THE UNIVERSITY OF ZAMBIA
UNIVERSITY EXAMINATIONS – JULY 2016

MIN 3059 MINERAL ECONOMICS

TIME: ASSIGNMENT

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1. (i) Distinguish between variable costs and fixed costs
   (ii) The total cost for the first 1,000 units of production is $5,000 per month. The total cost 1,500 units is $6,000. Assume that the variable cost linearly with production rate.

   Determine:

   a) The variable unit cost
   b) The total fixed cost
   c) What is fixed cost per unit for the first 1,000 units per month?
   d) What is the average cost for the first 1,000 units per month?
   e) If the production is sold at $10 per unit, what production rate is required for costs to breakeven with income?

2. If the marginal revenue function of the firm is given by MR = 100,000-20n, where n is the total amount of all types of explosives produced in units. Estimates of the next year's cost has yielded the following total cost relationship:

   $$TC = 0.2n^2 + 10,000,000$$

   What volumes of production would have the following characteristics?

   a) Break- even point
   b) Maximum profit
   c) Minimum average cost

3. Discuss the principle of diminishing returns with a help of a diagram.