

JDNET TECHNOLOGIES

(ISO 9001:2015 CERTIFIED INSTITUTION)

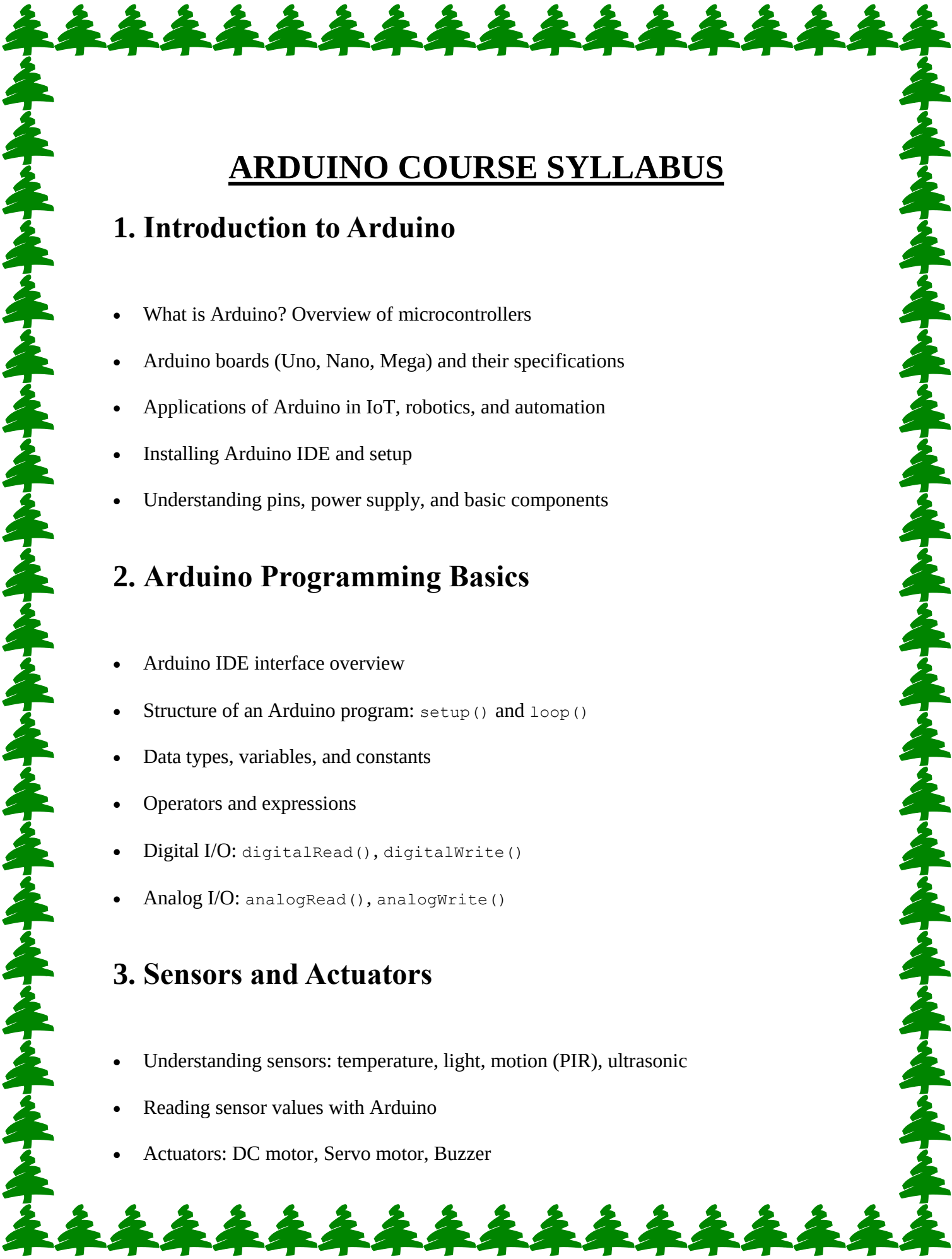
NO:31, SUBBURAYA CHETTY STREET, THIRUPAPULIYUR,
CUDDALORE-2 (OPP DARLING ELECTRONICS).

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ARDUINO



TRAINING COURSES FOR ALL DEPARTMENTS



ARDUINO COURSE SYLLABUS

1. Introduction to Arduino

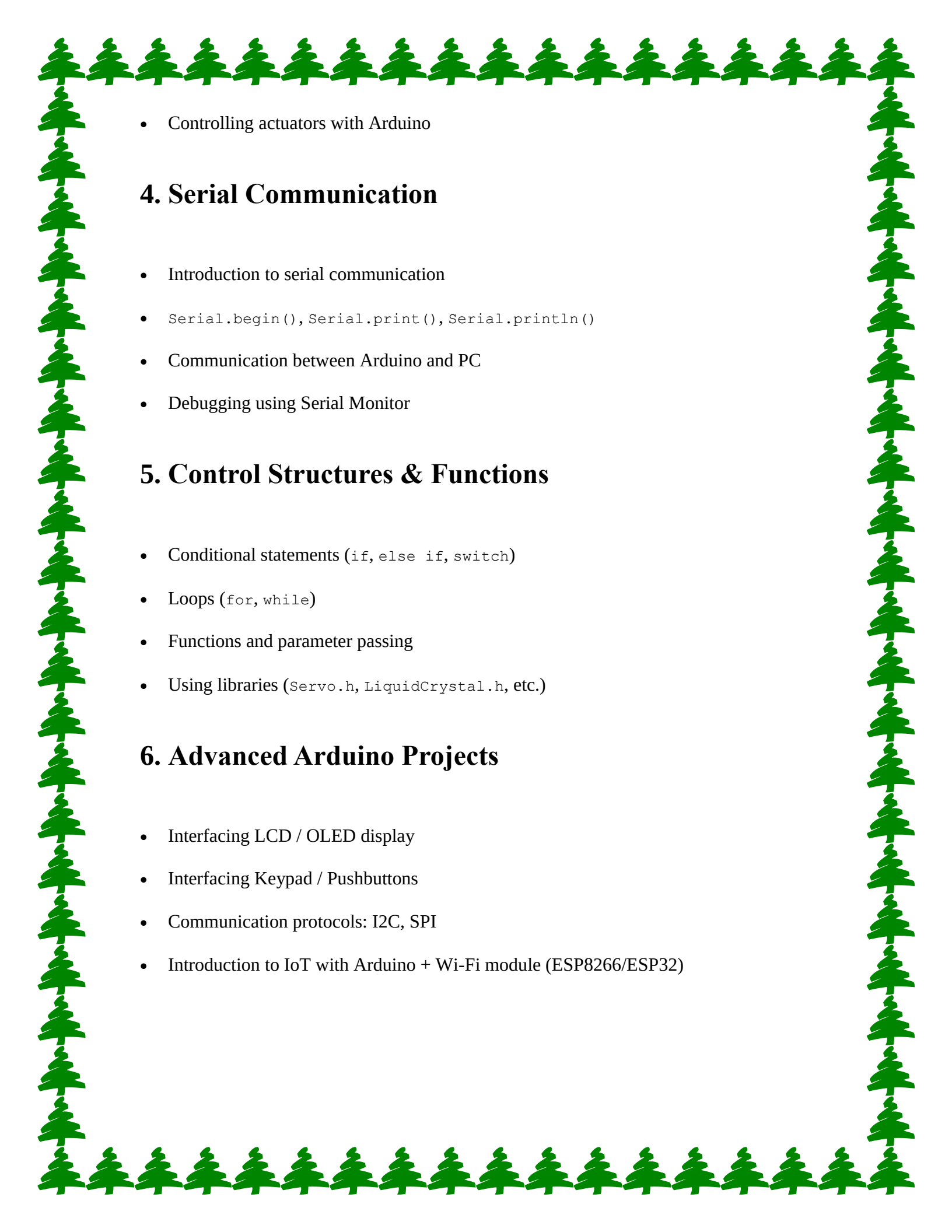
- What is Arduino? Overview of microcontrollers
- Arduino boards (Uno, Nano, Mega) and their specifications
- Applications of Arduino in IoT, robotics, and automation
- Installing Arduino IDE and setup
- Understanding pins, power supply, and basic components

2. Arduino Programming Basics

- Arduino IDE interface overview
- Structure of an Arduino program: `setup()` and `loop()`
- Data types, variables, and constants
- Operators and expressions
- Digital I/O: `digitalRead()`, `digitalWrite()`
- Analog I/O: `analogRead()`, `analogWrite()`

3. Sensors and Actuators

- Understanding sensors: temperature, light, motion (PIR), ultrasonic
- Reading sensor values with Arduino
- Actuators: DC motor, Servo motor, Buzzer

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- Controlling actuators with Arduino

4. Serial Communication

- Introduction to serial communication
- `Serial.begin()`, `Serial.print()`, `Serial.println()`
- Communication between Arduino and PC
- Debugging using Serial Monitor

5. Control Structures & Functions

- Conditional statements (`if`, `else if`, `switch`)
- Loops (`for`, `while`)
- Functions and parameter passing
- Using libraries (`Servo.h`, `LiquidCrystal.h`, etc.)

6. Advanced Arduino Projects

- Interfacing LCD / OLED display
- Interfacing Keypad / Pushbuttons
- Communication protocols: I2C, SPI
- Introduction to IoT with Arduino + Wi-Fi module (ESP8266/ESP32)



Connect With Us

JDNET TECHNOLOGIES

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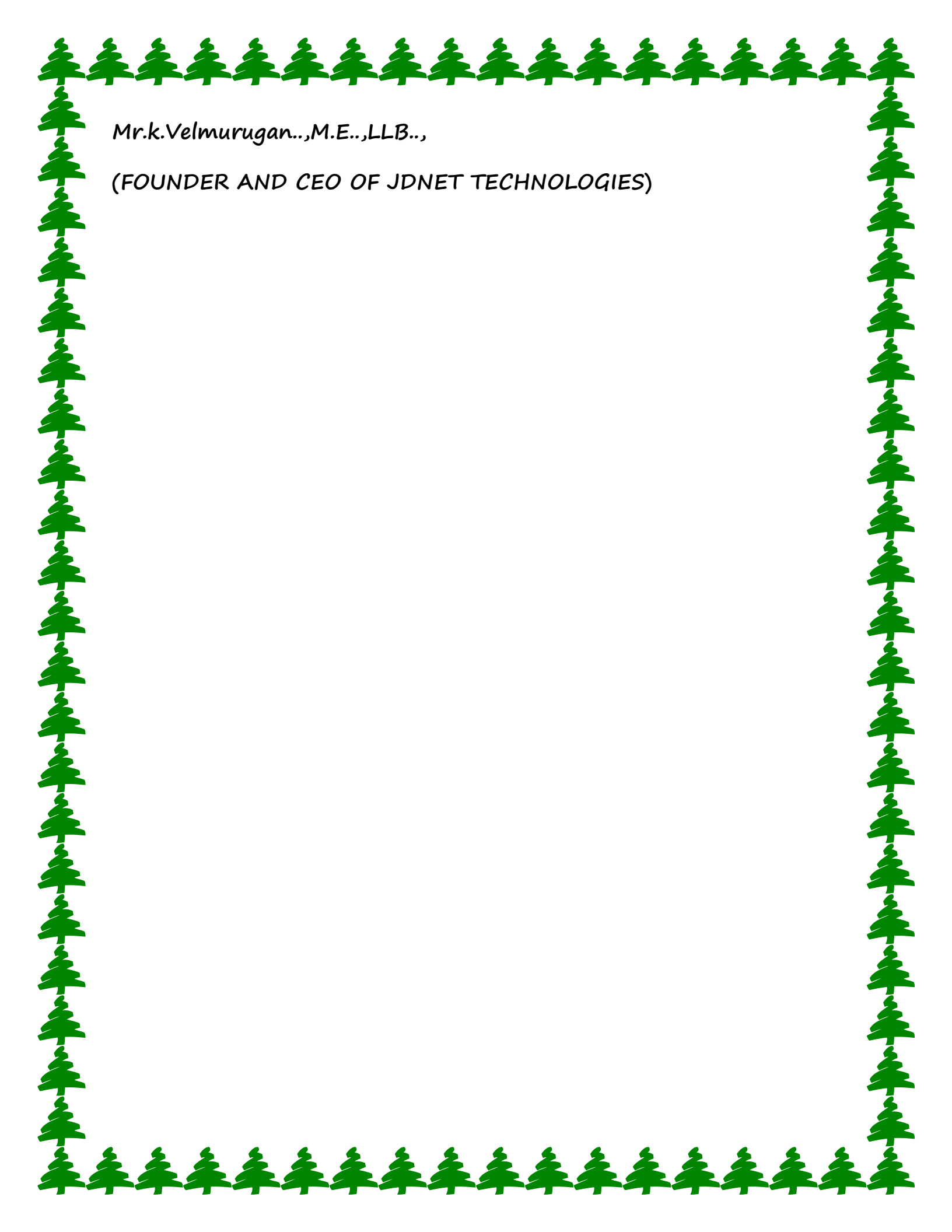
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