

  
**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**FACULTY OF SOCIAL SCIENCES**  
**DEPARTMENT OF ECONOMICS**  
**2023\_2 EXAMINATIONS**

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**COURSE TITLE: OPERATIONS RESEARCH**

**COURSE CODE: ECO 314**

**UNITS: 2**

**TIME ALLOWED: 2 HOURS**

**INSTRUCTION: ANSWER ANY THREE (3) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS**

**QUESTION ONE**

1a. List and explain the assumptions of linear programming model. (15 Marks).

1b. What are the four (4) general procedures for setting up a transportation model ? (8.5 Marks).

**QUESTION TWO**

2a. Identify and discuss the three (3) time estimates in Programme Evaluation and Review Technique (PERT). (10 Marks).

2b. List out the four (4) major components that constitute risk and uncertainty in decision making. (4.5 Marks).

2c. List out the six (6) examples of qualitative models presented by Akingbade (1995) (6 Marks).

2d. Identify three (3) factors a factory production schedule will take into account (3 Marks)

**QUESTION THREE**

3a. List out the three (3) advantages of decision trees. (9 marks)

3b. Identify and discuss the three (3) processes of analysing decision (Phases of Decision Analysis) (8.5 Marks).

3c. Lucey (1988) as quoted by Dixon – Ogbechi (2001) identified three (3) qualitative decision techniques. List them. (6 Marks)

**QUESTION FOUR**

4. (i) What are the four (4) similarities between transportation problem and assignment problem? (9.5 Marks).

(ii) List out the seven (7) differences between transportation problem and assignment problem? (14 Marks).