Screening Task
for
P(11-1) - Project Research Associate

Please attempt both the tasks. Remember that your submission will be graded on the quality of your work and validity of the results.

Task 1: Consider there is one switch (momentary action) and one LED. Write a ladder program or Functional Block Diagram (showing output in FBRT)for the following scenario. When switch is pressed the LED turns ON for 10 sec and then it turns OFF. If the switch is pressed within again 10 sec the LED should turn OFF immediately. Use LDmicro for Ladder Diagram and 4Diac for Functional Block.

Software download link given below LDmicro download link https://openplc.fossee.in/user-downloads

4Diac download link: https://www.eclipse.org/4diac/en_dow.php

Task 2: We expect you to make the circuits using https://www.tinkercad.com platform. You have to share the circuits with us and change their accessibility to "public" in order for us to see them. Please name them accordingly (if there are multiple attempts).

Design a circuit to switch ON and OFF a 12 V "load" using Arduino with the following requirements:

a) Use a switch to turn ON and OFF the load via Arduino

b) Use **MOSFET**(s) for driving the 12 V load

c) The load must remain **ON** in case if the arduino is disconnected from MOSFET (use a slide switch to disconnect signal from arduino to MOSFET. Note, this switch is different from the one used in point 1)

d) If this circuit cannot be made, mention reasons and demonstrate failures

PS: In case of any doubt, please assume suitable information and finish the task.

Submission procedure:

Send your submissions for Task 1 and Task 2 in a single email with the zip file of Task 1 and url for Task 2. The exact details are as follows:

Task 1:

- Mail your program file and screen shot image of final output to **info@fossee.in**.

Task 2:

- Mail your project URL to **info@fossee.in**.

- You may attach a README file to describe your submission.

Make sure to put the mail subject-line as "j**ob-code-YourName** without quotes. For example, "**P(11-1)-satish**" No extension in the deadline will be considered for submission of screening task