TEST - 1
CS23E01 – Embedded Systems and Internet of Things

Max: 10 M
Duration: 20 Mins

Answer any one of the following:

1. Write an **embedded C** program for the **8051 MC** for the following scenario:

Assume OTP of 4 bits is read through 4 pins of input port say **P0.0** through **P0.3** and the user confirms with a high on another input pin of the same port (say **P0.4**). Upon confirmation, verify whether there is a match with a preset password (say 1010). If there is a match led connected to P1.0 should glow continuously, if no match led should blink with a small **delay**.

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2. Write an **embedded C** program for the **8051 MC** for the following scenario:

Imagine an electronic sensor based door opens and shuts automatically. Initially the door is closed (indicated by a low on door open/close led P1.0). If a user is at 5 ft or lesser distance on either side (indicated by a high on sensors on either side of the door, pins **P0.0, P0.1**), the door opens (indicated by a high on door open pin **P1.0**) and waits (**delay**) for a few secs. Within this delay if the logical **OR** of sensors on either sides is high the door remains open (**P1.0** is high) otherwise door closes (**P1.0** is low).

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