



**NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
2017_2 EXAMINATION JANUARY/FEBRUARY 2018**

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 1

A Peugeot company has two grades of inspectors, I and II to undertake quality control inspection. At least 2,800 pieces must be inspected in a 12-hour day. Grade I inspector can check 50 pieces in an hour with an accuracy of 98%. Grade II inspector checks 20 pieces an hour with an accuracy of 95%. Wages of grade I inspector are \$10 per hour while those of grade II inspector are \$8 per hour. Any error made by inspector costs \$5 to the company. If there are, in all 20 grade I inspectors and 25 grade II inspectors in the Peugeot company, find the optimal assignment of inspectors that minimizes the daily inspection cost. **(23 Marks)**

QUESTION 2

Discuss the benefit derived from efficient inventory control. **(23 Marks)**

QUESTION 3

Despite the advantages of simulation technique, it suffers from some deficiencies in large and complex problems. Discuss the limitations of simulation technique. **(23 Marks)**

QUESTION 4

What are the assumptions of games theory? **(23 Marks)**

QUESTION 5

Discuss the relevant characteristics of Operation Research (OR). **(23 Marks)**