

**INSTITUT SAINS MATEMATIK  
UNIVERSITI MALAYA  
SIRI KOLOKIUUM**

**Tajuk:** Adjacency preserving functions \*

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**Masa:** 3:00 pm – 4:00 pm

**Abstract**

Let  $A$  be a non-empty set and  $m$  be an integer  $\geq 2$ . Let  $\equiv$  be the equivalence relation defined on  $A^m$  such that  $(x_1, \dots, x_m) \equiv (y_1, \dots, y_m)$  if there exists a permutation  $\sigma$  on  $\{1, \dots, m\}$  such that  $y_{\sigma(i)} = x_i$  for all  $i$ . Let  $A^{(m)}$  denote the set of all equivalence classes determined by  $\equiv$ . Two elements  $X$  and  $Y$  in  $A^{(m)}$  are said to be adjacent if  $(x_1, \dots, x_{m-1}, a) \in X$  and  $(x_1, \dots, x_{m-1}, b) \in Y$  for some  $x_1, \dots, x_{m-1} \in A$  and some distinct elements  $a, b \in A$ . We discuss the structure of functions from  $A^{(m)}$  to  $B^{(n)}$  that send adjacent elements to adjacent elements when  $A$  and  $B$  are infinite sets and its application to linear preservers of non-zero decomposable symmetric tensors.

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**SEMUA DIJEMPUT HADIR**