NATIONAL OPEN UNIVERSITY OF NIGERIA
91, CADASTRAL ZONE, NNAMDI AZIKWE EXPRESS WAY, JABI – ABUJA
FACULTY OF MANAGEMENT SCIENCES
JULY 2017 EXAMINATION QUESTIONS

COURSE CODE: **BUS 406** **CREDIT UNIT: 3**
COURSE TITLE: **Analysis for Business Decisions**
TIME ALLOWED: **2 ½ HOURS**
INSTRUCTIONS:
1. **Attempt question number one (1) and any other (3) questions.**
2. **Question number 1 carries 25 marks, while the other three (3) questions carry 15 marks each.**
3. **Present all your points in coherent and orderly manner**

1a. Discuss any four (4) key areas where operations research is important in Financial Management. (**10marks)**

b. A plant manufactures washing machines and dryers. The major manufacturing departments are the stamping, motor, transmission and assembly department. The first two departments produce parts for both the products while the assembly lines are different for the two products. The monthly dept. capacities are

Stamping dept.: 1,000 washers or 1,000 dryers

Motor and transmission dept: 1,600 washers or 7,000 dryers

Washer assembly line: 9,000 washers only

Dryer assembly line: 5,000 dryers only.

Profits per piece of washers and dryers are #270 and #300 respectively. Formulate the L.P model. **(15marks)**

2a. Discuss four steps in Decision Theory Approach. (**10marks)**

b. Mention ant five (5) errors that can occur in making decisions? (**5marks)**

3a. Explain the Monte Carlo Simulation **(5marks)**

b. A businessman has constructed the payoff matrix below. Using the EMV criterion, analyse the situation and advise the businessman on the kind of property to invest on. (**10marks)**

Contingency Matrix

Decision to invest	State of Nature		
	Good Economic Conditions (N)	Poor Economic Condition (N)	Turbulent Economic Condition (N)
Apartment building (d_1)	50,000	30000	15,000
Office building (d_2)	100,000	40,000	10,000
Warehouse (d_3)	30,000	10,000	-20,000
Probabilities	0.5	0.3	0.2

4a. Give five advantages of the linear programming method. (**5marks)**

b. Present a brief and concise history of the waiting line model. (**10marks)**

5a. Using relevant diagram, define Systems Theory. (**5marks)**

b. A stock keeper has to supply 12000 units of a product per year to his customer. The demand is fixed and known and the shortage cost is assumed to be infinite. The inventory holding cost is ₦ 0.20k per unit per month, and the ordering cost per order is N350. Determine';

i. The optimum lot size q_0 **(3marks)**
ii. Optimum scheduling period t_0 **(3marks)**
iii. Minimum total variable yearly cost. (**4marks)**

6a. Define project management (**7marks)**

b. Discuss the assumptions of games theory. (**8marks)**