

DESIGN OF EXERCISE EQUIPMENT FOR A GYMNASTICS STUDIO

Diploma project: M/543

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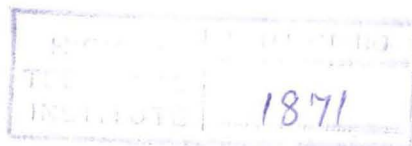
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SUMMARY

The aim of this Project Report is to design exercise equipment for Gymnastics Studio.

A multi equipment was designed which is suitable for the safe and effective training of all the muscles of the human body, allowing various movements and accommodating various body sizes. It can handle load up to 280 kgs.

The approach followed is a design process in which creativity, decision making and optimization phases are applied. The Project is divided in nine Chapters. During the first Chapter, an introduction to the concept of body building is presented. In Chapter 2, the need is identified and information research about the subject is presented. In Chapter 3, a number of possible alternative solutions is written down, all concerning the subject of design and the one which seems to be the best is selected after a scientific decision making done in Chapter 4. Chapter 5 is dealing with the creation of the details of the selective design. In Chapter 6 the specifications of the design are listed, anthropometric, concerned with accommodation of person and the ergonomic, concerned with the operation of the design in dynamic sense. In Chapter 7 the suitable material is selected, out of a number of alternatives. Chapter 8 which is the greatest Chapter of all, includes design calculations and selection procedures. The design proceeds by testing for safety the different components on selected dimensions. The last Chapter is Chapter 9 and is dealt with the cost analysis of materials and labour of the designed system.

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