MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF BUSINESS ADMINISTRATION

FIRST YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR BACHELOR OF COMMERCE (PROCUREMENT AND SUPPLY CHAIN MANAGEMENT OPTION)

BMS 317: PINCIPLES OF SUPPLY CHAIN MANAGEMENT

DATE: **TIME:**

INSTRUCTIONS: Answer Question ONE and any other TWO Questions.

QUESTION ONE (COMPULSORY) (30 MARKS)

DEERE & COMPANY

Deere & Company (brand name John Deere) is well known for the manufacture and supply of machinery used in agriculture, construction, and forestry, as well as diesel engines and lawn care equipment. In 2014, Deere & Company was listed 80th in the Fortune 500 America's ranking and in 2013 was 307th in the Fortune Global 500 ranking. Supply Chain Cost Reduction Challenges: Deere and company has a complex product range, which includes a mix of heavy machinery for the consumer market and industrial equipment, which is made to order. Retail activity is extremely seasonal, with the majority of sales made between March and July. The company was replenishing dealers' inventory on a weekly basis, by direct shipment and cross-docking operations, from source warehouses located near Deere & Company's manufacturing facilities. This operation was proving too costly and too slow, so the company embarked on an initiative to achieve a 10% supply chain cost reduction over a four-year period.

The company undertook a supply chain network redesign program, resulting in the commissioning of intermediate "merge centers" and optimization of cross-dock terminal locations. Deere & Company also began consolidating shipments and using break-bulk terminals during the seasonal peak. The company also increased its use of third-party logistics providers and effectively created a network that could be tactically optimized at any given point in time. Deere & Company's supply chain cost management achievements included inventory reduction of $1 billion, a significant reduction in customer delivery lead times (from ten days to five or less) and annual transportation cost savings of around 5%.

a) Analyze the supply chain activities that can be undertaken at the design decision phase of supply chain at Deere & Company. (10 marks)

b) Speed of operations can contribute to cost reduction at Deere & Company. Explain the measures that can be put in place to ensure quick turn-around of transportation vessels in this company. (10 marks)

c) One of the objectives of supply chain at Deere & Company is to ensure cost reduction. Analyze the various costs which could increase due to bullwhip effect in this company (10 marks)

QUESTION TWO

a) Discuss the differences between push and pull view in supply chain management. (10 marks)

b) Cooperation and trust in a supply chain relationship can lead to effective coordination of the supply chain. Explain the benefits associated with supply chain coordination that could be harnessed from a partnership relationship. (10 marks)

QUESTION THREE

a) A company that wants to maximize the customer service level can endeavor to minimize backorder levels as one of the strategies. Explain the ways in which such backorder levels can be minimized. (10 marks)

b) A supply chain measurement of Shilohtec Company limited showed that a shorter cycle has been achieved by the cash to cash cycle time metric. Explain the implications of such a shorter cycle metric to the company. (10 marks)

QUESTION FOUR

a) Give an analysis of the supply chain risks which can be attributed to the technological environment. (10 marks)

b) Companies which have mastered the art and science of managing supply chain risks can have a sharper competitive edge. Discuss the ways in which such a competitive edge can be achieved. (10 marks)

QUESTION FIVE

a) Explain the areas of application of Radio Frequency Identification Devices (RFIDs) in an organizational supply chain. (10 marks)

b) Supply Chain Operations Reference (SCOR) model is a tool for supply chain performance measurement. Describe the components that make up this model.(10 marks)