

**Thapar Institute of Engineering and Technology, Patiala**  
**Department of Electronics & Communication Engineering**

**July-December, 2020**  
**Course: Engineering Design Project II (UTA014)**

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**Submission guidelines of assignment-1**

**Assignment-1** must be submitted by each student individually as per the following guidelines:

- The last date of submission is **October 12, 2020**.
  - A maximum weightage of this assignment is **10** marks
  - Assignment must be in **typed form** with neat diagrams (**2-3 pages only**) and the student is required to submit a soft copy (**pdf, up to 1 MB**) of his assignment.
  - Marks will be reduced if **not submitted** within **due date** of submission **without prior permission**.
  - Assignment **copied** from other students will be **treated** as the case of **plagiarism** and marks will be **deducted** from the **entire copied version** (s) submitted by students.
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**Assignment-1**

**Objective:** Design a microcontroller based detection system for **any one** of the following sensor applications with a neat **circuit diagram**:

- Atmospheric pressure
- Alcohol
- Smoke
- pH value of water
- Air temperature
- Air humidity
- H<sub>2</sub>
- LPG
- CH<sub>4</sub>

The project write-up **must include** the following points in detail:

- Circuit diagram and its working along with signal conditioning or Interfacing circuit
- Selection criterion of sensor
- Selection criterion of microcontroller
- Tentative cost of project-including sensor, microcontroller, interfacing circuit etc. (estimated from online shopping sites)