Work and Power Questions for GCSE Physics

1. Define work done in terms of energy transferred.

2. What is the equation for work done when force and distance are given?

3. If a force of 10 N moves an object 5 m, how much work is done?

4. A machine transfers 500 J of energy in 2 seconds. What is its power output?

5. A car engine does 1,200 J of work in 10 seconds. Calculate the power of the engine.

6. A student lifts a 20 N weight 2 m vertically. How much work is done?

7. A light bulb transfers 60 J of energy in 1 second. What is its power?

8. A car does 900 J of work while moving 3 m. What is the force applied?

9. A light bulb has a power rating of 100 W. How much energy does it transfer in 3 minutes?

10. A machine exerts a force of 200 N to move an object 4 m. Calculate the work done and the power output if it takes 2 seconds.

11. A lift raises a total weight of 12000 N by 60 m in 20 seconds. What is the work done and the power of the lift?

12. A machine has a power output of 250 W and transfers 5,000 J of energy. How long does it operate?

13. A 60 W fan operates for 2 hours. How much energy does it consume in joules?

14. A car engine transfers 50,000 J of energy in 20 seconds. Calculate the power and the force if the car travels 40 m in this time.

15. A machine applies a horizontal force of 200 N to push a box 10 m across a rough surface. At the same time, it lifts the box vertically 2 m using a crane attachment. If the weight of the box is 500 N, calculate:
a) The total work done by the machine.
b) The power output if the process takes 15 seconds.