नाम
Name : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

अनुक्रमांक
Roll No : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

प्राप्त अंक
Marks Awarded :

पाठ्यक्रम
Course : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

दिनांक
Date : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

अनुदेशक का अधाक्षर
Instructor Initial :

## STUDY OF SECONDARY CELLS

**AIM:** Study of Secondary cells and preparation of electrolyte

1. Dismantle the Lead Acid Cell given and identify the parts.

2. Mention the purpose of each part of the cell.

a) Plastic Lid

b) Positive Plate Group

c) Ribbed Micro porous separators

d) Negative Plate group

e) Plastic Buffers

f) Container

g) Bottom block

h) Polystyrene Vent Plug

**3. Preparation of Electrolyte:**

Sulphuric Acid is normally available in 1.840 specific gravity. This must be diluted with water to give the required specific gravity (sp.gravity at the time of filling is specified by the manufacturer of the cell) while preparing the electrolyte.

When acid is added to water, the temperature can be kept low by slowly adding. The electrolyte should be then allowed to cool.

**4. Filling of cells & Charging procedure:**

The cells should be filled with electrolyte and the plates should be allowed to soak in the electrolyte for a period of 12 hours. The initial charge rate is specified by the manufactures

As a thumb rule initial charging current rate can be taken as 4% of the capacity in AH.

Specified AH input to be given during initial charging as per manufacturer specifications. The number of hours of charging can be calculated by dividing AH input with rate of current.

Charging current must be kept constant during the charging time. At the end of the charge there should not be any change in specific gravity readings for 3 consecutive hours.

Fully charged battery, charged for the first time should be kept for discharge at a rate recommended by the manufactures by connecting a load of proper value. The first discharge rate is normally 10 hrs. rate. Charging and discharging to be done for 2 or 3 times to get maximum capacity.

**REVEW QUESTION:**

(a) What are the all the materials & equipments required for initial charging of batteries?

(b) What are all the precautions you will take in setting up a battery room?

c) The specific gravity of a cell is

1) _____ in the charged condition.

2) When the specific gravity of the cell at 27°c 1200, the specific gravity at 40°c will be _____

d) Describe a Hydrometer?

e) Explain the chemical action in a secondary cell?

**Date:** **Signature of Trainee**