Development of Virtual lab :Round 1 (R1) Pedagogy - Template (Worksheet)

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Discipline to which the Lab belongs:
Name of the Lab: WELCOME TO LOGIC DESIGN AND COMPUTER ORGANIZATION VIRTUAL LAB
Name of experiment CARRY AHEAD LOOK ADDER
(only one Experiment per worksheet. for submitting more than one experiments, please fill up another worksheet)**:**

Kindly Refer these documents before filling the worksheet

1. **Coursework (MOOC) on Pedagogy , Storyboard , Lab Manual : http://bit.ly/Vlabs-MOOC**
2. **Additional Documentation booklet for reference. http://vlabs.iitb.ac.in/vlabs-dev/document.php**
3. **Sample Git Repository. :**

1.1 FOCUS AREA:

Our experiment is all about carry adder for each adder block for which the two blocks are added .It reduces the propagation delay by more complex hardware. It is implemented with the help of logic gates.

1.2 About the Experiment:

In carry look ahead adder two variables such as "carry propagate" and "carry generate" are defined. The sum is stored in Si and the carry is stored in C(i+1). Boolean functions are implemented for carry output such as C2,C3,C4 then generated. Its complexity is log(n).

1.3 Learning Objectives: (write in the table below)

Write Learning Objectives that can be achieved using virtual labs and the respective cognitive level, & action verbs.

S.No.	Learning Objective	Cognitive Level	Action Verb

(you can add more rows.)

2. Instructional Strategy

In this section you will get to know what instructions you need to follow to perform carry look ahead adder and even this will test your knowledge as you follow the assessment method and for your reference you can look over to description section.

2.1 Instructional Strategy:

> Select the four digit input value in A and B
> Select the respective Ai and Bi
> Enter the value of Ci (0,1) in the respective box
> You will get "carry propagate" (Pi) and "carry generate" (Gi)

2.2 Assessment Method:

Pre test will be taken to check your knowledge and interest in the following experiment.
Post test will be taken to check how efficiently you were able to perform the following experiment.

2.3 Description of sections:

You will get to know that A and B are those values which are being selected to calculate the sum using carry look ahead adder. Here Ai is the last digit of the number A and Bi is also the last digit of number B. Formula used-

Pi=Ai*Bi' +Ai'*Bi (Pi is carry propagate)
Gi=Ai*Bi (Gi is carry generate)
Si=Pi*Ci'+Pi'*Ci (Si is sum)
C(i+1)=Gi+Pi*Ci

3. Task & Assessment Questions

Complete the following table with details of the various tasks and assessment questions you will give to the students.

SrNo.	Learning Objective to be met (choose anyone from you declared above)	Tasks to be performed by the students	Assessment questions aligned to the task
1			
2			

(you can add more rows. Assessment Questions to all the Learning Objective should be met.)

4. Simulator Interactions

Complete the following table giving the details of the Simulator interactions.

What Simulator will do? What students will do? Purpose of the task

Write your content in the table below.

What students will do?	What simulator will do?	Purpose of the task

(you can add more rows.)