Unit III: I/O Interfacing

1. **What is the function of 8255 PPI?**
    - Provides programmable parallel I/O ports.
2. **Name any two modes of 8255.**
    - Mode 0 (simple I/O), Mode 1 (strobed I/O).
3. **What is an interrupt controller?**
    - It handles multiple interrupt requests, prioritizing them.
4. **What is the purpose of ADC?**
    - Converts analog signals to digital form.
5. **What is the resolution of an 8-bit ADC?**
    - 1/256
6. **What is serial communication?**
    - Data is sent one bit at a time over a single line.
7. **What is the role of DMA in interfacing?**
    - Allows peripherals to directly access memory without CPU intervention.
8. **Explain OUT instruction.**
    - Sends data to an I/O port.
9. **What is the role of 8259?**
    - Programmable Interrupt Controller.
10. **Define traffic light control.**
    - Using a microprocessor to control signal lights.
11. **What is the purpose of a timer?**
    - To generate delays or measure time intervals.
12. **How does a stepper motor work?**
    - Converts electrical pulses into mechanical motion.
13. **What is the function of 8253?**
    - Programmable interval timer.
14. **What is an alarm controller?**
    - Manages alarms using microprocessor logic.
15. **What is a keyboard/display interface?**
    - Used to control a matrix keyboard or seven-segment display.
16. **What is a DAC?**
    - Converts digital signals to analog form.

17. **What is meant by polling?**
    - Continuously checking the status of a device.
18. **What are strobed I/O operations?**
    - Data transfer synchronized by control signals.
19. **What is direct I/O?**
    - Data is transferred directly between the processor and the I/O device.
20. **What is an LCD?**
    - A display technology used for interfacing with microprocessors.