Syllabus For Fly Ash Brick Manufacturing Assistant (RPL)

Course Name	**Fly Ash Brick Manufacturing Assistant (RPL)**
Sector	**CONSTRUCTION**
Course Code	**CON/2024/FBMA/321**
Level	**4 (RPL)**
Occupation	**Fly Ash Brick Manufacturing Assistant**
Course Duration	**Total Duration 80 Hrs (T- 24 , P-56)**
Trainees' Entry Qualification	**Class VIII Pass with 5 years experience in the relevant field**
Trainers Qualification	**BE/ B.Tech in Civil / Construction Engineering with 2 Yrs Experience in related field OR Diploma in Civil Engineering with 3 Yrs experience in related filed. OR ITI in Mason Trade Or Graduate with Level 4 Certificate in related Trade with 4 Yrs experience in Training.**

SYLLABUS:

Theory & Practical

Unit -1 General Idea about bricks

1.1 *Bricks – conventional bricks, standard bricks, composition of clay brick, strength of bricks,*
proportions of burnt clay bricks, testing of bricks, special bricks (fire clay brick, refractory brick,
hollow blocks, fly ash bricks).

1.2 *Concepts and Specifications:*
Basic Concept, Fly Ash Block, Wall Properties, Physical specification

Unit -2 Specification and Quality Standards:

All the specification and quality standards given below are as per ISCode
12894 : 2002 and IS Code 16720 : 2018.

2.1 *Raw material specification:*
2.1.1 *Pulverized fuel ash, Aggregates (Filler), Binder (Cement), Water, Chemical admixtures and Additives,*

2.2 *Product specification*
2.2.1 *Physical appearance, Dimensions, Compressive strength, Density,*
Drying shrinkage, Efflorescence Test,Water Absorptions, Limitations, Benefits,Classes of Fly Ash Bricks

Unit -3 Pre-production phase

Raw Material Pulverized fuel ash, Raw Material Filler, Raw Material Binder, Raw Material

Water, Transportation, Storage, Mix design

Unit -4 Production phase

Detailed about Various types of Machines & their components: such as HYDRAULIC, AUTOMATIC & SEMI- AUTOMATIC .(here it depends on budget) , Equipments ,Mixing, Handling, Pressing, Stacking.

Unit -4.1:Description of Machines/Tools (in detail):

Complete Idea about Site Location & Lay-Out of the Machine:such as Mixing Chamber,Lever, Conveyor Belt etc(special attention to be given to the LEVER, which will be operated by theOperator.),
Hopper, Mould, Material Handing

Unit -4.2:

Preventive Maintenance for Proper Functioning of the Machines/Tools

Unit -5 Curing phase

Dry and wet curing

Unit -6 Storing, Quality control and dispatch:

Storing, Quality Control , Dispatch

Objective:-/Course Outcome:

1. *Identify various composition that are used for Fly Ash Brick Manufacturing.*
2. *Should be aware about Advantages & Dis-Advantages of using Fly Ash Bricks.*
3. *Attaining knowledge about generation of Fly-Ash from the Industry.*
4. *Identify the quality of Raw Materials.*
5. *Identify (should be able to) the Description of Steps involved in Fly Ash Brick Manufacturing*
6. *Should be able to Cure, Store & proper utilisation of Fly Ash Bricks, in the Industry.*
7. *After attending this Course, at the end of the Course, Students will be able to identify the following Parameters:*

(i) different types of Machines/Tools that are needed for Manufacturing of Fly Ash Bricks in the Industry,
(ii) they will gain Idea about Market Cost of different Models of Machines/Tools which are currently being used in Fly Ash Bricks Industry.

Sl No	*Topic*	*Number of days required*	*Maximum Marks if 100* *{Theory(T) 40 & Practical(P) 60 marks}*
Unit-1	*General Idea about bricks*	*Day01*	*T 08 P10*
Unit-2	*Specification and Quality Standards*		
Unit -3	*Pre-production phase*	*Day02 to 06*	*T15 P30*
Unit -4	*Production phase(including detailed description of Machines/Tools)*		
Unit -5	*Curing phase*	*Day07to08*	*T10 P10*
Unit -6	*Storing, Quality control and dispatch*		
Unit -7	*Testing of Fly Ash Bricks at the Site*	*Day09 to10th*	*T7 P10*

Unit -7:Testing of Fly Ash Bricks at the Site: (mainly Practical)

Total 04 Nos Testing-which are:

- Compressive Strength Test
- Drying Shrinkage Test
- Efflorescence Test
- Water Absorption Test