

Task 1. Match each type of transmission (1–6) with its correct description (A–F).

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| 1. Torque transmission | • A. Uses pressurized fluid to create mechanical motion. |
| 2. Power transmission | • B. Transfers rotational force through shafts or couplings. |
| 3. Gear transmission | • C. Connects rotating shafts using belts or chains. |
| 4. Belt/chain transmission | • D. Sends information between sensors, controllers, and machines. |
| 5. Hydraulic transmission | • E. Moves mechanical or electrical energy from source to machinery. |
| 6. Data transmission | • F. Uses interlocking toothed wheels to change direction or speed. |

Task 2. Fill in the blanks with the correct type of transmission.**(torque, power, gear, belt/chain, hydraulic, data)**

1. Robots on automated assembly lines rely on accurate _____ to communicate with the central controller.
2. The excavator's arm operates using _____ to lift and move heavy materials.
3. In bicycles, _____ allows the rider to change speed and direction efficiently.
4. Conveyor systems often depend on _____ for transferring motion without slipping.
5. The car's engine uses _____ to send rotational force from the crankshaft to the wheels.
6. Engineers monitor _____ between sensors and controllers to prevent delays in automation.
7. Electric motors transmit mechanical energy through _____ to operate machines efficiently.
8. A press machine uses _____ to convert fluid pressure into linear motion for forming metal parts.
9. Construction cranes rely on precise _____ systems to transfer rotational force safely to the lifting arm.
10. Smart factories use _____ to synchronize operations between robotic arms and sensors.

Task 3. Choose the correct word from the list to complete each sentence.

(**shaft, actuator, fluid, torque, controller, pressure, alignment, signal, coupling, sensor**)

1. A hydraulic system transfers _____ through pipes to create movement.
2. The robotic arm cannot move without an _____ to convert energy into motion.
3. A _____ manages the operation of machines and regulates performance.
4. Incorrect _____ of belts or chains can cause energy loss and slippage.
5. The _____ is responsible for transferring rotational force from the motor.
6. The machine receives a _____ from the sensor to start the process.
7. If the _____ between shafts is loose, torque transmission will fail.
8. The robotic system uses a _____ to detect the position of products on the line.
9. Hydraulic _____ must be high enough to lift heavy loads safely.
10. The motor produces _____ that drives the conveyor rollers.

Task 4. Comprehension Questions (Choose A, B, or C)

1. *Why is torque transmission important for robotic arms?*

- A. It provides fluid pressure to lift heavy parts.
- B. It allows precise rotational force to move joints accurately.
- C. It controls the flow of data between sensors.

2. *Why might a conveyor system fail if belt tension is too low?*

- A. The motor will stop working completely.
- B. The belt will move too fast for the rollers.
- C. The belt will slip, reducing motion efficiency.

3. *Why are hydraulic systems used in aircraft landing gear instead of electric motors?*

- A. They provide high force and precise control in a compact system.
- B. They are cheaper and easier to repair than electric systems.
- C. They use compressed air, which is lighter than hydraulic fluid.

4. *What happens if data transmission between sensors and controllers is delayed?*

- A. The system becomes more energy-efficient.
- B. Machines may make incorrect or unsafe movements.
- C. It improves synchronization between robotic arms.

5. *Why are gear transmissions preferred in bicycles instead of direct torque transmission?*

- A. They make the bicycle heavier but more durable.
- B. They allow adjustment of speed and torque for different conditions.
- C. They reduce the rider's ability to control the speed