



**MODULE** : LOGISTICS MANAGEMENT 2B  
**CODE** : LBE2B01/LMA12A2  
**DATE** : 02 DECEMBER 2016  
**TIME** : 180 MINUTES  
**TOTAL MARKS** : 140 MARKS

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**EXAMINER** : MR GJ HEYNS  
**MODERATOR** : DR PJ KILBOURN  
**NUMBER OF PAGES** : 9 PAGES

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**INSTRUCTIONS TO CANDIDATES:**

- Question papers must be handed in.
- This is a closed book assessment.
- Read the questions carefully and answer only what is asked.
- Number your answers clearly.
- Write neatly and legibly
- Structure your answers by using appropriate headings and sub-headings.
- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.

## **SECTION B [90 MARKS]**

### **QUESTION 1**

**(27 marks)**

#### **General freight helps grow Transnet revenue**

TRANSNET's strategy to raise revenue by shifting more rail-friendly goods off the road into its wagons is yielding positive results. Faced with a trading environment characterised by a ravaging drought and dwindling commodity exports, the utility managed to increase revenue courtesy of a bullish fast moving consumer goods (FMCG) sector. Transnet, which is spending billions on improving SA's rail infrastructure, said revenue in the year to March increased by 1.7% to R62.2bn as container and automotive volumes in its general freight business climbed. Petrol volumes also improved.

The group bought 1,319 new locomotives and about 2,100 wagons, which CEO Siyabonga Gama said strengthened the group's position to compete for new business. Earnings before interest, taxation, depreciation and amortisation (ebitda), Transnet's key measure of profitability, increased by 2.6% to R26.3bn. The FMCG sector had become increasingly important for Transnet's future, Gama said. Of the R29.6bn Transnet spent on capital expenditure in the year under review, 61% was directed to general freight — the most important area of the utility's road to rail strategy. "The FMCG line is time sensitive. It requires speed and reliability. We think we can compete more effectively because of the renewal of our fleet," he said.

The upgrade of Transnet's City Deep terminal, situated south of Johannesburg, had reduced the time to Durban from 21 hours to 14 hours in the year under review, Gama said. Transnet had also gained a competitive advantage on price. "Our price offering is between 25% to 35% below the cost of road (transport)," Gama said, adding that expected increases in fuel and diesel costs would create further price advantages for the state-owned entity.

The 2017 financial year will mark the fifth year of its infrastructure investment programme. Transnet will spend between R340bn and R380bn over the next 10 years in this programme. Gama said Transnet had put aside R22bn for its capex programme next year.

*Source: Adapted from Business Day (28 June 2016) and written by Fifi Peters*

- 1.1. What is road and rail transports' approximate share of the total annual freight transport market in South Africa? (2 marks)
- 1.2. Transnet is spending billions on rail infrastructure to improve its competitiveness position towards road transport. What makes road transport such an important and competitive mode? Discuss five typical strengths and five typical limitations of road transport. (10 marks)
- 1.3. As alluded to in the article, how will the railway rolling stock spending improve rail transports' competitiveness? Support your answer by discussing rail transport efficiency by referring to the existence (if any) of economies of fleet size and economies of vehicle size in railway operations (10 marks)
- 1.4. The City Deep container terminal is very strategic for Transnet. Discuss the various value-adding activities that are performed at terminals to facilitate freight transport (5 marks)

**QUESTION 2****(15 marks)**

The efficient and effective operation of a warehouse requires the use of various types of equipment and the combination of a complex series of processes.

- 2.1 Discuss the following two warehouse processes, (i) **order processing** and (ii) **stock picking** (10 marks).
- 2.2 Name ten (10) other processes inherent to all warehouse facilities. (5 marks)

**QUESTION 3****(10 marks)**

A set of ten principles act as guidelines for promoting efficient freight transport operations when routing and scheduling **local collection and delivery trips**. Discuss any three principles (6) and list the remaining seven principles (4).

**QUESTION 4****(7 marks)**

Due to increased focus on reducing cycle time, supply chains managers are considering cross-dock facilities. Define a cross-dock facility (3) and discuss the characteristics of a supply chain that will enable it to operate with a cross-dock facility (4).

**QUESTION 5****(10 marks)**

Pallet storage racks can be configured in various ways to increase storage density.

- 5.1 Discuss (i) drive-in rack and (ii) live storage rack configurations (8)
- 5.2 List a further two rack configurations used in facilities (2)

**QUESTION 6****(8 marks)**

There are a diverse range of motives for government involvement in transport. Discuss government's role in:

- 6.1 Control of excessive competition (2)
- 6.2 Coordination of transport (2)
- 6.3 Provision of costly infrastructure (2)
- 6.4 List a further four reasons for government's involvement in transport (2)

**QUESTION 7****(13 marks)**

Discuss the following logistics management concepts:

- 7.1. Logistics planning and control cycle (5)
- 7.2. Total Quality Management (TQM) (4)
- 7.3. Unit load devices (4)