



**NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS**

COURSE TITLE: Introduction to Econometrics II

COURSE CODE: ECO 356

UNITS: 3

TIME ALLOWED: 3 HOURS

INSTRUCTIONS: ANSWER FOUR QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS
QUESTIONS

QUESTION ONE (1)

(a) State ten (10) assumptions underlying the classical linear regression model. **10 marks**

(b) What are the five (5) properties of Ordinary least square (OLS) estimator? **7.5 marks**

Question two (2)

(a) What are the five (5) reasons for inclusion of disturbance term in an econometric model? **10 marks**

(b) Differentiate between simple regression and multiple regressions. **7.5 marks**

Question three (3)

The table below shows educational qualifications and earnings of 20 workers in DUMEX LTD.

Estimate correlation coefficient of the data

Observation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
X	15	16	8	6	15	12	12	18	12	20	17	12	12	9	15	12	16	12	12	14
Y	17. 24	15. 00	14. 91	4. 50	18. 00	6. 29	19. 23	18. 69	7. 21	42. 02	15. 36	12. 70	26. 00	7. 50	5. 00	21. 63	12. 10	5. 55	7. 50	8. 00

17.5 marks

Question four (4)

(a) What are the three (3) properties of regression coefficient? **10 marks**

(b) State the four Variance rules. **7.5 marks**

Question five (5)

(a) Explain the concept of covariance and state the basic rules of covariance. **5 marks**

(b) The table below shows views of schooling denoted by X and hourly income Y for 20 households in FCT Abuja. Compute the covariance and comment on the result.

Observation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
X	15	16	8	6	15	12	12	18	12	20	17	12	12	9	15	12	16	12	12	14
Y	17.24	15.00	14.91	4.50	18.00	6.29	19.23	18.69	7.21	42.02	15.36	12.70	26.00	7.50	5.00	21.63	12.10	5.55	7.50	8.00

12.5 marks

Question six (6)

Write short notes on the following

- i. Element
- ii. Population
- iii. Sampling unit
- iv. Frame?
- v. Sample
- vi. Census **3marks each**