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**PRANVEER SINGH INSTITUTE OF TECHNOLOGY, KANPUR**

Odd Semester

Session 2023-24  
B. Tech.-5<sup>th</sup> Semester

CT -1

**Programming and Interfacing with Microcontroller (KOT-052)**

CO Number	Course Outcome (Please include all COs of your Course here)
CO1	Understand advanced and emerging networking technologies
CO2	Obtain skills to do advanced networking research and programming
CO3	Learn how to use software programs to perform varying and complex networking tasks
CO4	Understand Advanced I/O Interfacing
CO5	Expand upon the knowledge learned and apply it to solve real world problems

Time: 1.5 Hrs.

M: M. 15

**Section A**

(1X3 = 3 Marks)

**Q1. Attempt all questions:**

- a) Write the names different microcontroller families.
- b) State the various features of analog system.
- c) Explain how to approach a programming problem?

CO1

CO1

CO2

**Section B**

(2X4 = 8 Marks)

**Q2. Attempt all questions:**

- a i) Draw the structure of a microcontroller control unit.
- Or
- ii) Write the difference between microprocessor and microcontroller.
- b i) Discuss PIC Microcontroller.
- Or
- ii) Discuss ARM Microcontroller.
- c i) Discuss Git/Github.
- Or
- ii) Discuss different databases.
- d i) Differentiate between Analog signal and Digital Signal.
- Or
- ii) Differentiate between Arduino and Raspberry -Pi.

CO1

CO1

CO2

CO2

CO2

CO2

CO4

CO4

**Section C**

(4X1 = 4 Marks)

**Q3**

- i) Explain the Sensor characterization, its safety and applications in IOT based communication.
- Or
- ii) Explain creative coding platforms and open source platforms used in programming.

CO2

CO2