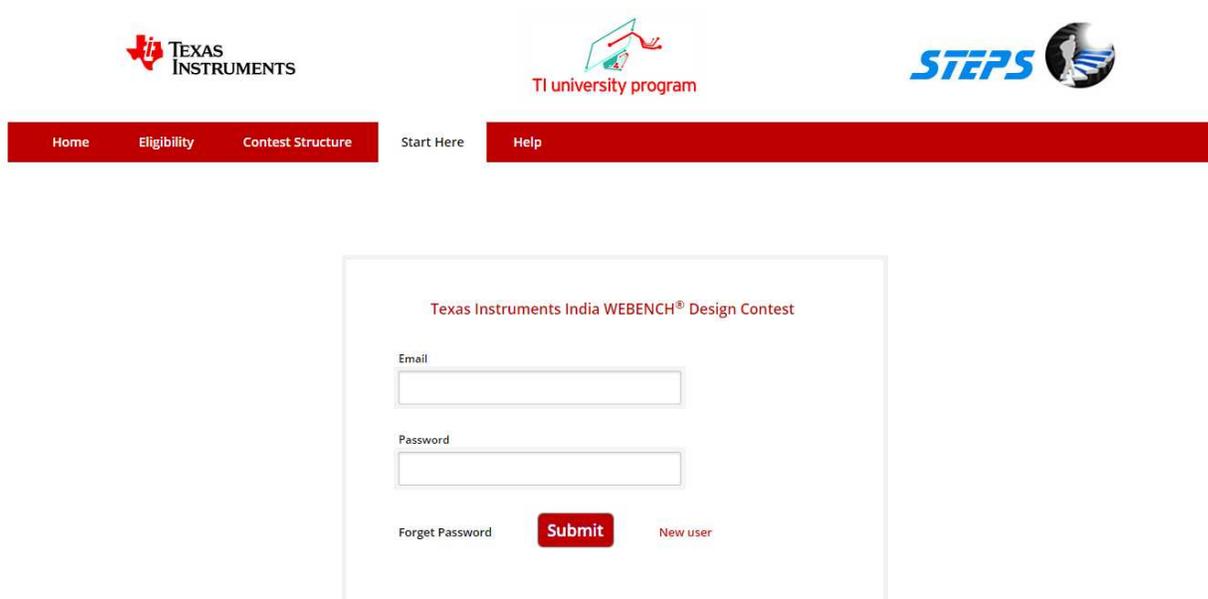


PROCEDURE TO ATTEND TEXAS INSTRUMENTS INDIA WEBENCH® DESIGN CONTEST ROUND 1

STEP 1 : Click On **Start Here**

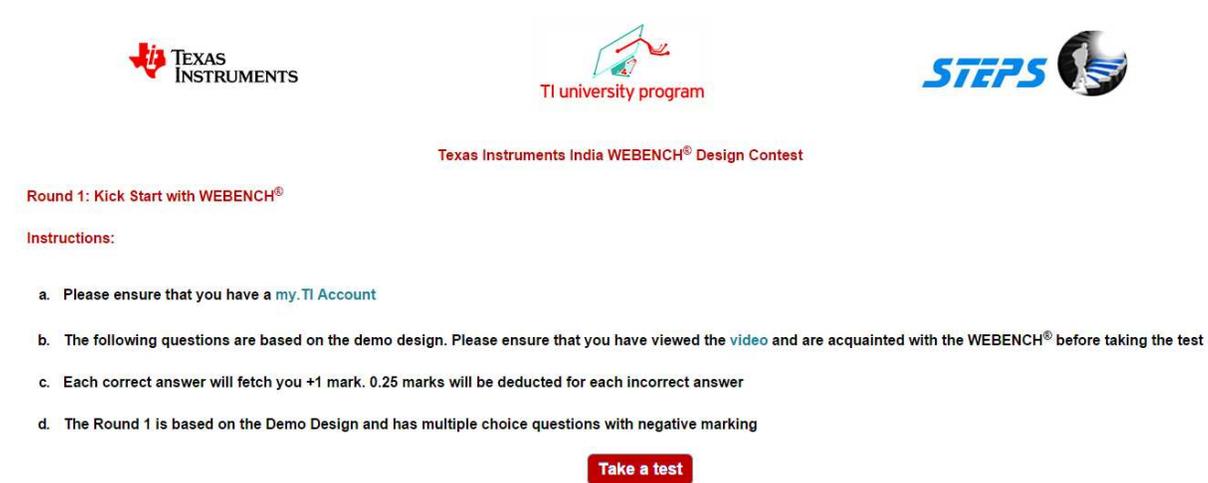


The screenshot shows the login page for the Texas Instruments India WEBENCH Design Contest. At the top, there are logos for Texas Instruments, TI university program, and STEPS. Below the logos is a navigation bar with links: Home, Eligibility, Contest Structure, Start Here, and Help. The main content area contains a login form with the following elements:

- Title: Texas Instruments India WEBENCH® Design Contest
- Email input field
- Password input field
- Forget Password link
- Submit button
- New user link

STEP 2 : Enter **Your Email** and **Password** and then click **Submit**

STEP 3 : **Round 1 Instructions** page displayed



The screenshot shows the Round 1 Instructions page. At the top, there are logos for Texas Instruments, TI university program, and STEPS. Below the logos is the title: Texas Instruments India WEBENCH® Design Contest. The main content area contains the following information:

- Section: Round 1: Kick Start with WEBENCH®
- Section: Instructions:
- List of instructions:

- Please ensure that you have a [my.TI Account](#)
- The following questions are based on the demo design. Please ensure that you have viewed the [video](#) and are acquainted with the WEBENCH® before taking the test
- Each correct answer will fetch you +1 mark. 0.25 marks will be deducted for each incorrect answer
- The Round 1 is based on the Demo Design and has multiple choice questions with negative marking

At the bottom of the instructions, there is a **Take a test** button.

STEP 4 : Read the Instructions carefully and click **Take a test**

STEP 5 : The multiple choice questions (Round 1) window appears



Texas Instruments India WEBENCH® Design Contest

User Requirement:

Vin (Max) : 240V AC Vout = 19 V
Vin (Min) : 100V AC Iout = 3.4 A
Ambient Temperature = 30 Degree Celsius

Part Identification:

Use LM5023

Related Information:

The LM5023 is a Quasi-Resonant Pulse Width Modulated (PWM) controller which contains all of the features needed to implement a highly efficient off-line power supply. The LM5023 uses the transformer auxiliary winding for demagnetization detection to ensure Critical Conduction Mode (CCM) operation. The LM5023 features a hiccup mode for over current protection with an auto restart to reduce the stress on the power components during an overload. The LM5023 also uses the transformer auxiliary winding for output overvoltage (OVP) protection, if an OVP fault is detected the LM5023 latches off the controller.

[Link to WEBENCH®](#)

1. Select the value of average rectified Vin when Vin is 170 V and 240 V ?

170 V 240 V

STEP 6 : Click [Link to WEBENCH®](#) to workout

The screenshot shows the Texas Instruments website navigation bar with 'Products', 'Applications & designs', 'Tools & software', 'Support & community', 'Sample & buy', and 'About TI'. Below the navigation bar, there are sections for 'My products', 'My technical documents', and 'My searches'. A promotional banner reads 'Boost your skills: Get 20% off motor driver BoosterPacks today!'. The main content area is titled 'WEBENCH® Design Center' and includes a description of the design environments. A 'WEBENCH® Designer' button is highlighted with a red arrow. Below the button, there are tabs for 'Filters', 'Sensors', 'Interface', and 'Reference', with 'Power' selected under 'Filters'. A form for entering power supply requirements is visible, with radio buttons for 'DC' and 'AC'.

STEP 7 : Enter the user Requirement parameters and click [Start Design](#)

The screenshot shows the 'WEBENCH® Designer' interface with the 'Power' filter selected. The form for entering power supply requirements is displayed, with the following parameters and values:

Parameter	Value	Unit
AC Frequency	60Hz	
Vin (Min)	100	V
Vin (Max)	240	V
Vout	19	V
Iout	3.4	A
Ambient Temp	30	°C

Below the form, there are two buttons: 'Power Architect' and 'Start Design'. A red arrow points to the 'Start Design' button.

STEP 8 : VISUALIZER Screen opens as shown below and click the Part LM 5023 to download the Data sheet

STEP 9 : Open Design (you need to use your my.ti.com username and password) and the following screen WEBENCH

Summary screen appears.

STEP 10 : Answer the questions using various menus such as OP Values, BOM Charts and Data sheet then press submit

for submitting the results

STEP 11 : The below window appears



Texas Instruments India WEBENCH® Design Contest

Congratulation !!

Proceed to Round 2