

UNIT_1: Robotic systems

Exercise 1:

1. The manipulation robot system can perform several different functions, including welding, material handling and material removal applications.
2. The data acquisition and control robotic systems can be used in software for engineering and business.
3. The mobile robotic system characteristics are the ability to swim, to fly and to move along the ground.
4. The synonyms of:
 - work : labor
 - detection : acquisition
 - elements : items
 - fabrication : manufacturing
5. The opposites of:
 - few : several
 - augmenting : reducing
 - to separate : to gather
 - the least : the most

Exercise 2: (Grammar practice)

Part A

| | |
|----|------------------------------|
| 1 | dogs' |
| 2 | children's |
| 3 | girls' jackets |
| 4 | laboratory door |
| 5 | the front of the house |
| 6 | week's holiday |
| 7 | kitchen door |
| 8 | doctor's receptionist |
| 9 | the manager of London office |
| 10 | six days' work |

Part B

| | |
|----|-----|
| 1 | - |
| 2 | an |
| 3 | - |
| 4 | the |
| 5 | a |
| 6 | the |
| 7 | a |
| 8 | - |
| 9 | The |
| 10 | the |

Part C

| | |
|----|----------------------|
| 1 | the highest |
| 2 | taller than |
| 3 | the most expensive |
| 4 | the most intelligent |
| 5 | shorter than |
| 6 | the ugliest |
| 7 | the most wonderful |
| 8 | the laziest |
| 9 | more expensive |
| 10 | better than |

Part D

| | |
|----|--|
| 1 | Were you frightened of the wolves? |
| 2 | The ladies walked quickly out of the room. |
| 3 | The room was full of shelves. |
| 4 | There were a lot of people at the party. |
| 5 | They packed everything into boxes. |
| 6 | Could I have a tin of peas, please? |
| 7 | A lot of people wear fur now. |
| 8 | The machine's made of silver. |
| 9 | It was terrible experience. |
| 10 | She's a sculptor - she works with stone. |

Part E

| | |
|----|------|
| 1 | such |
| 2 | so |
| 3 | so |
| 4 | so |
| 5 | such |
| 6 | so |
| 7 | such |
| 8 | such |
| 9 | so |
| 10 | such |

Exercise 3:

Although robotic systems remove the operator from the immediate vicinity of the welding process and reduce the risk from fume, arc glare, noise and radiation, they are in themselves a safety hazard. The robot arm can travel at high velocity with considerable force and the operator and associated staff must be prevented from entering the operating envelope at any time when the unit is active. This necessitates the use of mechanical guards and safety interlocks. In addition, any automated system can operate at much higher duty cycles than a manual operator and the total fume generated during a shift will probably be much higher than that produced by non-automated installations. It is therefore necessary to provide adequate fume extraction.

Exercise 4: Translate to Ar/Fr language the following sentences :

| English | French |
|--|--|
| While manual labor has dominated in manufacturing for centuries, it is the robotic system that revolutionized the process. | Bien que le travail manuel ait dominé dans la fabrication depuis des siècles, il s'agit du système robotique qui a révolutionné le processus. |
| Manufacturers are now able to produce a superior-quality product in a reduced amount of time because of robot systems. | Les fabricants sont désormais en mesure de produire un produit de qualité supérieure dans une quantité de temps réduite en raison de systèmes robots. |
| Robotic systems need to do tasks that humans alone cannot complete, such as moving large space assets or scanning large areas of planetary surfaces. | Les systèmes robotiques doivent faire des tâches que les humains seules ne peuvent pas terminer, telles que le déplacement de gros avoirs spatiaux ou la numérisation de grandes surfaces planétaires. |