



**NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
2025_1 EXAMINATION**

COURSE TITLE: MANAGERIAL ECONOMICS

COURSE CODE: ECO824

UNITS: 3

TIME ALLOWED: 3 HOUR

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER THREE

1a. What do you understand by the term managerial economics? 7 marks

1b. List and explain any three (3) importance of managerial economics 8 marks

1c. Graphically explain the situation in which a representative firm in a perfectly competitive industry is compelled to shut down. (10 marks)

2a. State the necessary and sufficient conditions for profit maximization of firms. (10 marks)

2b. Proof that when marginal revenue equals zero, the corresponding price elasticity of demand is unity. (5 marks)

3a. Given the following sales values and advertisement expenditure by National Open University of Nigeria (NOUN) ventures for ten (10) years. Determine the linear relationship between sales and advertisement.

Sales (in Million)	100	120	140	160	180	200	180	220	210	240
Advertisement	20	25	30	35	40	45	50	55	60	40

(12 marks)

3b. Estimate the expected sales value for the eleventh year if the proposed advertisement expenditure by NOUN ventures is N70 million naira. (3 marks)

4. Suppose utility function of a consumer is given by; $U = 10Y^{1/3} X^{2/3}$ which is subject to his budget constraint of; $100 = 3Y + 5X$. Calculate the quantity of X and Y that maximises consumer's utility in relation to his income constraint. 15 marks

5. Considering the constant return to scale of a Cobb Douglas Production Function $Q = AK^aL^b$, derive the following

- i. Average Products of Labour (AP_L)
- ii. Average Product of Capital (AP_K)
- iii. Marginal Products of Labour (MP_L) (4 marks each)

5b. With appropriate examples explain what is meant by demand forecasting 3 marks