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**