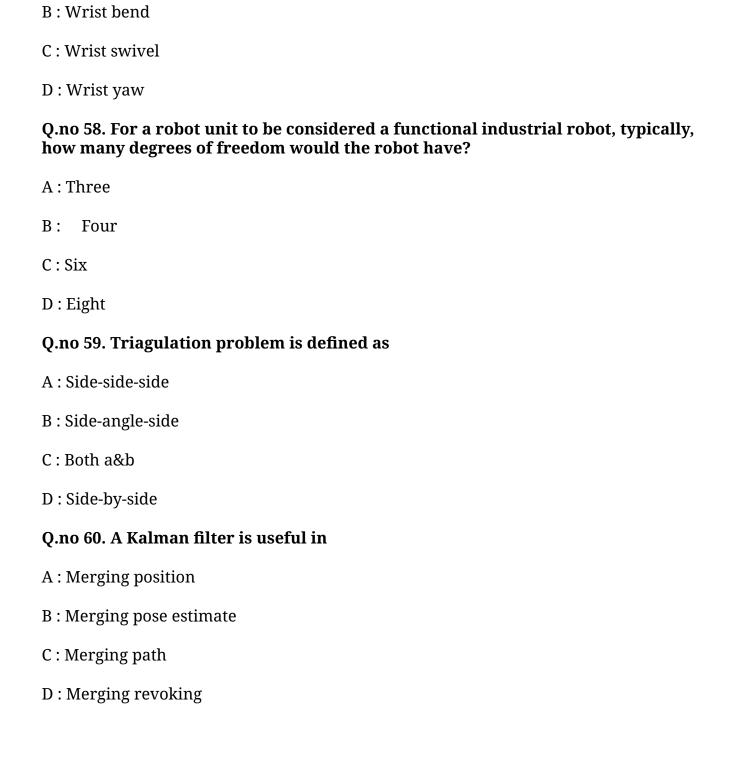
B: Three rotational movement

C: Two liner & one rotational movement

D: Two rotational & one liner movement

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A: Elbow extension



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Answer for Question No 3. is a	
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Answer for Question No 5. is c	
Answer for Question No 6. is a	
Answer for Question No 7. is d	
Answer for Question No 8. is a	
Answer for Question No 9. is b	
Answer for Question No 10. is b	
Answer for Question No 11. is d	
Answer for Question No 12. is a	
Answer for Question No 13. is b	
Answer for Question No 14. is a	
Answer for Question No 15. is c	
Answer for Question No 16. is c	

Answer for Question No 17. is	d
Answer for Question No 18. is	b
Answer for Question No 19. is	a
Answer for Question No 20. is	a
Answer for Question No 21. is	a
Answer for Question No 22. is	С
Answer for Question No 23. is	a
Answer for Question No 24. is	d
Answer for Question No 25. is	a
Answer for Question No 26. is	d
Answer for Question No 27. is	a
Answer for Question No 28. is	a
Answer for Question No 29. is	c
Answer for Question No 30. is	d
Answer for Question No 31. is	b
Answer for Question No 32. is	a

Answer for Question No 33. is a	
Answer for Question No 34. is b	
Answer for Question No 35. is d	
Answer for Question No 36. is c	
Answer for Question No 37. is a	
Answer for Question No 38. is a	
Answer for Question No 39. is b	
Answer for Question No 40. is b	
Answer for Question No 41. is a	
Answer for Question No 42. is d	
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Q.no 1. Which of the following sensor work based on radio detection and ranging?

A: Sonar

B: Radar

C: Intertial

D: Biosensor

Q.no 2. what is HDOP

A: Horizantal geometric dilution of position

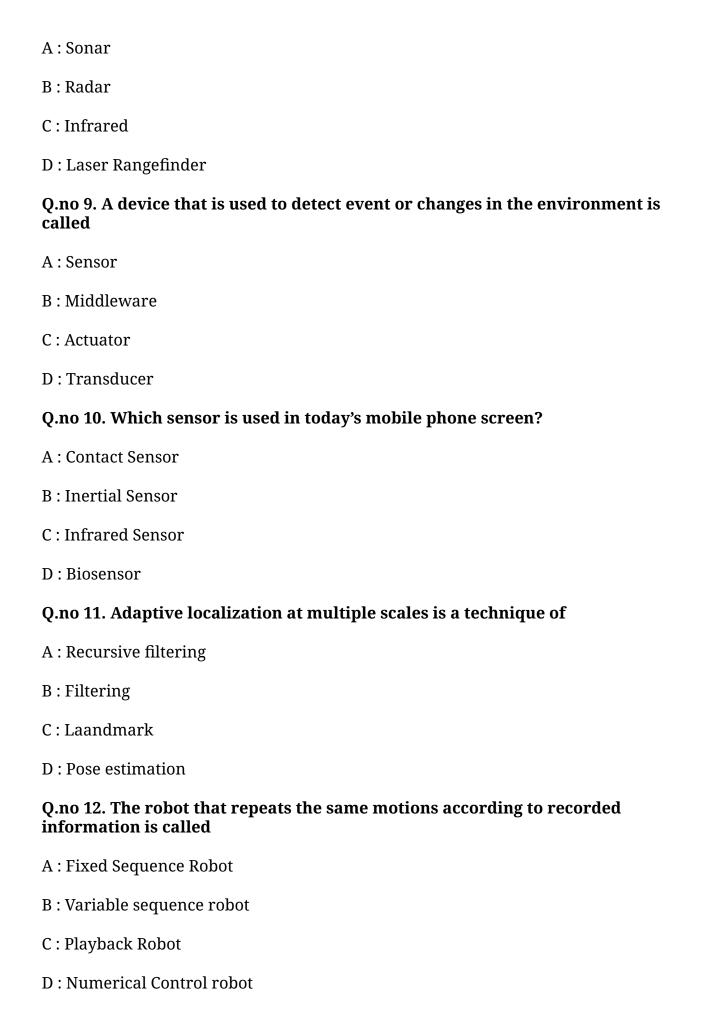
B: Horizantal geometric dilution of precision

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Q.no 3. The sensor that requires physical touch of an object is called

A: Contact Sensor B: Inertial Sensors C: Infrared Sensor D: Laser Rangefinder Q.no 4. Best-First search can be implemented using the following data structure A: Queue B: Stack C: Priority Queue D : Circular Queue Q.no 5. Which is type of Robotics Perception A: Map related B: Path related C: Position related D: Edge related Q.no 6. What is the evaluation function in greedy approach? A: Heuristic function B: Path cost from start node to current node C: Path cost from start node to current node + Heuristic cost D: Average of Path cost from start node to current node and Heuristic cost Q.no 7. Classification of data points is a technique of A: Recursive filtering B: Filtering C: Laandmark D: Pose estimation Q.no 8. Which of the following sensor make use of light emitting diode?



Q.no 13. Robots Localization indicates the robots

C: Airoplan

A: Performance B: Capability C: Direction D: Measurements Q.no 14. Which of the following branch process with sensory feedback in robotics? A: Computer Engineering B: Mechanical Engineering C: Electrical Engineering D: Electronics Engineering Q.no 15. What is the name of algorithm in which a loop that continually moves in the direction of increasing value - that is uphill A: Up-Hill Search B: Hill-Climbing C: Hill algorithm D: Platue climbing valley Q.no 16. Which is level of performance A: Driving system B: Convoy system C : Convoy assistant D: Automatic guided Vehical Q.no 17. What is Global Hawk A: Atonomous aircraft B: Aircraft

D: Robot
Q.no 18. Local localization follows the location of a robots from
A: Initial Point
B : Final Point
C : Middle point
D : End point
Q.no 19. Who work on space Robotics mission
A: Soviet
B: IBM
C : Google
D : Yahoo
Q.no 20. Which of the following is an example of infrared sensor?
A: Thermometer
B : Accelerometer
C: Gyroscope
D : TV Remote
Q.no 21. The sensor that sends out sound pulses called pings, then receives the returning sound echo is called
A : Active Sonar
B : Passive Sonar
C: Radar
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A : Video sensing
B: GPS
C: Robot

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C: Evaluation function returning lowest & highest evaluation

D: no evaluation function

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B: Mechanical Engineering

C: Electrical Engineering

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A: Radar

B: Sonar

C : Laser Rangefinder

D: Intertial Sensor

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Q.no 32. Which of the following sensor uses a laser beam to determine the distance to an object?

A: Sonar

D: Transducer

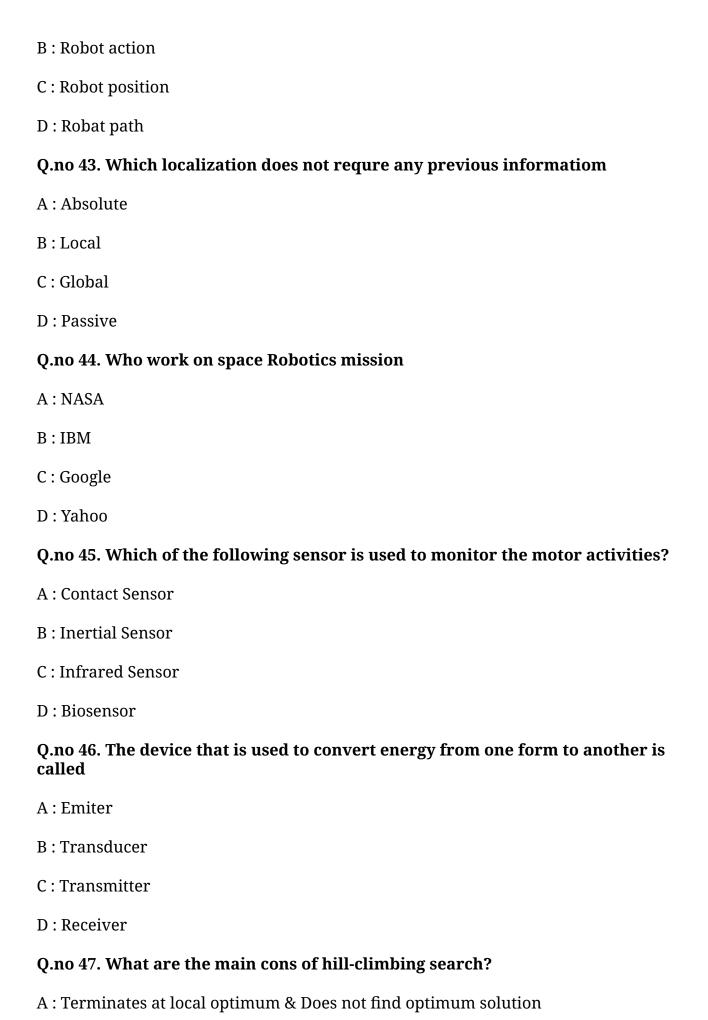
B: Radar
C: Infrared
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B: Mining
C: Pit Mining
D : Underground Mining
Q.no 34. Which is fundamental approache of mapping
A: Loop Closing
B : Sensorial maps
C : Perceptul maps
D : Geomatric Maps
Q.no 35. Robot that perform the successive stages of a task according to predetermined, unchanging method is called as
A : Fixed Sequence Robot
B : Variable sequence robot
C : Playback Robot
D : Numerical Control robot
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B: Terminates at global optimum & Does not find optimum solution C: Does not find optimum solution & Fail to find a solution D: Fail to find a solution Q.no 48. Which of the following is the component of machine that is responsible for controlling a mechanism system? A: Sensor B: Middleware C: Actuator D: Transducer Q.no 49. Which of the following is an example of contact sensor? A: Thermometer B: Accelerometer C: Gyroscope D: TV Remote Q.no 50. Which of the following is an example of inertia sensor? A: Thermometer B: Accelerometer C: Touch screen D: TV Remote Q.no 51. The Robot designed with Polar coordinate system has A: Three linear movements

B: Three rotational movement

C: Two liner & one rotational movement

D: Two rotational & one liner movement

Q.no 52. Which of the following robotic control paradigm make use of planning?

A : Horizontal and Vertical

B: Vertical and Hybrid C: Horizontal and Hybrid D: Horizontal, Vertical and Hybrid Q.no 53. What is the evaluation function in A* approach? A: Heuristic function B: Path cost from start node to current node C: Path cost from start node to current node + Heuristic cost D: Average of Path cost from start node to current node and Heuristic cost Q.no 54. Topological Maps referred as A: Relational maps B : Geomatric Maps C: Perceptul maps D: Sensorial maps Q.no 55. Which of the following is not a programming language for computer controlled Robot? A: AMC B: VAL C: RAIL D: HELP Q.no 56. Industrial Robots are generally to designed to carry which of the following coordinate system(s). A : Cartesian coordinate systems B: Polar systems. C: Cylindrical systems D : Sperical Sytem

Q.no 57. The Robot designed with Cartesian coordinate system has

- A: Three linear movements
- B: Three rotational movement
- C: Two liner & one rotational movement
- D: Two rotational & one liner movement

Q.no 58. If the dimension of search problem is very high then suitable algorithm for path planning is

- A: Dijkstra's Algorithm
- B: A* Algorithm
- C: D* Algorithm
- D: Rapid-Exploring Random Tree (RRT)

Q.no 59. Radial movement (in & out) to the manipulator arm is provided by

- A: Elbow extension
- B: Wrist bend
- C: Wrist swivel
- D: Wrist yaw

Q.no 60. Triagulation problem is defined as

- A: Side-side-side
- B: Side-angle-side
- C: Both a&b
- D : Side-by-side

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Answer for Question No 27. is d
Answer for Question No 28. is a
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Answer for Question No 39.	is a
Answer for Question No 40.	is b
Answer for Question No 41.	is a
Answer for Question No 42.	is a
Answer for Question No 43.	is c
Answer for Question No 44.	is a
Answer for Question No 45.	is b
Answer for Question No 46.	is b
Answer for Question No 47.	is a
Answer for Question No 48.	is c
	

Answer for Question No 49. is a
Answer for Question No 50. is b
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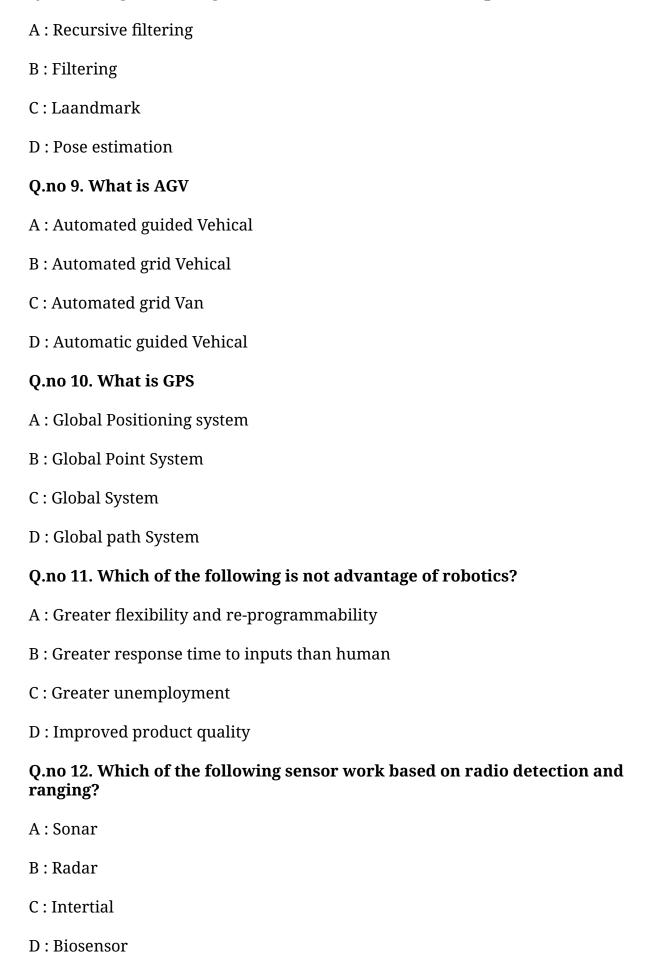
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A: Map related

B: Path related

C: Position related

D: Edge related

Q.no 16. A* algorithm is based on which of the following concept?

A: Best-First-Search

B: Breadth-First-Search

C: Depth-First –Search

D: Hill climbing

Q.no 17. Adaptive localization at multiple scales is a technique of

A: Recursive filtering

B: Filtering

C: Laandmark

D : Pose estimation

Q.no 18. Which of the following sensor is most suitable for clinical, agricultural and food industry? A: Contact Sensor B: Inertial Sensor C: Infrared Sensor D: Biosensor Q.no 19. Best-First search can be implemented using the following data structure A: Queue B: Stack C: Priority Queue D: Circular Queue Q.no 20. Who work on space Robotics mission A: Soviet B: IBM C: Google D: Yahoo Q.no 21. Robots Localization indicates the robots A: Performance B: Capability C: Direction D: Measurements Q.no 22. Natural or artificial can be category of

A: Localization

B: Landmarks classes

C: Pose evalution

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B: Horizantal geometric dilution of precision

C: Vertical geometric dilution of precision

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A: Atonomous aircraft

B: Aircraft

C: Airoplan

D: Robot

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C: Retrograde

D: Roll

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A: To collect information from environment

B: To map environment atribute to a quantitative measurement

C: only option 1 is true

D: Both option 1 and 2 are true

Q.no 31. Triagulation is a technique associate with

A: Pose

B: Landmarks classes

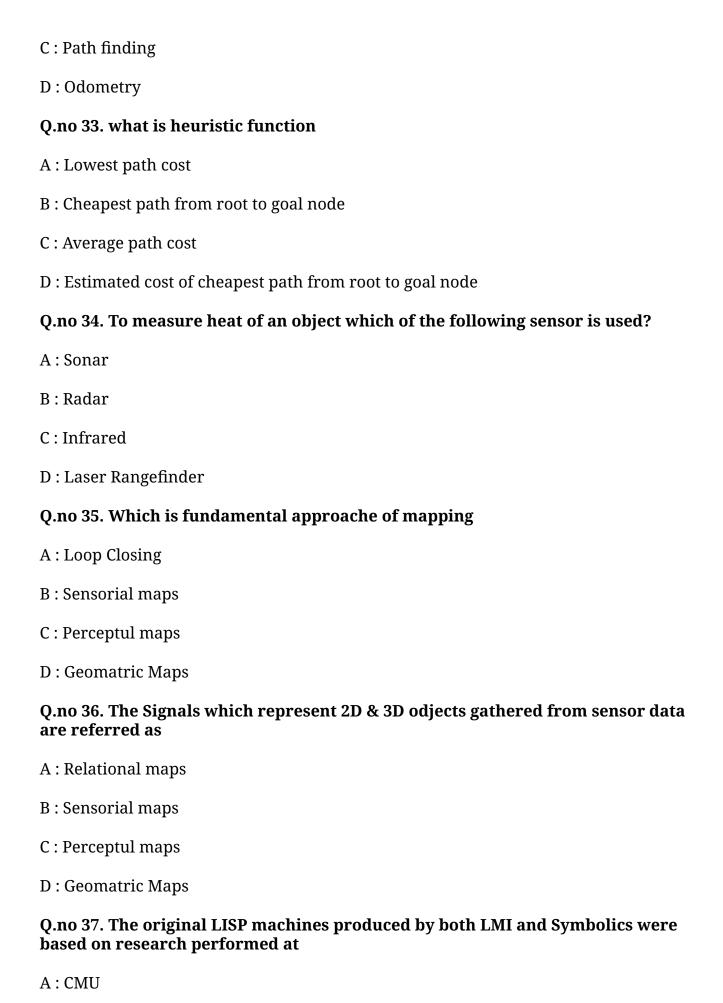
C: Robot

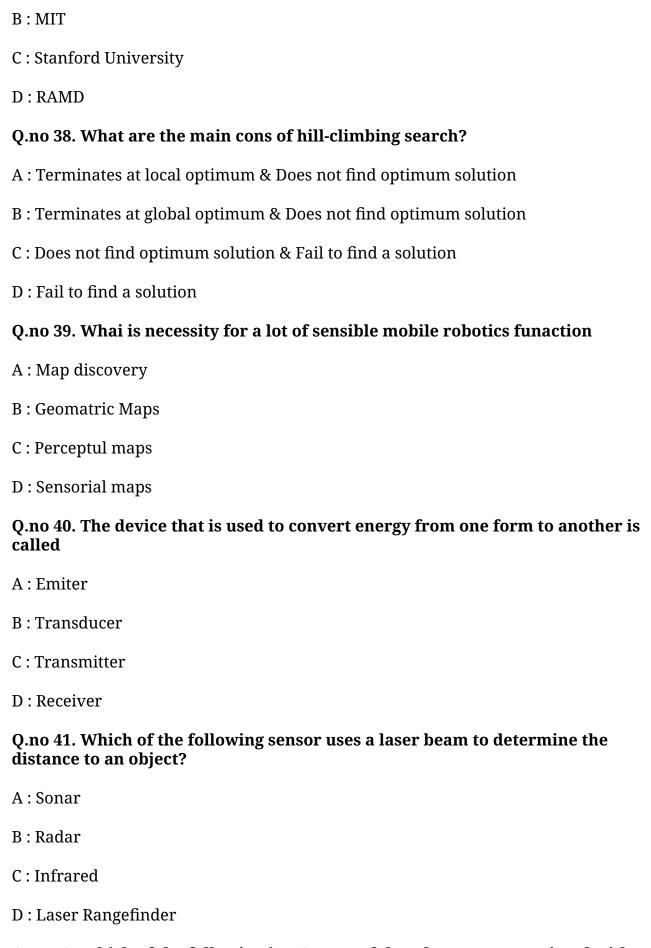
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A: Machines

B: Robots





Q.no 42. Which of the following is NOT one of the advantages associated with a robotics implementation program?

A: Low costs for hardware and software B: Robots work continuously around the clock C: Quality of manufactured goods can be improved D : Reduced company cost for worker fringe benefits Q.no 43. With regard to the physics of power systems used operate robots, which statement or statements are most correct? A: hydraulics involves the compression of liquids B: hydraulics involves the compression of air C: pneumatic involves the compression of air D: chemical batteries produce AC power Q.no 44. Which of the following laws is ASIMOV'S first and most important law of robotics? A: Robot actions must never result in damage to the robot B: Robots must never take actions harmful to humans C: Robot must follow the directions given by human D : Robots must make business a greater profit

Q.no 45. What is odometry

A: Information acquired

B: estimation

C: Calculation

D: Motion Sensors

Q.no 46. Servoing is generally used to enable

A: Path

B: Position

C: Robot

D: Diraction

Q.no 47. Which localization does not requre any previous informatiom A: Absolute B: Local C: Global D: Passive Q.no 48. Algorihtm used for path planning is A: Dijkstra's Algorithm B: DFS Algorithm C: BFS Algorithm D: Searching Algorithm Q.no 49. Which of the following is an example of contact sensor? A: Thermometer B: Accelerometer C: Gyroscope D: TV Remote Q.no 50. Which of the following sensor is used to monitor the motor activities? A: Contact Sensor B: Inertial Sensor C: Infrared Sensor D: Biosensor Q.no 51. The Vertical decomposition of the robotic control system is based on A: Sensing B: Sensing and Planning

C: Sensing and Acting

D: Sensing, Planning and Acting

Q.no 52. In which of the following operations Continuous Path System is used

A: Pick & Place

B: Loading & unloading

C: Continuous welding

D: Pick and Loading

Q.no 53. Internal state sensors are used for measuring which of below parameter of the end effector.

A: Position

B: Position & Velocity

C: Velocity & acceleration

D: Position, Velocity & acceleration

Q.no 54. Triagulation problem is defined as

A: Side-side-side

B : Side-angle-side

C: Both a&b

D: Side-by-side

Q.no 55. What is the evaluation function in A* approach?

A: Heuristic function

B: Path cost from start node to current node

C: Path cost from start node to current node + Heuristic cost

D: Average of Path cost from start node to current node and Heuristic cost

Q.no 56. The Robot designed with Cylindrical coordinate system has

A: A Three linear movements

B: Three rotational movement

C: Two liner & one rotational movement

D: Two rotational & one liner movement

Q.no 57. A clearly different group of maps showing particular application to robots is called as

A : Relational maps

B: Sensorial maps

C: Perceptul maps

D: Geomatric Maps

Q.no 58. Clockwise of Anti clockwise rotation about the vertical axis to the perpendicular arm is provided through

A: Shoulder swivel

B: Elbow extension

C: Arm sweep

D: Wrist bend

Q.no 59. Which of the following robotic control paradigm make use of planning?

A: Horizontal and Vertical

B: Vertical and Hybrid

C: Horizontal and Hybrid

D: Horizontal, Vertical and Hybrid

Q.no 60. Topological Maps referred as

A: Relational maps

B : Geomatric Maps

C: Perceptul maps

D : Sensorial maps

Answer for Question No 1. is d
Answer for Question No 2. is c
Answer for Question No 3. is b
Answer for Question No 4. is c
Answer for Question No 5. is a
Answer for Question No 6. is b
Answer for Question No 7. is a
Answer for Question No 8. is a
Answer for Question No 9. is a
Answer for Question No 10. is a
Answer for Question No 11. is c
Answer for Question No 12. is b
Answer for Question No 13. is a
Answer for Question No 14. is a
Answer for Question No 15. is d
Answer for Question No 16. is a

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Answer for Question No 25. is a
Answer for Question No 26. is a
Answer for Question No 27. is a
Answer for Question No 28. is c
Answer for Question No 29. is d
Answer for Question No 30. is d
Answer for Question No 31. is a
Answer for Question No 32. is b

Answer for Question No 33. is d
Answer for Question No 34. is c
Answer for Question No 35. is a
Answer for Question No 36. is d
Answer for Question No 37. is b
Answer for Question No 38. is a
Answer for Question No 39. is a
Answer for Question No 40. is b
Answer for Question No 41. is d
Answer for Question No 42. is a
Answer for Question No 43. is c
Answer for Question No 44. is b
Answer for Question No 45. is a
Answer for Question No 46. is c
Answer for Question No 47. is c
Answer for Question No 48. is a

Answer for Question No 49. is a
Answer for Question No 50. is b
Answer for Question No 51. is b
Answer for Question No 52. is c
Answer for Question No 53. is d
Answer for Question No 54. is c
Answer for Question No 55. is c
Answer for Question No 56. is c
Answer for Question No 57. is c
Answer for Question No 58. is c
Answer for Question No 59. is c
Answer for Question No 60. is a

Total number of questions: 60

11363_Artificial Intelligence and Robotics

Time: 1hr

Max Marks: 50

N.B

- 1) All questions are Multiple Choice Questions having single correct option.
- 2) Attempt any 50 questions out of 60.
- 3) Use of calculator is allowed.
- 4) Each question carries 1 Mark.
- 5) Specially abled students are allowed 20 minutes extra for examination.
- 6) Do not use pencils to darken answer.
- 7) Use only black/blue ball point pen to darken the appropriate circle.
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- 9) Rough work shall not be done on OMR sheet or on question paper.
- 10) Darken ONLY ONE CIRCLE for each answer.

Q.no 1. Which of the following is not advantage of robotics?

A : Greater flexibility and re-programmability

B : Greater response time to inputs than human

C: Greater unemployment

D: Improved product quality

Q.no 2. Which of the following is not true?

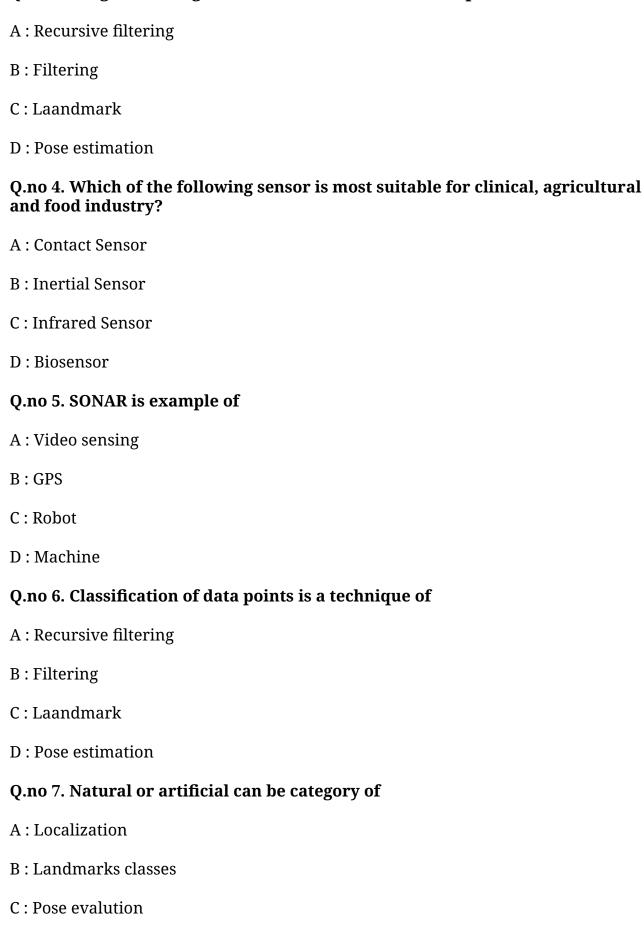
A: For robotics, you should have a knowledge of different sensors

B : For robotics, you must be able to write different planning algorithms

C : For robotics, you may have to use actuators

D : For robotics, you do not require help of computer engineers, mechanical engineers and electrical engineers

Q.no 3. Weighted voting of correction vectors is a technique of



D: Robot

Q.no 8. Local localization follows the location of a robots from

A: Initial Point B: Final Point C: Middle point D : End point Q.no 9. Best-First search can be implemented using the following data structure A: Queue B: Stack C: Priority Queue D: Circular Queue Q.no 10. Robots Localization indicates the robots A: Performance B: Capability C: Direction D: Measurements Q.no 11. Best-First search is a type of informed search, which of the following principle used to choose the best next node for expansion A: Evaluation function returning lowest evaluation B: Evaluation function returning highest evaluation C: Evaluation function returning lowest & highest evaluation D: no evaluation function Q.no 12. A* algorithm is based on which of the following concept? A: Best-First-Search B: Breadth-First-Search C: Depth-First –Search

D: Hill climbing

Q.no 13. Who work on space Robotics mission

A: Soviet B: IBM C: Google D: Yahoo Q.no 14. What is the evaluation function in greedy approach? A: Heuristic function B: Path cost from start node to current node C: Path cost from start node to current node + Heuristic cost D: Average of Path cost from start node to current node and Heuristic cost Q.no 15. Which of the following search strategy uses a problem specific knowledge A: uninformed Search B: Breadth-First-Search C: Heuristic Search D: Best search Q.no 16. Which of the following is a visual sensor? A: Laser Rangefinder B: Radar C: Smart Camera D: Sonar Q.no 17. What is the name of algorithm in which a loop that continually moves in the direction of increasing value - that is uphill A: Up-Hill Search B: Hill-Climbing C: Hill algorithm

D : Platue climbing valley
Q.no 18. What is GPS
A : Global Positioning system
B : Global Point System
C : Global System
D : Global path System
Q.no 19. Which of the following branch is not a parts of robotics?
A : Computer Engineering
B : Mechanical Engineering
C : Electrical Engineering
D : Chemical Engineering
Q.no 20. Which of the following sensor work based on radio detection and ranging?
A: Sonar
B: Radar
C: Intertial
D : Biosensor
Q.no 21. Which of the following sensor make use of light emitting diode?
A: Sonar
B: Radar
C: Infrared
D : Laser Rangefinder
Q.no 22. What is AGV
A : Automated guided Vehical
B : Automated grid Vehical
C : Automated grid Van

D : Automatic guided Vehical

Q.no 23. What is EKF

A : Existance Kalman filter

B: Extended Klaman Filter

C: Each Kalman filter

D: Evalution Kalman Filter

Q.no 24. Which of the following branch process with sensory feedback in robotics?

A: Computer Engineering

B: Mechanical Engineering

C: Electrical Engineering

D: Electronics Engineering

Q.no 25. The sensor that requires physical touch of an object is called

A: Contact Sensor

B: Inertial Sensors

C: Infrared Sensor

D: Laser Rangefinder

Q.no 26. Which of the following is NOT one of the advantages associated with a robotics implementation program?

A: Low costs for hardware and software

B: Robots work continuously around the clock

C : Quality of manufactured goods can be improved

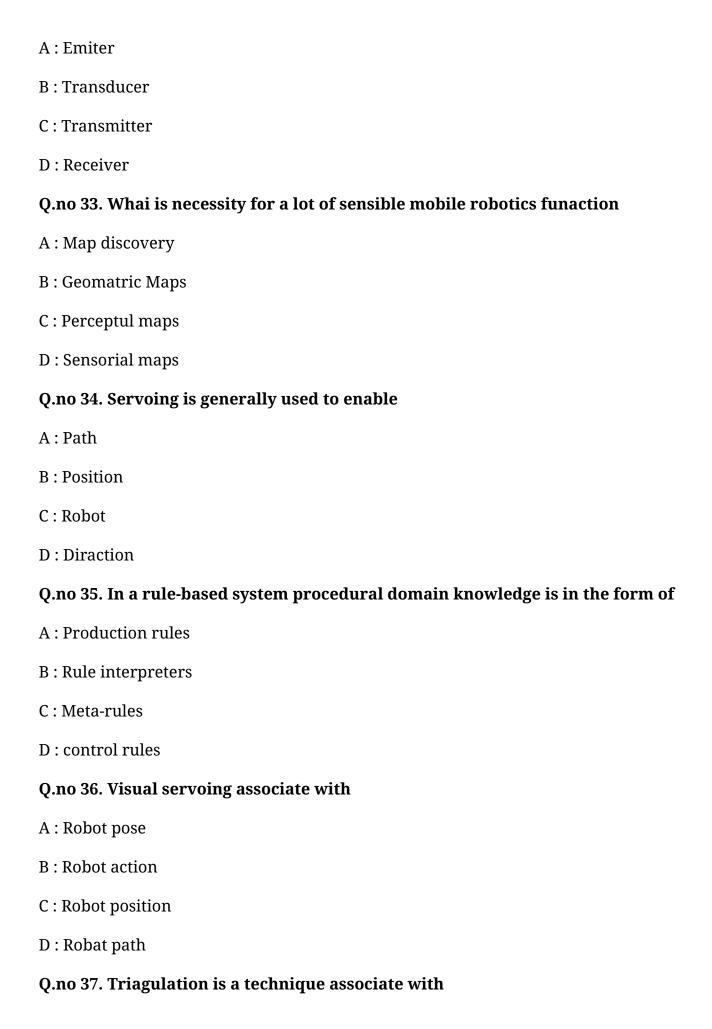
D: Reduced company cost for worker fringe benefits

Q.no 27. Which of the following is an example of contact sensor?

A: Thermometer

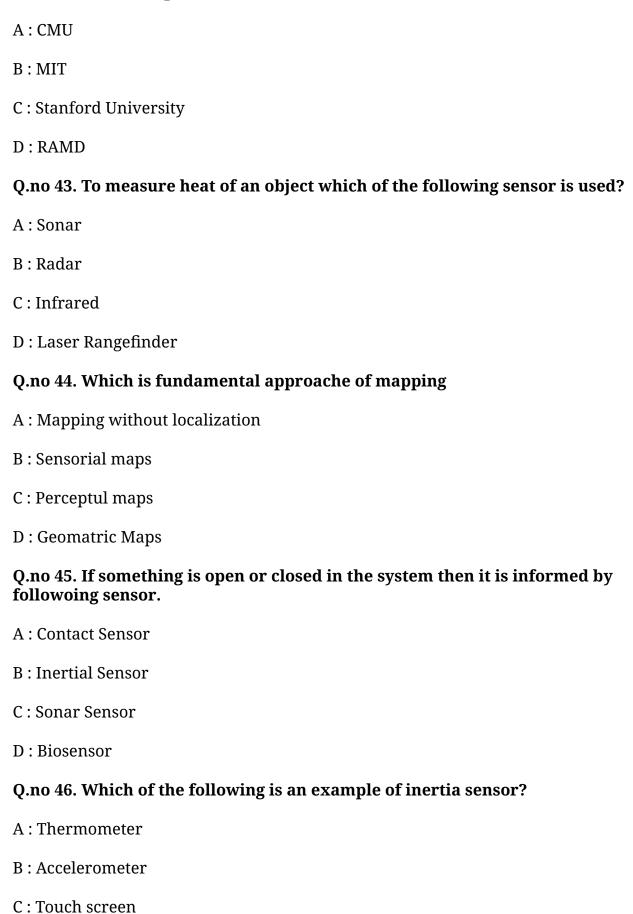
B: Accelerometer

C: Gyroscope
D : TV Remote
Q.no 28. Which of the following sensor uses a laser beam to determine the distance to an object?
A: Sonar
B: Radar
C: Infrared
D : Laser Rangefinder
Q.no 29. A computer software that provide the services to software applications beyond those available from the operating system is called
A: Sensor
B: Middleware
C: Actuator
D : Transducer
Q.no 30. If a robot can alter its own trajectory in response to external conditions it is considered to be
A: Intelligent
B: Mobile
C : Open loop
D: Non-servo
Q.no 31. What are the main cons of hill-climbing search?
A : Terminates at local optimum & Does not find optimum solution
B : Terminates at global optimum & Does not find optimum solution
C : Does not find optimum solution & Fail to find a solution
D : Fail to find a solution
Q.no 32. The device that is used to convert energy from one form to another is called



A: Pose
B : Landmarks classes
C: Robot
D : Odometry
Q.no 38. The Signals which represent 2D $\&$ 3D odjects gathered from sensor data are referred as
A : Relational maps
B : Sensorial maps
C : Perceptul maps
D : Geomatric Maps
Q.no 39. With regard to the physics of power systems used operate robots, which statement or statements are most correct?
A : hydraulics involves the compression of liquids
B : hydraulics involves the compression of air
C : pneumatic involves the compression of air
D : chemical batteries produce AC power
Q.no 40. Which localization does not requre any previous informatiom
A : Absolute
B: Local
C : Global
D : Passive
Q.no 41. Which is mode of mining
A : Close pit mining
B: Mining
C : Pit Mining
D : Underground Mining

Q.no 42. The original LISP machines produced by both LMI and Symbolics were based on research performed at



D: TV Remote

Q.no 47. What is reckoning

A: Evaluating existing location

B: Evaluating Previous location

C: Information acquired

D: Finding the location

Q.no 48. Which is type of Robotics Perception

A: Marker related

B: Map related

C: Path related

D: Position related

Q.no 49. Active or inactive can be category of

A: Localization

B: Landmarks classes

C: pose evalution

D: Robot

Q.no 50. Which is mode of mining

A: Open pit mining

B: Close pit mining

C: Mining

D: Pit Mining

Q.no 51. Path planning algorithm is used for

A: Environment Representation

B: Locate mobile robot

C: Finding shortest path and optimal path

D : Surround environment

Q.no 52. Clockwise of Anti clockwise rotation about the vertical axis to the perpendicular arm is provided through

perpendicular arm is provided through
A : Shoulder swivel
B : Elbow extension
C : Arm sweep
D : Wrist bend
Q.no 53. Robot is derived from Czech word
A : Rabota
B : Robota
C : Rebota
D : Ribota
Q.no 54. Drives are also known as
A: Actuators
B: Controller
C : Sensors
D : Manipulator
Q.no 55. Which of the following is the serial robot?
A : Commercial robot
B : Industrial robot
C : In-house robot
D : Mobile Robot
Q.no 56. Decision support programs are designed to help managers make
A : Budget projections
B : Visual presentation

C: Business decisions

D: Vacation schedules

Q.no 57. What is the evaluation function in A* approach?

A: Heuristic function

B: Path cost from start node to current node

C: Path cost from start node to current node + Heuristic cost

D: Average of Path cost from start node to current node and Heuristic cost

Q.no 58. Triagulation problem is defined as

A: Side-side-side

B: Side-angle-side

C: Both a&b

D: Side-by-side

Q.no 59. Which of the following work is done by General purpose Robot?

A: Part drive

B: Welding

C: Spray picking

D : Part panting

Q.no 60. Practical sensor domensions which is referred as

A: Homing

B: servoing

C: Robat action

D: Pose estimation

Answer for Question No 1. is c	
Answer for Question No 2. is d	
Answer for Question No 3. is a	
Answer for Question No 4. is d	
Answer for Question No 5. is b	
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Answer for Question No 33.	is a
Answer for Question No 34.	is c
Answer for Question No 35.	is a
Answer for Question No 36.	is a
Answer for Question No 37.	is a
Answer for Question No 38.	is d
Answer for Question No 39.	is c
Answer for Question No 40.	is c
Answer for Question No 41.	is d
Answer for Question No 42.	is b
Answer for Question No 43.	is c
Answer for Question No 44.	is a
Answer for Question No 45.	is a
Answer for Question No 46.	is b
Answer for Question No 47.	is a
Answer for Question No 48.	is a

Answer for Question No 49. is b
Answer for Question No 50. is a
Answer for Question No 51. is c
Answer for Question No 52. is c
Answer for Question No 53. is b
Answer for Question No 54. is a
Answer for Question No 55. is b
Answer for Question No 56. is c
Answer for Question No 57. is c
Answer for Question No 58. is c
Answer for Question No 59. is b
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11363_Artificial Intelligence and Robotics

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- 9) Rough work shall not be done on OMR sheet or on question paper.
- 10) Darken ONLY ONE CIRCLE for each answer.

Q.no 1. Weighted voting of correction vectors is a technique of

A: Recursive filtering

B : Filtering

C: Laandmark

D: Pose estimation

Q.no 2. Which of the following sensor work based on sound navigation ranging?

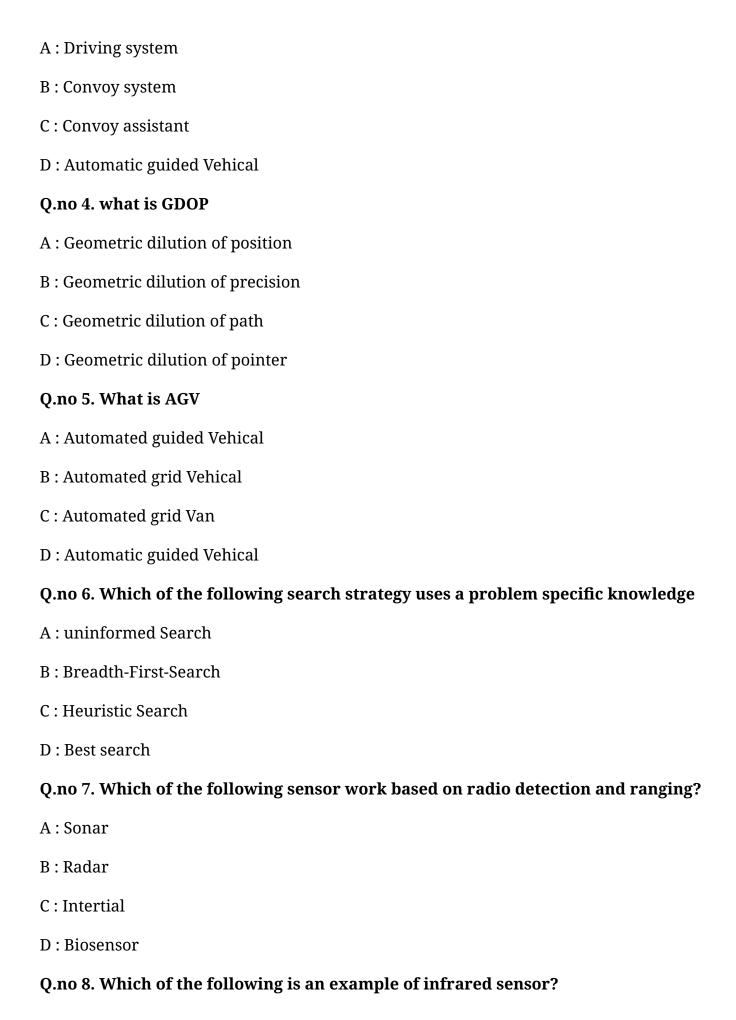
A: Sonar

B: Radar

C: Intertial

D: Biosensor

Q.no 3. Which is level of performance



A: Thermometer B: Accelerometer C: Gyroscope D: TV Remote Q.no 9. A device that is used to detect event or changes in the environment is called A: Sensor B: Middleware C: Actuator D: Transducer Q.no 10. The sensor that sends out sound pulses called pings, then receives the returning sound echo is called A: Active Sonar B: Passive Sonar C: Radar D: Laser Rangefinder Q.no 11. The sensor that requires physical touch of an object is called A: Contact Sensor B: Inertial Sensors C: Infrared Sensor D: Laser Rangefinder Q.no 12. what is HDOP A: Horizantal geometric dilution of position B: Horizantal geometric dilution of precision C: Vertical geometric dilution of precision D: Vertical geometric dilution of position

Q.no 13. What is EKF

A: Existance Kalman filter

B: Extended Klaman Filter

C: Each Kalman filter

D: Evalution Kalman Filter

Q.no 14. Best-First search is a type of informed search, which of the following principle used to choose the best next node for expansion

A: Evaluation function returning lowest evaluation

B: Evaluation function returning highest evaluation

C: Evaluation function returning lowest & highest evaluation

D: no evaluation function

Q.no 15. Which of the following is a visual sensor?

A: Laser Rangefinder

B: Radar

C: Smart Camera

D: Sonar

Q.no 16. Best-First search can be implemented using the following data structure

A: Queue

B: Stack

C: Priority Queue

D : Circular Queue

Q.no 17. Which of the following sensor is most suitable for clinical, agricultural and food industry?

A: Contact Sensor

B: Inertial Sensor

C: Infrared Sensor

D: Biosensor

Q.no 18. What is the name of algorithm in which a loop that continually moves in the direction of increasing value – that is uphill

A: Up-Hill Search

B: Hill-Climbing

C: Hill algorithm

D: Platue climbing valley

Q.no 19. Which of the following branch is not a parts of robotics?

A: Computer Engineering

B: Mechanical Engineering

C: Electrical Engineering

D: Chemical Engineering

Q.no 20. The robot that repeats the same motions according to recorded information is called

A: Fixed Sequence Robot

B : Variable sequence robot

C: Playback Robot

D: Numerical Control robot

Q.no 21. What is the evaluation function in greedy approach?

A : Heuristic function

B: Path cost from start node to current node

C: Path cost from start node to current node + Heuristic cost

D: Average of Path cost from start node to current node and Heuristic cost

Q.no 22. Which of the following is not advantage of robotics?

A: Greater flexibility and re-programmability

B: Greater response time to inputs than human

C : Greater unemployment
D : Improved product quality
Q.no 23. Which of the following is not functionality of robotics?
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B : Multi-functionality
C : Efficient performance
D : Responsibility
Q.no 24. Local localization follows the location of a robots from
A : Initial Point
B : Final Point
C : Middle point
D : End point
Q.no 25. Who work on space Robotics mission
A: Soviet
B: IBM
C : Google
D : Yahoo
Q.no 26. In a rule-based system procedural domain knowledge is in the form of
A : Production rules
B : Rule interpreters
C: Meta-rules
D: control rules
Q.no 27. Robot that perform the successive stages of a task according to predetermined, unchanging method is called as
A · Fixed Sequence Robot

B : Variable sequence robot

C: Playback Robot D: Numerical Control robot Q.no 28. Triagulation is a technique associate with A: Pose B: Landmarks classes C: Robot D: Odometry Q.no 29. Which is fundamental approache of mapping A: Loop Closing B: Sensorial maps C: Perceptul maps D: Geomatric Maps Q.no 30. Why do the robot need sensor? A: To collect information from environment B: To map environment atribute to a quantitative measurement C: only option 1 is true D: Both option 1 and 2 are true Q.no 31. With regard to the physics of power systems used operate robots, which statement or statements are most correct?

A: hydraulics involves the compression of liquids

B: hydraulics involves the compression of air

C: pneumatic involves the compression of air

D : chemical batteries produce AC power

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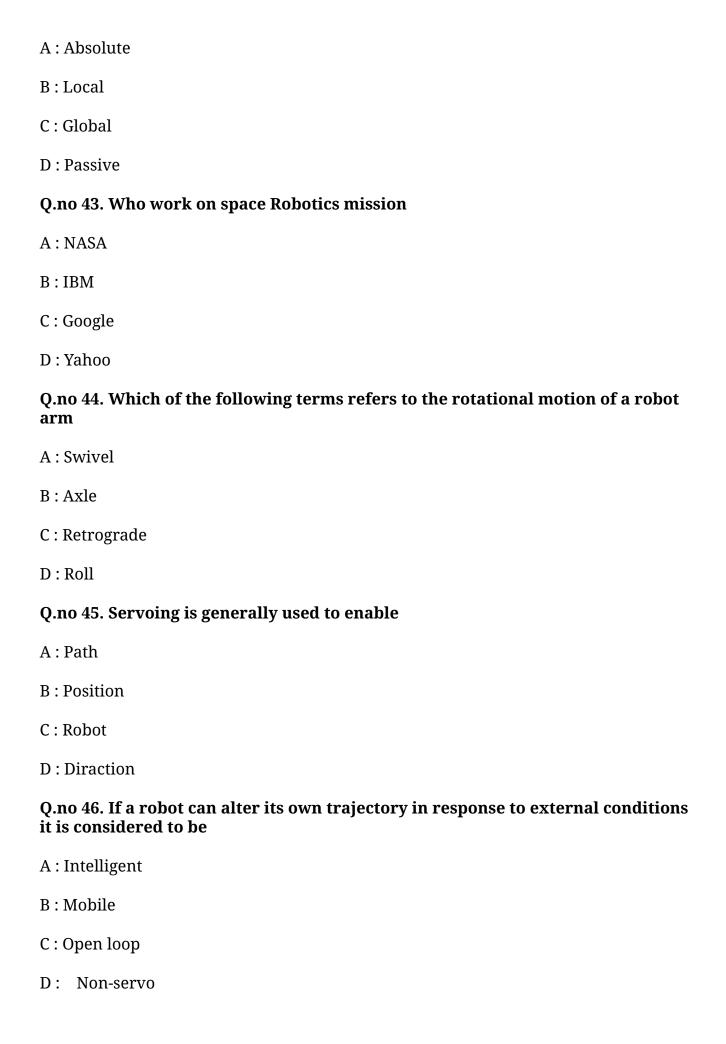
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B : Robots must never take actions harmful to humans
C : Robot must follow the directions given by human
D : Robots must make business a greater profit
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A: Sonar
B: Radar
C: Infrared
D : Laser Rangefinder
Q.no 34. The sensor that receive sound echoes without transmitting their own sound signals is called
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B : Passive Sonar
C: Radar
D : Laser Rangefinder
Q.no 35. A computer software that provide the services to software applications beyond those available from the operating system is called
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C: Actuator
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C: Pit Mining
D : Underground Mining
Q.no 37. What is odometry

A: Information acquired B: estimation C: Calculation D: Motion Sensors Q.no 38. Whai is necessity for a lot of sensible mobile robotics funaction A: Map discovery B : Geomatric Maps C: Perceptul maps D: Sensorial maps Q.no 39. Which of the following is true? A : Robot minimize the labor cost B: Robot minimize the productivity C: Robot minimize the life of production machine D : Rotot minimize the qualtiy of work Q.no 40. Which of the following sensor is used to monitor the motor activities? A: Contact Sensor B: Inertial Sensor C: Infrared Sensor D: Biosensor Q.no 41. Which of the following is NOT one of the advantages associated with a robotics implementation program? A: Low costs for hardware and software B: Robots work continuously around the clock C: Quality of manufactured goods can be improved

D : Reduced company cost for worker fringe benefits

Q.no 42. Which localization does not requre any previous informatiom



Q.no 47. Algorihtm used for path planning is

A: Dijkstra's Algorithm

B: DFS Algorithm

C: BFS Algorithm

D: Searching Algorithm

Q.no 48. Imge based servoing associate with

A: Robot pose

B: Robot action

C: Robot position

D: Robat path

Q.no 49. What are the main cons of hill-climbing search?

A: Terminates at local optimum & Does not find optimum solution

B: Terminates at global optimum & Does not find optimum solution

C: Does not find optimum solution & Fail to find a solution

D: Fail to find a solution

Q.no 50. Which of the following is the component of machine that is responsible for controlling a mechanism system?

A: Sensor

B: Middleware

C: Actuator

D: Transducer

Q.no 51. The Robot designed with Polar coordinate system has

A: Three linear movements

B: Three rotational movement

C: Two liner & one rotational movement

D: Two rotational & one liner movement

Q.no 52. Path planning algorithm is used for

A: Environment Representation

B: Locate mobile robot

C: Finding shortest path and optimal path

D: Surround environment

Q.no 53. The main objective (s) of Industrial robot is to

A : To maximize the labor requirement

B: To increase productivity

C: To decrease the life of production machines

D : To decrease productivity

Q.no 54. In which of the following operations Continuous Path System is used

A: Pick & Place

B: Loading & unloading

C: Continuous welding

D: Pick and Loading

Q.no 55. Radial movement (in & out) to the manipulator arm is provided by

A: Elbow extension

B: Wrist bend

C: Wrist swivel

D: Wrist yaw

Q.no 56. Which of the following places would be LEAST likely to include operational robots?

A: Warehouse

B: Factory

C : Hospitals

D: Private homes

Q.no 57. When will Hill-Climbing algorithm terminate?

A: Stopping criterion met

B: Global Min/Max is achieved

C: No neighbour has higher value

D: no criteria to terminate

Q.no 58. Which of the following work is done by General purpose Robot?

A: Part drive

B: Welding

C: Spray picking

D: Part panting

Q.no 59. The Signals which represent raw data or domainn conversions are referred as

A: Relational maps

B : Sensorial maps

C: Perceptul maps

D : Geomatric Maps

Q.no 60. A Kalman filter is useful in

A: Merging position

B: Merging pose estimate

C: Merging path

D: Merging revoking

Answer for Question No 1. is a	
Answer for Question No 2. is a	
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Answer for Question No 5. is a	
Answer for Question No 6. is c	
Answer for Question No 7. is b	
Answer for Question No 8. is d	
Answer for Question No 9. is a	
Answer for Question No 10. is a	
Answer for Question No 11. is a	
Answer for Question No 12. is b	
Answer for Question No 13. is b	
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Answer for Question No 15. is c	
Answer for Question No 16. is c	

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Answer for Question No 45. is c
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Answer for Question No 47. is a
Answer for Question No 48. is a

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Answer for Question No 60. is b