

**UNIVERSITI TEKNOLOGI MARA**

**TECHNICAL REPORT**

**NUTRITIONAL PLANNING BY USING LINEAR  
PROGRAMMING**

**P13S18**

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IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

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## ABSTRACT

A Linear Programming (LP) approach is developed to assist decision makers in obtaining a better option regarding optimization issues in diet planning problem. This research highlighted the minimum cost of a serving a female adult could take as the objective function. Lack of awareness within Malaysian resulted to increase the rate of health problem in Malaysia. Lots of Malaysian are having health problem because they do not care about their calories intake and it causes them to get obesity. Since most of Malaysian prefers foods at a low cost, an objective function which deals with cost should be considered. This study aims to find the maximum energy in nutrients intake for adult female in their breakfast and lunch regarding the amounts of macronutrient and at the same time able to analyze which combinations of foods that can minimize the cost by using Linear Programming method. The research proposed two objective function, eight variables and sixteen constraints which are ten of them are non-negative constraints. As conclusion, the best among the optimum choices of breakfast is Option 3 which contains *sandwich* and *pau* with *jus oren* and same goes with the optimum choices of lunch which is Option 3 that contains *nasi putih* along with side dishes of *sayur campur* and *telur goreng, betik* as appetizer with *jus oren*.