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Ph.D. Qualifying Exam- Managerial Accounting
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PART 2

1. While we analyze for the case of a firm that produces multiple products, this condition raises some issue, e.g. economies of scope and cost complementarities. Assume that cost function for a multiproduct firm is given by $C(Q_1, Q_2)$, where Q_1 is the number of units produced of product 1 and Q_2 is the number of units produced of product 2. The multiproduct cost function thus defines the cost of producing Q_1 of good 1 and Q_2 of good 2 assuming all inputs are used efficiently. The concepts of economies of scope and cost complementarity can be considered within the multiproduct cost function. For example, suppose the multiproduct cost function is given by: $C(Q_1, Q_2) = f + vQ_1Q_2 + (Q_1)^2 + (Q_2)^2$.

Requirement:(15%)

- (1) Please express the condition of economics of scope existing for this quadratic multiproduct cost function.
- (2) Please express the condition of cost complementarity existing for this quadratic multiproduct cost function.
- (3) In case the conditions of economics of scope and cost complementarity exist, which rule of allocating costs do you recommend?

2. There are many papers to discuss the issues related to product costing and pricing. Please compare and comment these two papers and address their contributions: Product costing and pricing (Banker and Hughes, Accounting Review, 1994, pp.479-495) and Product costing and pricing under long-term capacity commitment (Banker, Hwang and Mishra, Journal of Management Research, 2002, pp. 79-97). Do you think there are any improvement can be made in the above paper of Banker et al. (2002)? Explain the reasons. (15%)

3. To motivate managers focus on the long-term action and team work in innovative project, most modern performance evaluation incorporates the elements of nonfinancial measures and aggregate measures. Consider two stages of sequential production setting, in addition to traditional performance measures, the elements of nonfinancial measures and aggregate measures used for performance evaluation in the incentive compensation, please show the impact of these two elements on manager's investing innovative activities in innovative project. Please express the features of measures that should be better for designing performance evaluation model to motivate managers in non-innovative project? (20%)